



The Planning Inspectorate Yr Arolygiaeth Gynllunio

The Planning Act 2008

Hinkley Point C Connection Project

Examining Authority's Report of Findings and Conclusions

and

**Recommendation to the
Secretary of State for Energy and Climate Change**

Examining Authority

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19 October 2015

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Examining authority's findings and conclusions and recommendation in respect of an application by National Grid Electricity Transmission plc for an Order granting Development Consent for the Hinkley Point C Connection Project

File Ref EN020001

The application, dated 28 May 2014, was made under section 37 of the Planning Act 2008 and was received in full by the Planning Inspectorate on 28 May 2014.

The Applicant is National Grid Electricity Transmission plc.

The application was accepted for examination on 19 June 2014.

The Preliminary Meeting was held on 19 January 2015. The examination of the application therefore began on 19 January 2015 and was completed on 19 July 2015.

The development proposed is to construct, operate and maintain a new 400,000 volt (400kV) connection, between Bridgwater in Somerset and Seabank substation, north of Avonmouth.

Summary of Recommendation:

The Examining authority recommends that the Secretary of State should make the Order in the form at Appendix E.

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- APPENDIX A: ABBREVIATIONS**
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ERRATA SHEET – Hinkley Point C Connection Project - Ref. EN020001

Examining authority's Report of Findings and Conclusions and Recommendation to the Secretary of State for the Department of Energy and Climate Change, dated 19 October 2015

Corrections agreed by the Examining authority prior to a decision being made

Page No.	Paragraph	Error	Correction
52	5.1.39	The second sentence refers to "greenhouse gasses".	Replace 'gasses' with 'gases'
55	5.1.54	The first sentence states "several parish councils raise".	Replace 'raise' with 'raised'
75	5.2.68	The first paragraph states "The AIA presents data on veteran trees and ancient woodland explains that detailed routing".	Add the word 'and' between 'woodland' and 'explains'
76	5.2.69	The penultimate and final sentence state "with the local planning authority. And is secured" .	Replace with 'local planning authority, and is secured'
83	5.2.113	The final sentence states "A further sets out".	Replace 'A' with 'It'
90	5.2.146	The penultimate sentence states "We have placed weight on the on the ecological".	Remove one of the 'on the'
100	5.3.47	The first sentence states "The Applicant states that additionally mitigation".	Replace 'additionally' with 'additional'
133	5.4.99	The final sentence ends with a comma.	Replace comma with full stop
137	5.4.121	This states "In considering site drainage and flood events would be managed during construction".	Add the word 'how' between 'considering' and 'site'
142	5.4.151	The second sentence ends with "maintaining fixed plant or machinery).".	Remove fixed bracket
157	5.6.34	This states "The final version the CEMP".	Add 'of' between 'version' and 'the'
162	5.6.68	The second sentence states "justification of removal only to so as to facilitate".	Remove the first 'to'

Page No.	Paragraph	Error	Correction
163	5.6.78	The first sentence states "The topic was again raised the ExA's Second Question".	Add the word 'in' between 'raised' and 'the'
174	5.7.30	The second sentence states "A further note was produced later to clarifying certain points".	Replace 'clarifying' with 'clarify'
182	5.7.79	The final sentence states "This is so both in terms of".	Remove 'so both'
187	5.8.28	The second sentence states "It is also content with level of".	Add 'the' between 'with' and 'level'
212	5.9.67	Punctuation.	Bullet point (d), add a comma between 'high' and 'medium'
240	5.9.200	The second sentence states "In some places a moderate or minor".	Delete 'a'
279	5.9.374	The first sentence states "we confirm we it meets".	Replace with 'the Panel confirms it meets'
285	5.10.18	The penultimate sentence states "We propose therefore propose".	Delete the first 'propose'
286	5.10.26	The first sentence states "protective provisions would ensure that there would have no significant".	Replace the 'have' with 'be'
290	5.11.24	The second sentence states "and the remaining 15 and as having".	Remove the second 'and'
295	5.11.47	The final word of the second bullet point should be plural.	Replace 'measure' with 'measures'
333	5.13.65	The end of the paragraph states "(TMG) which will included representatives of all interested highway authorities".	Replace 'included' with 'include'
337	5.13.95	The second sentence states "They seek further information about the location rest stops".	Add 'of' between 'location' and 'rest stops'
393	5.15.80	Final sentence "quantum of beneficial effects in used in".	Replace the first 'in' with 'is'
399	5.15.119	The final sentence states "the alert level suggested had been set at a 70% of this".	Delete the 'a' before '70%'
429	6.2.2	The first sentence starts "No adverse effects are predicted for the Severn Estuary SAC".	Replace 'adverse effects are' with 'likely significant effect is'

1 INTRODUCTION

1.1 INTRODUCTION

- 1.1.1 An application for an order granting development consent for the proposed 400,000 volt (400kV) connection between Bridgwater, Somerset and Seabank substation, north of Avonmouth together with a range of related modifications to the electricity transmission and distribution networks was submitted to the Planning Inspectorate on 28 May 2014. The Secretary of State accepted the application for examination under s55 of the Planning Act 2008 (as amended) (PA2008) on 19 June 2014 [PD-001].
- 1.1.2 Under s56 of PA2008 the Applicant gave notice of the accepted application and, in response to the Applicant's notification, 150 relevant representations were received by the Planning Inspectorate [RR-001 to RR-150].
- 1.1.3 On 10 October 2014, a Panel of examining inspectors was appointed to hold the examination of the application under s65 PA2008. Wendy McKay was appointed lead member and chair of the Panel. The Panel comprises Wendy McKay, Annie Coombs, Denis McNicholl, Alan Novitzky and Richard Rees.
- 1.1.4 The proposed development is a Nationally Significant Infrastructure Project (NSIP) under section 14(1)(b) and s16 PA2008 as the proposed project is wholly within England, it includes a 400kV electric line above ground and it is 57km long. This represents the original application prior to any post acceptance changes.
- 1.1.5 The development falls within Schedule 2 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) (EIA Regs 2009). The application was therefore accompanied by an Environmental Statement (ES) [Docs 5.1 to 5.27].
- 1.1.6 On 1 October 2014, the Applicant submitted errata and supplementary information [Docs 1.7 to 6.2.2] in relation to the Book of Reference (BoR), Land Plans and ES submitted as part of the application including an Ecology Survey Update Report together with appendices and figures.
- 1.1.7 On the same date the Applicant also submitted Environmental Statement Sensitivity Test (ESST) documentation [Docs 5.29.1.1 to 5.29.2.4] in response to revised contractual documentation between National Grid and EDF Energy revising the connection date for the project from October 2019 to October 2022. The ESST documentation is considered necessary by the Applicant due to the potential revised construction programme that would be necessary as a result of the new connection date.
- 1.1.8 On 22 January 2015, the Applicant submitted some updated and new documents including some mitigation documents, the draft

Construction Environmental Management Plan, Environmental Statement Transport Addendum, Land and Works Plans and updates to the BoR.

- 1.1.9 In a letter dated 26 February 2015 [REP2-124], the Applicant asked the Examining authority (ExA) to accept into the Examination a minor realignment of the route of the proposed overhead line at Kings Weston Lane, Avonmouth. This involves an amendment being made to the lateral limits of deviation on sheet numbers 4 and 5 of the Works Plans for Section G. The reason for the request is that the newly constructed Wessex Water operational infrastructure lies within the limits of deviation for the proposed overhead line in this location. If the overhead line were to be constructed on the alignment originally proposed this would make future maintenance of the recently extended Wessex Water site impossible without switching off the 400kV line and removing conductors.
- 1.1.10 In a letter dated 18 June 2015 [REP6-018], and letter dated 23 June 2015 [AS-014], the Applicant asked the ExA to accept for consideration, as an alternative to its original proposal, a change in the height of pylons LD109 to LD113 within Bristol Port, Avonmouth.

1.2 THE EXAMINATION AND PROCEDURAL DECISIONS

- 1.2.1 The main events of the Examination and procedural decisions taken during the Examination can be seen at Appendix B of this report.
- 1.2.2 On 28 November 2014 the Panel wrote to all Interested Parties (IPs), Statutory Parties and Other Parties under Rule 6 of the Infrastructure Planning (Examination Procedure) Rules 2010 (as amended) [PD-005]. This letter set out the:
- administrative arrangements for the Preliminary Meeting;
 - agenda for the Preliminary Meeting;
 - initial assessment of principal issues;
 - draft timetable for examination of the application;
 - availability of relevant representations and application documents;
 - notice of appointment of ExA; and
 - procedural decisions made by the ExA.
- 1.2.3 One of the procedural decisions was to accept the errata and supplementary information submitted by the Applicant on 1 October 2014. A deadline for IPs to submit any comments was set.
- 1.2.4 A further procedural decision referred to the ESST information submitted by the Applicant on 1 October 2014. The ExA advised that, because the Applicant was not yet seeking to have any changes to the overall construction programme considered as part of the Examination, it would not be examining the potential change or the ESST information submitted on 1 October 2014.

- 1.2.5 The ExA's first written questions [PD-007] and procedural decisions were set out in the Rule 8 letter [PD-006] which was issued to all IPs on 29 January 2015. This included the ExA's decision to accept the Applicant's new and updated documents submitted on 22 January 2015.
- 1.2.6 The letter also asked the Applicant to advertise the details of the revised construction programme in newspapers on a non-statutory basis, but in the same manner as under Regulation 17 of the EIA Regs 2009. This was to enable anyone who might potentially be affected by the revised construction programme to have a fair opportunity to make their views known and properly taken into account.
- 1.2.7 In their letter of 12 March 2015 [PD-010], the ExA issued its procedural decisions accepting the ESST documentation, and the minor route alignment change at Kings Weston Lane, Avonmouth and set out the reasons for those decisions. This is explained in more detail in Chapter 2 of this report.
- 1.2.8 The ExA's second written questions [PD-012] were issued to all IPs on 13 May 2015.
- 1.2.9 A number of requests were received for an open floor hearing therefore four hearings were held under s93 PA2008 on 17 and 18 March 2015. Due to the fact that the application is a linear scheme these were held in three different locations across the route and included two evening sessions to ensure they were accessible to those who wished to participate.
- 1.2.10 The ExA held a number of issue specific hearings under s91 PA2008 to ensure thorough examination of various topics. These were:
- draft DCO and other agreements needed to secure mitigation (14 April 2015 and 16 to 17 June 2015);
 - heritage and historic environment (21 April 2015);
 - landscape and visual, including arboricultural matters (22 to 23 April 2015);
 - means of securing mitigation and/or enhancement for impacts on heritage and historic environment and landscape and visual (23 April 2015);
 - highways and transport (28 April 2015);
 - air quality, noise, ground conditions, water quality and pollution prevention and flood risk (29 April 2015);
 - health, well-being and electric and magnetic fields, and socio-economic (30 April 2015);
 - biodiversity and Habitat Regulations Assessment (1 May 2015)
 - Avonmouth Severnside Enterprise Area and Bristol Port (19 May 2015); and
 - Portbury/ Portishead optional connection alignments (22 May 2015 and then adjourned to 15 June 2015).

- 1.2.11 A number of Affected Persons made requests for a compulsory acquisition hearing therefore a hearing was held under s92 PA2008 and took place on 20 May 2015.
- 1.2.12 On 24 June 2015 the ExA issued a procedural decision to accept the change in height of five pylons within Bristol Port, Avonmouth [PD-013]. That letter also requested further information to be submitted at Deadline 7 and therefore constituted a change in the Examination timetable.
- 1.2.13 On 1 July 2015 the ExA issued a letter requesting further information to be submitted by a new deadline and accordingly amended the examination timetable.

1.3 SITE INSPECTIONS

- 1.3.1 During the pre-examination period and throughout the course of the examination the Panel undertook a number of unaccompanied site inspections (USIs). The details of these can be seen in [EV-159 to EV-166].
- 1.3.2 On 8 April 2015 the Panel undertook an accompanied site inspection (ASI) at National Grid's T-pylon construction site at Eakring, Nottinghamshire [EV-024]. The T-pylons were not strung at this time and so the Panel returned at later dates to view the strung T-pylons, unaccompanied, from publically accessible viewpoints. The Panel also viewed a T-pylon which had been painted, in accordance with the Joint Councils' recommendation, a slightly darker colour than was considered by the Joint Councils to be optimal. This was done unaccompanied from publically accessible viewpoints [EV-166].
- 1.3.3 An ASI of the proposed route for the project took place on 15, 16 and 17 April 2015 [EV-027]. The ASI on 15 and 16 April 2015 was undertaken in cars to the locations to be viewed, then on foot on public and private land. The ASI on 17 April 2015 was undertaken entirely from a coach around the Bristol Port areas.

1.4 OTHER CONSENTS REQUIRED

- 1.4.1 In addition to the consent required under PA2008 (which is the subject of this recommendation report) the Applicant will require other consents to construct, operate and maintain the proposed development. As set out by the Applicant in Details of Other Consents and Licences [Doc 7.3] the following remaining consents, licences and permits are expected to be required:
- (a) approvals from relevant highway authorities and relevant planning authorities pursuant to the requirements contained in the Development Consent Order;
 - (b) licences from Natural England to affect European Protected Species pursuant to regulation 53 of the Conservation of Habitats and Species Regulations 2010;

- (c) licences from Natural England to affect badgers pursuant to section 10 of the protection of Badgers Act 1992;
- (d) licences from Natural England to affect protected species under section 16 of the Wildlife and Countryside Act 1981;
- (e) consents from Natural England to work in Sites of Special Scientific Interest under regulation 28E of the Wildlife and Countryside Act 1981;
- (f) registration(s) by the Environment Agency under regulation 21 of the Hazardous Waste (England and Wales) Regulations 2005;
- (g) permits from the Environment Agency pursuant to the Environmental Permitting (England and Wales) Regulations 2010;
- (h) consent(s) from the Environment Agency for structures in, under or over a main river pursuant to section 109 of the Water Resources Act 1991;
- (i) licence(s) from the Environment Agency to abstract water pursuant to section 24 of the Water Resources Act 1991;
- (j) consent(s) from the Environment Agency to remove fish pursuant to fisheries byelaws;
- (k) consent(s) from the relevant drainage board to alter ordinary watercourses pursuant to section 23 of the Land Drainage Act 1991;
- (l) consent(s) from the relevant sewerage undertaker to discharge waste water to a sewer pursuant to section 118 of the Water Industry Act 1991;
- (m) consent(s) from the relevant local authority pursuant to section 61 of the Control of Pollution Act 1974;
- (n) Vehicle Special Order(s) from the Vehicle Certification Agency under section 44 of the Road Traffic Act 1988; and
- (o) licence(s) from the Secretary of State pursuant to section 25 of the Burial Act 1857.

1.5 REQUESTS TO BECOME OR WITHDRAW FROM BEING AN INTERESTED PARTY (S102A, S102B AND S102ZA)

- 1.5.1 On 25 February 2015, a request to become an Interested Party was granted under s102(a)(ab) PA2008. This was for Mark Penfold and the relevant land is to the north east and east of Moorland Park, Hewish.
- 1.5.2 No requests to withdraw from being an Interested Party were received under s102(1ZA) PA2008 requests by the close of the examination.

1.6 UNDERTAKINGS/ OBLIGATIONS GIVEN TO SUPPORT APPLICATION

- 1.6.1 An agreement between the Applicant and the Joint Councils dated 16 June 2015 has been made pursuant to s106 of the Town and County Planning Act 1990 (as amended) [Doc 8.4B]. The s106 agreement relates to mitigation for some of the adverse impacts identified in the Joint Councils' Local Impact Report [REP2-111 to REP2-116]. A Supplemental s106 agreement dated 13 July 2015 has also been completed between those parties [Doc 8.29A]. This aims to secure project opportunities for local people and local businesses.

1.7 STRUCTURE OF THE REPORT

- 1.7.1 This report does not contain extensive summaries of all the representations before the Examination although regard has been had to each and every representation made in the conclusions reached by the Panel. The approach taken is to address the essential issues and statutory requirements and to reach conclusions applying the statutory tests under s104 PA2008, taking all relevant matters into account.
- 1.7.2 The contents of the report are set out on pages 2 to 4. Chapter 1 introduces the application and sets out in summary the Examination and procedural decisions. Chapter 2 sets out the main features of the proposed development. Chapter 3 identifies and summarises the policy and legal context applicable to the application. Chapter 4 then sets out the Panel's main findings and conclusions in relation to the main issues, the principle of the development and the Environmental Statement and Environmental Impact Assessment. Chapter 5 sets out the Panel's main findings and conclusions in relation to the potential impacts of the development including a section which reports the Panel's findings on the route Options A and B. Chapter 6 deals with the findings and conclusions in relation to Habitats Regulations. Chapter 7 sets out the Panel's conclusions on the case for development consent, taking into account all application documents and written and oral representations submitted to the Examination. Chapter 8 deals with compulsory acquisition matters. Chapter 9 considers the proposed draft Development Consent Order (DCO), including requirements and any changes which were made to it during the course of the Examination. Chapter 10 presents the Panel's overall conclusions and recommendations to the Secretary of State.
- 1.7.3 Appendix A sets out the abbreviations used in this report. Appendix B lists the main events that occurred during the Examination. Appendix C provides the Examination library, which allocates a unique identifier for each document, categorised either by document type or by the deadline to which it was submitted. Appendix D, the Compulsory Acquisition Appendix, identifies the different class of rights sought for each objector and distinguishes between those plots for which compulsory acquisition powers are sought and those where only powers of temporary possession are being sought. Appendix E comprises the recommended DCO and Deemed Marine Licence (DML).
- 1.7.4 Where document references are presented in square brackets in the text of this report, that reference can be found in the Examination library (Appendix C). Where mention is made of the ExA's questions, the question number reference indicates whether it was a first or second round question. First round questions are defined by two digits eg Q1.6. The second round question numbers are all prefixed with '2' eg Q2.1.6.

2 MAIN FEATURES OF THE PROPOSAL AND SITE

2.1 THE APPLICATION AS MADE

2.1.1 The Applicant is National Grid Electricity Transmission Limited which owns and operates the high voltage electricity transmission network in England and Wales. National Grid provides electricity supplies from generating stations to local distribution companies and their high voltage electricity transmission system operates at 275kV and 400kV. Separate regional companies own and operate the electricity distribution networks that comprise substations, overhead lines and underground cables which operate at 132kV and below and distribute electricity to homes and businesses. In the south west of England the distribution network operator is Western Power Distribution (South West) plc (WPD).

2.1.2 In September 2007, National Grid received an application for the connection of a new nuclear power station at Hinkley Point, Somerset (Hinkley Point C power station) to the high voltage electricity transmission system. Under the terms of its transmission licence National Grid is obliged to make an offer of connection in response to each valid application made.

2.1.3 As a result of this, National Grid submitted an application to the Planning Inspectorate for a Development Consent Order (DCO) to construct, operate and maintain a new 57km 400kV connection between Bridgwater in Somerset and Seabank substation, north of Avonmouth.

2.1.4 The proposed development would include the following main elements:

- installation of a 400kV overhead line;
- installation of 400kV underground cables;
- modifications to existing overhead lines at Hinkley Point, Somerset;
- construction of three 400kV cable sealing end (CSE) compounds along the route of the connection;
- construction of a 400/132kV substation at Sandford, North Somerset;
- extension of the existing 400kV substation at Seabank;
- the removal of existing 132kV overhead lines and the construction of replacement 132kV overhead lines and 132kV underground cables; and
- extensions or other changes to existing 132kV substations at Churchill, Portishead, Avonmouth and Seabank.

2.1.5 There is provision for associated works in the Applicant's draft DCO and this includes for example, temporary access roads, highway works, temporary construction compounds, scaffolds, work sites and ancillary works.

2.1.6 In the Portishead/ Portbury area (Section F), the Applicant has included two options within the DCO application - National Grid's preferred route (Option A) and an alternative route (Option B). Both options were considered throughout the Examination and our analysis and conclusions on the most suitable option are set out in Chapter 5 at Section 15.

2.2 LOCATION

2.2.1 The proposed development is in the administrative boundaries of the county of Somerset, the districts of West Somerset, Sedgemoor, North Somerset, and South Gloucestershire and the City of Bristol in the south west of England. An illustrative overview of the project can be seen in inset 1.1 of the Environmental Statement Non-technical Summary [Doc 5.19].

2.2.2 For the purposes of its consultation and application documentation, the Applicant split the proposed route into eight sections. These are: Section A (Puriton Ridge); Section B (Somerset Levels and Moors South); Section C (Mendip Hills); Section D (Somerset Levels and Moors North); Section E (Tickenham Ridge); Section F (Portishead); Section G (Avonmouth); and Section H (Hinkley Point Line Entries). These sections run south to north, with the exception of Section H which is to the west of Section A, at Hinkley Point C nuclear power station.

2.2.3 As described in the Applicant's Planning Statement [Doc 7.1] the area of the proposed development is mainly rural with much of the land comprising pastoral fields. Built development is generally located along the Severn Estuary to the west of the proposed development and includes settlements at Bridgwater, Burnham-on-Sea, Weston-super-Mare, Clevedon, Portishead and Avonmouth. There are settlements and individual residential properties within or adjacent to the proposed development areas.

2.2.4 There are a series of prominent ridges which run east to west in the area and these include: Puriton Ridge, north of Bridgwater; the Mendip Hills east of Weston-super-Mare and Tickenham Ridge north of Nailsea. Between the ridges there are expanses of low open ground.

2.2.5 The main roads in the wider area include the M5 and M49 motorways and the A370, A38, A39 and the A368 which provide links to Bristol.

2.2.6 The Mendip Hills Area of Outstanding Natural Beauty (AONB) is located approximately in the middle of the route, at Section C. The 400kV line is proposed to be undergrounded, and an existing 132kV line removed in Section C.

2.3 THE APPLICATION AT THE CLOSE OF EXAMINATION

2.3.1 The Applicant submitted three key proposed changes to the application. The first, submitted on 1 October 2014, was Environmental Statement Sensitivity Test (ESST) documentation

[Docs 5.29.1.1 - 5.29.2.4]. This was submitted in response to revised contractual documentation between National Grid and EDF Energy moving the connection date for the project from October 2019 to October 2022. The ESST documentation was considered necessary by the Applicant due to the potential revised construction programme that would be necessary as a result of the new connection date.

- 2.3.2 The Applicant advised at the Preliminary Meeting, and in its letter of 26 February 2015 [REP2-124], that it does not regard the additional documentation as a change to the application. The Examining authority (ExA) advised in its letter of 12 March 2015 [PD-010] that the Revised Construction Programme does amount to a change to the application but it is not so material a change as to constitute a new application.
- 2.3.3 The ExA decided to accept this change in the application. In making this decision, the ExA took into account National Policy Statements EN-1 and EN-5 and guidance in paragraphs 105 to 106 of Planning Act 2008: examination of applications for development consent. This guidance was published by the Department for Communities and Local Government in April 2013. Paragraph 107 of the guidance makes specific reference to the principles of fairness and reasonableness set out in the Wheatcroft¹ case. The ExA also considered the statement by Bob Neill MP in his letter to the Infrastructure Planning Commission, dated 28 November 2011². The relevant guidance was subsequently updated on 26 March 2015 and this now supersedes the Bob Neill MP letter.
- 2.3.4 The second proposed change, submitted on 26 February 2015 [REP2-124], asked the ExA to accept into the examination a minor realignment of the route of the proposed overhead line at Kings Weston Lane, Avonmouth. The change was proposed due to Wessex Water Services Limited extending its operational facilities at Kings Weston Lane, bringing the operational infrastructure within the limits of deviation for the proposed overhead line in this location. If the overhead line were to be constructed on the alignment originally proposed this would make future maintenance of the recently extended Wessex Water site impossible without switching off the 400kV line and removing conductors. In order to avoid that scenario, the change proposed would entail the movement of pylon LD121 51.6m to the south east, as well as a 1.8m increase in height.
- 2.3.5 The Applicant accepted that this proposal constituted a change to the application for development consent. The ExA advised in its letter of 12 March 2015 [PD-010] that it accepted the change to the application. In reaching this decision the ExA considered the limited extent of the change which would be accommodated entirely within

¹ Bernard Wheatcroft Ltd v Secretary of State for the Environment (1982) 43 P & CR 222

² http://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/2011/11/111130_Ltr-from-Bob-Neill-MP-re-s114.pdf

the Order land. The ExA also had regard to the reason for the Applicant seeking the change and the agreement between the Applicant and Wessex Water that the minor route alignment change would address the concerns raised in respect of oversailing operational land.

- 2.3.6 The third proposed change to the application was formally requested by the Applicant by letter dated 18 June 2015 [REP6-018]. The Applicant requested that the ExA accept for consideration, as an alternative to its original proposal, a change in the height of pylons LD109 to LD114 within Bristol Port, Avonmouth. The Applicant subsequently confirmed, by letter dated 23 June 2015 [AS-014], that the reference to pylon LD114 was a typographical error and the pylons under consideration are pylons LD109 to LD113. The Applicant proposed this change following a request from the Bristol Port Company (BPC) at the issue specific hearing for the Bristol Port on 19 May 2015. The BPC's request was made to allow above ground clearance of 20.7m to avoid serious detriment to its statutory undertaking.
- 2.3.7 The Applicant accepted that this proposal constituted a change to the application for development consent. The ExA considered this proposal in the light of the 26 March 2015 revised guidance on the examination of applications for development consent. In its letter of 24 June 2015 [PD-013] the ExA made a procedural decision to accept the change. In reaching this decision the ExA considered the limited extent of the change which would be accommodated entirely within the Order land, and the fact that the original proposal would remain as an alternative option for consideration by the Secretary of State in this location.
- 2.3.8 The Applicant submitted its draft DCO [Doc 2.1] with its application. An updated draft was submitted on 1 October 2014 in response to s51 advice [Doc 2.1A]. At Deadline 2, 26 February 2015, a further draft was submitted [Doc 2.1B].
- 2.3.9 At Deadline 4, 6 May 2015, the Applicant submitted separate draft DCOs for both Option A and Option B [Docs 2.1.1C and 2.1.2C]. At Deadline 6, 18 June 2015, the Applicant submitted separate draft DCOs for both Option A and Option B [Docs 2.1.1D and 2.1.2D]. At Deadline 7, 13 July 2015, the Applicant submitted separate draft DCOs for both Option A and Option B [Docs 2.1.1E and 2.1.2E]. They also submitted two comparative versions for each option which compare the original draft DCO with those submitted at Deadline 7 and the draft DCOs submitted at Deadline 6 with those submitted at Deadline 7.
- 2.3.10 A number of other documents were updated by the Applicant throughout the Examination. To assist with navigation of its documents and show which documents have been superseded or supplemented the Applicant submitted a Guide to the Application, which was updated throughout the examination. The final version [Doc 1.7I], was submitted at Deadline 8 on 17 July 2015.

2.4 RELEVANT PLANNING HISTORY

- 2.4.1 On 19 March 2013 development consent was granted for the Hinkley Point C New Nuclear Power Station. As part of the application which is the subject of this recommendation and report, the Applicant submitted a report on the need to plan an extension of the electricity transmission system in the South West and South Wales and Gloucestershire regions [Doc 7.5A]. The report was initially triggered by the need for a connection with Hinkley Point C nuclear power station however it also considers other planned generator connections and other transmission developments in the wider region.

3 LEGAL AND POLICY CONTEXT

3.1 INTRODUCTION

3.1.1 This chapter sets out the legal and policy context for the examination of the application which was taken into account and applied by the Panel in carrying out its examination and in making its findings and recommendations to the Secretary of State for Energy and Climate Change.

3.1.2 The Applicant has set out the policy that it considers relevant in the Planning Statement [Doc 7.1], Environmental Statement Introduction [Doc 5.1] and Environmental Statement Planning Policy Context [Doc 5.4]. In the Statement of Common Ground (SoCG) between the Applicant and the Joint Councils a list of important and relevant local policies and supplementary planning documents is included as an appendix [Doc 8.3.12, Appendix B]. Whilst this document has been superseded, Appendix B has not been and the appendix is referred to in the Joint Councils' Local Impact Report (LIR) [REP2-111]. The LIR also signposts policy documents to support the analysis of local impacts.

3.2 PLANNING ACT 2008 (AS AMENDED)

3.2.1 The application is for a Development Consent Order (DCO) under the Planning Act 2008 (as amended) (PA2008). The application is for a Nationally Significant Infrastructure Project (NSIP) and it falls within s14(1) (b) PA2008 as it includes 'the installation of an electric line above ground'. Conditions for projects to be included as an electric line NSIP are set out in s16 PA2008.

3.2.2 S104(1) PA2008 applies 'in relation to an application for an order granting development consent if a national policy statement has effect in relation to development of the description to which the application relates.'

3.2.3 As there is a National Policy Statement (NPS) in place for this development it falls to be decided under s104 PA2008. S104(2) PA2008 requires the Secretary of State to have regard to:

"(a) any national policy statement which has effect in relation to development of the description to which the application relates (a "relevant national policy statement"),

(aa) the appropriate marine policy documents (if any), determined in accordance with section 59 of the Marine and Coastal Access Act 2009,

(b) any local impact report (within the meaning given by section 60(3) submitted to the Secretary of State before the deadline specified in a notice under section 60(2),

(c) any matters prescribed in relation to development of the description to which the application relates, and

(d) any other matters which the Secretary of State thinks are both important and relevant to the Secretary of State's decision."

3.2.4 While the Secretary of State must take the above into account, she must be satisfied that the decision made on the application would not lead to the United Kingdom being in breach of any of its international obligations or lead to the Secretary of State being in breach of any duty imposed by law or make an unlawful decision. The Secretary of State must also consider whether the adverse impacts of the proposed development outweigh its benefits, and whether any condition prescribed for deciding an application otherwise than in accordance with an NPS is met.

3.2.5 This report sets out the Panel's findings, conclusions and recommendations taking these matters fully into account and applying the approach set out in s104 PA2008.

3.3 NATIONAL POLICY STATEMENT(S)

3.3.1 As this is a project for electricity networks infrastructure there are two relevant NPSs which the Secretary of State is required to take into account. In addition, given that the relationship of the proposed development to the consented new nuclear power station at Hinkley Point C, the NPS for Nuclear Power Generation is also relevant. These relevant energy NPSs are therefore:

- NPS EN-1: Overarching National Policy Statement for Energy;
- NPS EN-5: Electricity Networks Infrastructure; and
- NPS EN-6: National Policy Statement for Nuclear Power Generation Volumes I and II

3.3.2 These NPSs were produced by the Department for Energy and Climate Change (DECC) and received designation by the Secretary of State for Energy and Climate Change on 19 July 2011. Given that there are NPSs which have effect in relation to the development of the description to which the application relates, the decision on the application must be made pursuant to s104 PA2008.

3.3.3 Since the proposed development is routed through the Port of Bristol, the NPS for Ports is also relevant. This NPS was produced by the Department for Transport and was designated on 26 January 2012.

3.4 MARINE AND COASTAL ACCESS ACT 2009

3.4.1 The Marine and Coastal Access Act 2009 (MCA) introduced the production of marine plans and designation of Marine Conservation Zones in the United Kingdom (UK) waters as well as establishing the Marine Management Organisation (MMO). The UK Marine Policy Statement (MPS) and marine planning are dealt with below. Under the MCA the Secretary of State for Environment, Food and Rural Affairs designated, on 21 November 2013, 27 Marine Conservation Zones around the English coast to form part of a network of Marine Protected

Areas. Further designations are proposed in two phases over the next three years.

- 3.4.2 The Applicant's draft DCO includes, at Schedule 9, a Deemed Marine Licence (DML). While the proposed development is mainly on land, part of the proposed new connection will go over the River Avon and therefore may impact the marine area.
- 3.4.3 Under s104(2)(aa) PA2008 the Secretary of State must have regard to the appropriate marine policy documents. In the MMO's relevant representation [RR-124] it states that the Planning Inspectorate is required to have regard to the MPS and any relevant marine plan.

UK Marine Policy Statement

- 3.4.4 The MPS was prepared and adopted for the purposes of s44 of the MCA and was published on 18 March 2011 by all the UK administrations as part of a new system of marine planning being introduced across UK seas.
- 3.4.5 The MPS provides the framework for preparing Marine Plans and taking decisions affecting the marine environment. It contributes to the achievement of sustainable development in the UK marine area. The UK marine area includes the territorial seas and offshore area adjacent to the UK, which includes the area of sea designated as the UK Exclusive Economic Zone (the Renewable Energy Zone until the Exclusive Economic Zone comes into force) and the UK sector of the continental shelf. It includes any area submerged by seawater at mean high water spring tide, as well as the tidal extent (at mean high water spring tide) of rivers, estuaries and creeks³.
- 3.4.6 The MPS provides the high level policy context, within which national and sub-national Marine Plans will be developed, implemented, monitored, amended and will ensure appropriate consistency in marine planning across the UK marine area. The MPS also sets the direction for marine licensing and other relevant authorisation systems.
- 3.4.7 The MPS has provided the overarching policy context for the ExA's consideration of the application offshore works and DML.

Inshore Marine Plans

- 3.4.8 The MMO is the marine plan authority for the South West Inshore Marine Plan Area. There was no marine plan in place for the South West area at the close of the examination.

³ see Marine and Coastal Access Act 2009 s.42(3) and (4)

3.5 EUROPEAN REQUIREMENTS AND RELATED UK REGULATIONS

Habitats Directive (Council Directive 92/43/EEC)

- 3.5.1 The Habitats Directive (together with the Council Directive 79/409/EEC on the conservation of wild birds (Wild Birds Directive) (Birds Directive)) forms the cornerstone of Europe's nature conservation policy. It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. The Directive protects over 1000 animals and plant species and over 200 habitat types (for example: special types of forests; meadows; wetlands; etc.), which are of European importance.
- 3.5.2 The Applicant submitted its Report to Support Habitats Regulations Assessment (the HRA Report) [Doc 5.20] with the application. This was superseded by the latest version which was submitted for Deadline 2 [Doc 5.20.1A, 5.20.2B and a tracked change version of 5.20.2B].
- 3.5.3 The sites of European importance which could be affected by the proposed development are set out in the Applicant's updated HRA Report [Doc 5.20.1A] and listed in the Report on the Implications for European Sites (RIES) [OD-010].
- 3.5.4 When determining this application the Secretary of State as the Competent Authority must take the Habitats Directive into account. Matters to do with the Habitats Directive and its implications are addressed in Chapter 6 of this report.

Birds Directive (Council Directive 2009/147/EC)

- 3.5.5 The Birds Directive is a comprehensive scheme of protection for all wild bird species naturally occurring in the European Union. The directive recognises that habitat loss and degradation are the most serious threats to the conservation of wild birds. It therefore places great emphasis on the protection of habitats for endangered as well as migratory species. It requires classification of areas as Special Protection Areas (SPAs) comprising all the most suitable territories for these species. Since 1994 all SPAs form an integral part of the Natura 2000 ecological network.
- 3.5.6 The Birds Directive bans activities that directly threaten birds, such as the deliberate killing or capture of birds, the destruction of their nests and taking of their eggs, and associated activities such as trading in live or dead birds. It requires Member States to take the requisite measures to maintain the population of species of wild birds at a level which corresponds, in particular, to ecological, scientific, and cultural requirements while taking account of economic and recreational requirements.
- 3.5.7 The Birds Directive and its implications have been taken into account in considering the application and these are addressed in Chapter 6 of this report.

Conservation and Species Regulations 2010 (as amended) the Habitats Regulations

Conservation of Habitats and Species (Amendment) Regulations 2012

- 3.5.8 The Conservation of Habitats and Species Regulations 2010 replaced The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended) in England and Wales. The Conservation of Habitats and Species Regulations 2010 (which are the principal means by which the Habitats Directive is transposed in England and Wales) updated the legislation and consolidated all the many amendments which have been made to the regulations since they were first made in 1994.
- 3.5.9 The Conservation of Habitats and Species Regulations 2010 apply in the terrestrial environment and in territorial waters out to 12 nautical miles. The EU Habitats and Wild Birds Directives are transposed in UK offshore waters by separate regulations – The Offshore Marine Conservation (Natural Habitats &c.) Regulations 2007 (as amended). The Conservation of Habitats and Species (Amendment) Regulations 2012 came into force on 16 August 2012.
- 3.5.10 These Regulations amend the Habitats Regulations. They place new duties on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds. They also make a number of further amendments to the Habitats Regulations to ensure certain provisions of Directive 92/43/EEC (the Habitats Directive) and Directive 2009/147/EC (the Wild Birds Directive) are transposed clearly.
- 3.5.11 As stated in EN-1, when determining this application the Secretary of State must, in accordance with the Conservation of Habitats and Species Regulations 2010, consider whether the proposed development may have a significant effect on a European Site of nature conservation importance alone or in combination with other plans or projects. The RIES [OD-010] compiles, documents, and signposts information provided within the application and the information submitted throughout the Examination by both the Applicant and IPs, up to Deadline 6 (18 June 2015) in relation to potential effects to European Sites. The Panel has set out its findings and conclusions in relation to HRA in Chapter 6.

3.6 WATER FRAMEWORK DIRECTIVE

- 3.6.1 On 23 October 2000, the "Directive 2000/60/EC of the European Parliament and of the Council establishing a framework for the Community action in the field of water policy" or, in short, the EU Water Framework Directive (WFD) was adopted.

- 3.6.2 The Directive was published in the Official Journal (OJ L 327) on 22 December 2000 and entered into force the same day. Some amendments have been introduced into the Directive since 2000⁴.
- 3.6.3 Twelve "Water notes" which intend to give an introduction and overview of key aspects of the implementation of the Water Framework Directive are available to download⁵.
- 3.6.4 To be in compliance with NPS EN-1 the Secretary of State must take the Water Framework Directive into account.

3.7 OTHER LEGAL AND POLICY PROVISIONS

UNITED NATIONS ENVIRONMENT PROGRAMME CONVENTION ON BIOLOGICAL DIVERSITY 1992

- 3.7.1 As required by Regulation 7 of the Infrastructure Planning (Decisions) Regulations 2010, the Panel has had regard to this Convention in its consideration of the likely impacts of the proposed development and appropriate objectives and mechanisms for mitigation and compensation. In particular the Panel finds that compliance with the UK provisions on environmental impact assessment and transboundary matters, referred to below, satisfies, with regard to impacts on biodiversity, the requirements of Article 14.
- 3.7.2 The UK Government ratified the Convention in June 1994. Responsibility for the UK contribution to the Convention lies with the Department for Environment, Food and Rural Affairs who promote the integration of biodiversity into policies, projects and programmes within Government and beyond.
- 3.7.3 This is of relevance to biodiversity, biological environment and ecology and is considered in Section 5.2.

THE NATIONAL PARKS AND ACCESS TO THE COUNTRYSIDE ACT 1949

- 3.7.4 The National Parks and Access to the Countryside Act provides the framework for the establishment of National Parks and Areas of Outstanding Natural Beauty (AONBs). It also establishes powers to declare National Nature Reserves, to notify Sites of Special Scientific Interest (SSSIs) and for local authorities to establish Local Nature Reserves.
- 3.7.5 A National Park and/or AONB has statutory protection in order to conserve and enhance the natural beauty of its landscape. National Parks and/or AONBs are designated for their landscape qualities. The purpose of designating a National Park and/or AONB is to conserve

⁴ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:02000L0060-20090625:EN:NOT>

⁵ http://ec.europa.eu/environment/water/participation/notes_en.htm

and enhance their natural beauty; including landform, geology, plants, animals, landscape features and the rich pattern of human settlement over the ages.

3.7.6 Section 5 of the Act requires that -

(1) The provisions of this Part of this Act shall have effect for the purpose—

(a) of conserving and enhancing the natural beauty, wildlife and cultural heritage of the areas specified in the next following subsection; and

(b) of promoting opportunities for the understanding and enjoyment of the special qualities of those areas by the public.

3.7.7 The statutory protection of the Mendip Hills AONB is considered in Section 5.5 on good design and Section 5.9 on landscape and visual matters.

THE WILDLIFE AND COUNTRYSIDE ACT 1981 (AS AMENDED)

3.7.8 The Wildlife and Countryside Act 1981 is the primary legislation which protects animals, plants, and certain habitats in the UK. The Act provides for the notification and confirmation of SSSIs. These sites are identified for their flora, fauna, geological or physiographical features by the countryside conservation bodies (in England, Natural England). The Act also contains measures for the protection and management of SSSIs.

3.7.9 The Act is divided into four parts: Part I relating to the protection of wildlife, Part II relating to designation of SSSIs and other designations, Part III on public rights of way and Part IV on miscellaneous provisions. If a species protected under Part I is likely to be affected by development, a protected species licence will be required from Natural England (NE).

3.7.10 This has relevance to consideration of impacts on SSSIs and on protected species and habitats. There are 13 nationally designated wildlife sites (SSSIs and National Nature Reserves (NNRs)) within 2kms of the Order limits. The proposed development would require construction works within six nationally designated sites. A number of protected species and habitats would also be affected by the proposed development. The effects are reported in Section 5.2 of this report.

PROTECTION OF BADGERS ACT 1992

3.7.11 Under the Protection of Badgers Act (1992) it is an offence to capture, kill or injure a badger, to damage or destroy a sett, to block access to a sett or to disturb a badger in its sett. It is also an offence to treat a badger cruelly, to deliberately send or intentionally allow a dog into a sett or to bait or dig for badgers. Interference with a badger sett

should be avoided but if this is not possible then developers must apply to NE for a licence.

- 3.7.12 The effect of the proposed development on badgers and their setts is considered in Section 5.2.

THE COUNTRYSIDE AND RIGHTS OF WAY ACT 2000

- 3.7.13 The Countryside and Rights of Way Act brought in new measures to further protect AONBs, with new duties for the boards set up to look after AONBs. These included meeting the demands of recreation, without compromising the original reasons for designation and safeguarding rural industries and local communities.
- 3.7.14 The role of local authorities was clarified, to include the preparation of management plans to set out how they will manage the AONB asset. There was also a new duty for all public bodies to have regard to the purposes of AONBs. The Act also brought in improved provisions for the protection and management of SSSIs.
- 3.7.15 This is relevant to the examination of effects on and mitigation in relation to impacts on any AONB affected by the proposed development. The proposed development crosses the Mendip Hills AONB and this is considered in the landscape and visual effects matters within Section 5.9 of the report.

NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT 2006

- 3.7.16 The Natural Environment and Rural Communities Act (NERC) made provision for bodies concerned with the natural environment and rural communities, in connection with wildlife sites, SSSIs, National Parks and the Broads. It includes a duty that every public body must have regard, so far as it is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. In complying with this, regard must be given to the United Nations Environment Programme Convention on Biological Diversity of 1992.
- 3.7.17 This is of relevance to biodiversity, biological environment and ecology and landscape matters in the proposed development and is considered in Chapter 5.

3.8 MADE DEVELOPMENT CONSENT ORDERS

- 3.8.1 The Applicant has made reference to the grant of development consent for the Hinkley Point C New Nuclear Power Station, with particular regard to the need to provide a new electricity connection for that development. The need for the development is considered in detail in Chapters 7 and 8 of this report.
- 3.8.2 The Applicant has drawn support generally from development consent orders for electric lines, the National Grid (King's Lynn B Power Station Connection) Order 2013 and the National Grid (North London Reinforcement Project) Order 2014, as well as development consent

orders and Transport and Works Act Order for other linear schemes, such as railways and tramways.

- 3.8.3 The Applicant has also referred to previous Orders, for example, the Network Rail (North Doncaster Chord) Order 2012; the Network Rail (Norton Bridge Area Improvements) Order 2014 and the National Grid (North London Reinforcement Project) Order 2014.

3.9 TRANSBOUNDARY EFFECTS

- 3.9.1 Under Regulation 24 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (EIA Regulations) the Secretary of State for Communities and Local Government screened the proposed development for significant effects on the environment in another European Economic Area State on 28 June 2013 and 4 November 2014. In both instances the Secretary of State adopted the view that the proposed development was not likely to have a significant effect on the environment in another European Economic Area State.

- 3.9.2 In reaching this view the Secretary of State has applied the precautionary approach (as explained in the Planning Inspectorate Advice Note 12 Transboundary Impacts Consultation) and took into account the information supplied by the Applicant. Transboundary issues consultation under Regulation 24 of the EIA Regulations was therefore not considered necessary in relation to this application. The ExA agrees with the view of the Secretary of State for Communities and Local Government.

3.10 LISTED BUILDINGS, CONSERVATION AREAS AND SCHEDULED MONUMENTS

- 3.10.1 When deciding an application which affects a listed building or its setting, a conservation area, or a scheduled monument or its setting the decision-maker must have regard to the duties set out in Regulation 3 of The Infrastructure Planning (Decisions) Regulations 2010. Matters regarding historic heritage are discussed in Chapter 5.

3.11 NATIONAL PLANNING POLICY FRAMEWORK

- 3.11.1 The National Planning Policy Framework (NPPF) was published in March 2012 and sets out the Government's planning policies for England and how these are expected to be applied. Paragraph 3 of the NPPF states that it does not contain specific policies for NSIPs for which particular considerations apply. It explains that NSIP projects are determined in accordance with the decision-making framework set out in [PA2008], and relevant NPSs for major infrastructure, as well as any other matters considered both important and relevant (which may include the National Planning Policy Framework).

- 3.11.2 In paragraph 3.5.4 of the Planning Statement [Doc 7.1], the Applicant draws attention to the fact that the NPPF states that the "*purpose of the planning system is to contribute to the achievement of sustainable*

development" and that planning has a key role to play in *"supporting the delivery of renewable and low carbon energy and infrastructure."*

- 3.11.3 At paragraph 3.5.5 of the Planning Statement the Applicant goes on to explain that the intention of the proposed development is to provide additional transmission capacity for electricity from nuclear and other low carbon generation sources which will help the UK to meet its renewable energy targets. The Applicant states that the NPPF does not include policies that specifically relate to electricity transmission infrastructure but it does include policies for conserving and enhancing the natural and historic environment. The Applicant states that this has been taken into account when considering potential alignments.
- 3.11.4 The Applicant also draws attention to the matters of traffic and transport, good design, consultation, Green Belt, climate change and health and amenity which are in the NPPF and explains how these have been considered.
- 3.11.5 The NPPF replaces all Planning Policy Statements and Planning Policy Guidance with the exception of Planning Policy Statement 10: planning for sustainable waste management. The Applicant refers to this at section 3.6 of the Planning Statement. This was subsequently cancelled and replaced by the National Planning Policy for Waste (NPPW) which was issued in October 2014.

3.12 LOCAL IMPACT REPORT

- 3.12.1 S104 and s105 state that in deciding the application the Secretary of State must have regard to any Local Impact Report (LIR) within the meaning of s60(3). There is a requirement under s60(2) PA2008 to give notice in writing to each local authority falling under s56A inviting them to submit LIRs. This notice was given on 29 January 2015 [PD-006].
- 3.12.2 The relevant local authorities are Bristol City Council, North Somerset Council, Sedgemoor District Council, Somerset County Council, South Gloucestershire Council and West Somerset Council. These were referred to as the Joint Councils throughout the Examination. The Joint Councils submitted a joint LIR [REP2-111 to REP2-116]. The principal matters raised in the LIR are:
- landscape character and visual impacts;
 - biodiversity and nature conservation;
 - historic environment;
 - Public Rights of Way;
 - transport;
 - construction controls: working hours, duration of construction period and mitigation;
 - noise;
 - Portbury/ Portishead route options;
 - socio-economic effects;
 - cumulative effects;

- health and well-being;
- Community Impact Mitigation fund; and
- monitoring and compliance

These are considered in Chapter 5 of this Report.

3.13 THE DEVELOPMENT PLAN

3.13.1 The application relates to land in the local authority areas of West Somerset, Sedgemoor, North Somerset, the City of Bristol, South Gloucestershire and the county of Somerset. As outlined in the Applicant's Planning Statement [Doc 7.1] and the Joint Councils' LIR [REP2-111 - REP2-116] and set out in full in the SoCG between the Applicant and the Joint Councils [Doc 8.3.12, Appendix B] the following local planning policy documents are relevant to the consideration of this application:

- Sedgemoor District Council: Core Strategy (2011);
- Sedgemoor District Council: Local Plan (Saved Policies) 2004;
- North Somerset Council: Core Strategy (April 2012, amended following High Court Ruling in March 2013);
- North Somerset Council: Saved Policies from the North Somerset Replacement Local Plan (2007);
- Bristol City Council: Core Strategy (June 2011);
- Bristol City Council: Local Plan (saved policies) 1997;
- Bristol City Council: Site Allocations and Development Management Policies (July 2014);
- South Gloucestershire Council: Core Strategy (2013);
- South Gloucestershire Council: Local Plan (saved policies) 2006; and
- West Somerset District: Local Plan (2006).

3.13.2 As stated in paragraph 4.1.5 of NPS EN-1, if there is any conflict between the above documents and a NPS then the NPS takes precedence due to the national significance of the infrastructure.

3.14 THE SECRETARY OF STATE'S POWERS TO MAKE A DCO

3.14.1 The ExA was aware of the need to consider whether changes to the application meant that the application had changed to the point where it was a different application and whether the Secretary of State would have power therefore under s114 PA2008 to make a DCO having regard to the development consent applied for.

3.14.2 The Secretary of State will be aware of the March 2015 updated Planning Act 2008: Guidance for the examination of applications for development consent, paragraphs 109 to 115, which provides guidance in relation to changing an application post acceptance. The view expressed by the Government during the passage of the Localism Act that s114(1) places the responsibility for making a DCO on the decision-maker, and does not limit the terms in which it can be made.

3.14.3 In exercising this power the Secretary of State may wish to take into account the following views of the ExA on the proposed changes to the application:

- The Applicant's Revised Construction Programme amounts to a change in the application but it is not so material a change as to constitute a new application. The ExA's procedural decision of 12 March 2015 [PD-010] sets out the reasons for the acceptance of the proposed change.
- The Applicant's proposed realignment of the proposed overhead line at Kings Weston Lane, Avonmouth constitutes a change to the application for development consent but it is not so material a change as to constitute a new application. The ExA's procedural decision of 12 March 2015 [PD-010] sets out the reasons for the acceptance of this minor route alignment change.
- The Applicant's proposed increased pylon height within Bristol Port, Avonmouth constitutes a change to the application for development consent but it is not so material a change as to constitute a new application. As stated in the ExA's procedural decision of 24 June 2015 [PD-013] the ExA has borne in mind the limited extent of the change which would be accommodated entirely within the Order land, and the fact that the original proposal would remain as an alternative option for consideration by the Secretary of State in this location. This proposed change is considered further in Chapter 5.

4 FINDINGS AND CONCLUSIONS IN RELATION TO THE MAIN ISSUES, THE PRINCIPLE OF THE DEVELOPMENT AND RELEVANT POLICY

4.1 MAIN ISSUES IN THE EXAMINATION

4.1.1 The Panel's initial assessment of principal issues for the examination, as required under s88 of the Planning Act 2008 (as amended) (PA2008) and Rule 5 of The Infrastructure Planning (Examination Procedure) Rules 2010, was made prior to the Preliminary Meeting held on 19 January 2015. In making our initial assessment of principal issues we had regard to the application documents, the Overarching National Policy Statement for Energy (EN-1), National Policy Statement for Electricity Networks Infrastructure (EN-5), National Policy Statement for Nuclear Power Generation Volumes I and II (EN-6), National Policy Statement for Ports, and the relevant DCLG guidance together with relevant representations (RRs) submitted by Interested Parties (IPs) [RR-001 to RR-150]. The initial assessment of principal issues was distributed to all interested parties as Annex C of the Rule 6 letter dated 28 November 2014 [PD-005]. This made it clear that it was not a comprehensive or exclusive list and that regard would be had to all important and relevant matters in reaching a recommendation after the conclusion of the Examination. The list is presented in alphabetical order and should not be taken to imply an order of importance.

4.1.2 Principal issues were identified under 15 main headings. Full details of the matters considered under each of the 15 main heading are set out in Annex C of the Rule 6 letter [PD-005]. The main headings are as follows:

- Air quality
- Biodiversity, biological environment and ecology
- Compulsory acquisition
- Draft Development Consent Order
- Flood risk
- Ground conditions, water quality and pollution prevention
- Health, well-being and Electric and Magnetic Fields (EMFs)
- Heritage and historic environment
- Landscape and visual effects and design
- Marine and navigation works
- Noise and vibration
- Portishead/Portbury options for overhead route connection
- Radar and air navigation
- Socio-economic effects
- Traffic and transportation (roads and highways and public rights of way)

4.1.3 At the Preliminary Meeting, the Panel heard a number of representations about the list of principal issues identified in the Rule 6 letter. It was explained at the Preliminary Meeting that the principal

issues were broadly defined and that the list was not intended to be exhaustive or definitive. The initial assessment of principal issues would not constrain the examination of other important and relevant matters.

- 4.1.4 At the Preliminary Meeting, the Bristol Port Company (BPC) requested that an Issue Specific Hearing (ISH) be held specifically in relation to Port-related matters. It also sought a Compulsory Acquisition Hearing (CAH) specifically to deal with the Port issues. These hearings were sought on the grounds that the Port related impacts needed express and separate consideration in the context of the Port. The Panel agreed that it was appropriate for an ISH to be held so that all the various impacts on the Port could be heard together but that there was not a similar need for a separate CAH for the BPC. A similar request for an ISH was made by the Bristol City Council in relation to the Avonmouth Severnside Enterprise Area (ASEA). Both these matters were reflected in the Examination timetable that was issued as part of the Rule 8 letter [PD-006]. However, whilst it made practical sense to hold separate ISHs in relation to these different areas, the matters raised are covered where appropriate under the originally assessed principal issues, rather than as separate issues in their own right.
- 4.1.5 The Panel had regard to all the points made in the representations at the Preliminary Meeting including those made in relation to strategic options, project need, alternative technologies and the use of T-pylons. Those comments, as far as they are relevant, have been taken into account during the Examination. These additional matters raised were considered and examined by the Examining authority (ExA) under the main topic headings identified by the initial assessment of principal issues in accordance with the legal and policy background applicable to such matters.
- 4.1.6 The Panel's findings and conclusions in respect of most of these issues are set out in Chapter 5 of this report, except for matters relating to compulsory acquisition or the draft Development Consent Order (DCO) which are respectively contained in Chapters 8 and 9. All representations, even if not explicitly mentioned, have been fully considered in reaching the conclusions set out.

ISSUES ARISING FROM WRITTEN SUBMISSIONS

- 4.1.7 A number of issues were raised in written representations, nearly all of which fell within the categories of issues identified in our initial assessment of principal issues.
- 4.1.8 The written representation of Dr Liam Fox MP [REP2-025], raises the matter of the Applicant's preference for route Option A rather than Option B in the Portbury/ Portishead area. This is, of course, one of our identified principal issues. However, Dr Fox questions the weight given by the Applicant, in making its assessment, to finance, visual impact, wildlife considerations, human costs and the like. He seeks

disclosure of the methodology to ensure transparency and to dispel any public doubt that there was a pre-determined outcome favoured, and already decided, by National Grid. The methodology used by the Applicant in the route selection process is considered under 'Alternatives' in Section 5.14 of this report.

- 4.1.9 A number of representations were made by different Interested Parties (IPs) in relation to the impact upon the Gypsy community at Moorlands Park [REP2-019, REP2-020, REP2-038, REP2-042, REP2-051, REP2-052, REP2-053]. However, the matters raised fall under the ambit of the principal issues identified in the initial assessment.
- 4.1.10 There was much criticism made of the consultation process. For example, Compton Bishop Parish Council [REP2-016 and REP2-017] states that the consultation has failed to engage the public, or local communities, and disenfranchisement occurred at an early stage. The causes were the perception of a 'done deal' when the least popular option was pursued and the need for a vast investment of personal time required to engage with the process.
- 4.1.11 Since such issues had been raised, the ExA's letter of 12 March 2015 [PD-010], explained that the legislative tests for the adequacy of public consultation were considered by the Secretary of State for Communities and Local Government at the s55 acceptance stage. The Secretary of State decided to accept the application for examination. In reaching that decision, in respect of s55(3)(e), he had regard to the matters set out in s55(4), and concluded that the Applicant had complied with Chapter 2 of Part 5 PA2008. In respect of s55(3)(f), he had regard to the extent to which those matters set out in s55(5A) have either been complied with or followed, and concluded that the application (including accompaniments) was of a satisfactory standard. The Secretary of State took into account the views of a number of local authorities when coming to this decision.
- 4.1.12 For the avoidance of doubt as to the scope of the Examination, the ExA drew attention to the fact that it has no power to revisit the decision to accept the application or the conclusions already reached by the Secretary of State in relation to the consultation process. However, the substantive cases made by IPs expressing such concerns, and the relevant issues raised, were fully explored and taken into account during the course of the Examination.
- 4.1.13 The need for the proposed development was questioned by a number of IPs, for example, Nailsea Against Pylons [REP2-044] and No Moor Pylons [REP2-047]. The Panel has taken into account the matters raised in our consideration of the Applicant's 'need' case in Section 4.2 of this report.
- 4.1.14 At Deadline 7, a submission was made by CLH Pipeline System Ltd (CLH) [REP7-038], in relation to the part of the route of the proposed development that would cross CLH's pipe-line or run close enough to

potentially interfere with the safe operation of its high pressure fuel pipe-line. This matter is considered in Section 5.14 of this report.

- 4.1.15 The issues raised by IPs informed the written questions that we asked during the course of the Examination. They were also matters that were examined at the ISHs, the Open Floor Hearings (OFHs) and the CAH.

ISSUES ARISING IN LOCAL IMPACT REPORTS

- 4.1.16 The Local Impact Report (LIR) for Bristol City Council, North Somerset Council, Sedgemoor District Council, Somerset County Council, South Gloucestershire Council and West Somerset Council together known as 'the Joint Councils' was submitted at Deadline 2 [REP2-111 to REP2-116].

- 4.1.17 Most of the principal matters raised in the submitted LIR coincide with the Panel's initial assessment of principal issues. The Joint Councils also raised the matter of project-wide waste management and Avonmouth Severnside issues for South Gloucestershire Council and Bristol City Council. We consider the former under 'other issues' in Chapter 5.15 of this report, and the issues relating to the Avonmouth Severnside area are considered under the relevant topic headings in Chapter 5 of this report. The various matters raised in the Appendices to the LIR include the Off-site Planting and Enhancement Scheme (OSPES), the Community Impact Mitigation (CIM) fund, the ASEA and Hallen Marsh, historic environment mitigation, transport, Sedgemoor flood risk contribution, routing options and Public Rights of Way (PRoWs).

- 4.1.18 The main impact issues are identified in the LIR as being:

- landscape character and visual impacts;
- biodiversity and nature conservation;
- historic environment;
- Public Rights of Way;
- transport;
- construction controls: working hours, duration of construction period and mitigation;
- noise;
- Portbury/ Portishead route options;
- socio-economic effects;
- cumulative effects;
- health and well-being;
- Community Impact Mitigation fund; and
- monitoring and compliance

- 4.1.19 The LIR raises a number of matters under each main issue and further details are provided in the tables which are attached. In summary, these matters include:

- The delivery mechanism for the Applicant's proposed OSPES, which the Joint Councils consider must be secured as essential mitigation, rather than 'enhancement'.
- The adequacy of the Applicant's proposals for planting to help mitigate adverse landscape, visual and cumulative effects, particularly at 'pinch points' along the route (including for example Puriton Ridge, Mark, Tarnock/ Biddisham, Tickenham/ Nailsea, Avonmouth Village, to the north of Hallen Marsh and at Wick Moor).
- The provision by the Applicant of detailed mitigation proposals that are subject to local authority approval prior to construction including approval of additional mitigation planting, replacement planting and landscape reinstatement proposals, management proposals and final T-pylon colours.
- The provision by the Applicant of resources for the Joint Councils to monitor implementation of mitigation, and that the Applicant should be responsible for the maintenance of planting over a 15 year period rather than the five years proposed by the application.
- The impacts on bats, notably those associated with Special Areas of Conservation (SACs) through the undergrounding section.
- The adequacy of the Applicant's Habitats Regulations Assessment (HRA).
- The adequacy of the Applicant's Biodiversity Mitigation Strategy (BMS).
- The mitigation for impacts on heritage buildings (Grade II* St Quiricus and Julietta's Church, Tickenham, Grade I Church of St Mark, Mark and Grade II* Church of St John, Biddisham).
- The adequacy of the mitigation proposed for a number of footpaths including the England Coast Path and the Strawberry Line.
- The provision of an updated Public Rights of Way Management Plan.
- The consideration of speed limits at accesses on a case by case basis, signage, arrangements to restrict the programme of HGV movements at specific locations and arrangements for participation in the Traffic Review Group proposed by the Applicant.
- Provision for the mitigation of construction impacts on local communities including by means of a CIM fund.
- Provision for the uncertainty associated with potential operational noise effects on new T-pylon technology including by means of a CIM fund.
- The assessment of the visual effects upon southbound traffic using the M5.
- The provision of a Local Employment Agreement and supply chain commitments, alongside targets and actions to achieve socio-economic benefits for the communities along the route.
- The lack of evidence to support the Applicant's view that there will not be adverse impacts on tourism and amenity.
- The adequacy of the assessment of the economic impact on the ASEA and associated City Region Deal with Government.

- The adequacy of the cumulative assessment methodology.
- The provision of a Health Impact Assessment.
- The provision of a CIM fund to address unforeseen or poorly predicted effects arising from the project, as well as residual unmitigated effects and cumulative effects with other projects to be addressed.
- The provision of funding to cover the cost of independent monitoring by the Joint Councils to ensure that the required mitigation is delivered.

4.1.20 The Panel has had regard to all the matters raised by the LIR and these have been further explored and considered during the course of the Examination.

4.2 THE PRINCIPLE OF THE DEVELOPMENT

4.2.1 The proposed development comprises a new 400,000 volt (400kV) electricity transmission connection between Bridgwater, Somerset and Seabank substation, north of Avonmouth, together with associated development. Its purpose is to reinforce the transmission network in the region and facilitate the connection of the proposed Hinkley Point C New Nuclear Power Station and other proposals for low carbon generation. EN-6 outlines the preferred locations for the development of new nuclear generating stations of which Hinkley is one location. The Applicant's position is that the implementation of the proposed development is essential to facilitate the export of low carbon electricity from the South West and South Wales and Gloucestershire Regions and maintain the UK's energy security of supply [Doc 7.5A].

NEED FOR THE DEVELOPMENT

4.2.2 EN-1 explains that electricity meets a significant proportion of our overall energy needs and our reliance on it is likely to increase. It states, at paragraph 3.1.1, that the UK needs all the types of energy infrastructure covered by this National Policy Statement (NPS) in order to achieve energy security at the same time as dramatically reducing greenhouse gas emissions. It advises that all applications for such development should be assessed on the basis that there is a need for those types of infrastructure and that the scale and urgency of that need is as described for each of them in Part 3 of EN-1.

4.2.3 EN-1 sets out, in section 3.7, the key reasons why the Government believes that there is a need for new electricity network infrastructure. At 3.7.7, it states that: *"Accordingly, new lines will have to be built and the location of renewable energy sources and designated sites for new nuclear power stations makes it inevitable that a significant proportion of those lines will have to cross areas where there is little or no transmission infrastructure at present or where it may be claimed should be protected from such intrusions. The urgency of need for new generating capacity means that the need for new transmission that is required to connect that capacity will be similar."*

- 4.2.4 The Applicant's need case is set out in ES Project Needs and Alternatives [Doc 5.2.1], and the updated ES Need Case for the South West and South Wales and Gloucestershire Regions [Doc 7.5A]. The National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS) establish a coordinated set of criteria and methodologies that Transmission Licensees use in the planning and operation of the National Electricity Transmission System.
- 4.2.5 The Planning Statement [Doc 7.1, paragraph 2.1] indicates that the existing transmission system in South West England, South Wales and Gloucestershire is sufficient to comply with the NETS SQSS for current levels of generation and demand. However, the electricity industry is undergoing unprecedented changes in the drive towards a low-carbon economy, which is seeing major investment in low-carbon generation. These new generation projects need connections to the transmission system and, in some places, that means additional transmission capacity is required to continue to meet the requirements of the NETS SQSS.
- 4.2.6 Under the terms of its transmission licence, National Grid is obliged to make an offer of connection in response to each valid application made. In September 2007, National Grid received an application for the connection of a new nuclear power station at Hinkley Point, Somerset (Hinkley Point C power station) to the high voltage electricity transmission system. That connection, as well as others in the South West and South Wales and Gloucestershire regions, triggered the need for new transmission capacity. Based on the contracted generation background, in the South West, by 2021, new transmission capacity in excess of 4,142MW will be required. In addition, by 2023, South Wales and Gloucestershire will require new transmission capacity of over 4,240MW with a potential requirement to facilitate new generation connections at Seabank.
- 4.2.7 A number of IPs have questioned the need for the proposed development and, in particular, the timing of the scheme. For example, No Moor Pylons [REP2-047] refers to the legal challenge made by the Austrian Government to the Hinkley Point C power station and submit that this will, at least, cause delay to the project. Nailsea Against Pylons [REP2-044] argues that the need case is out-of-date, as the decision to build the new nuclear power station is uncertain and, in any case, will take time to construct. Tessa Munt, formerly MP for Wells, [REP2-049], points to the lack of a final investment decision for that scheme.
- 4.2.8 The Applicant's response to the written representations of Nailsea Against Pylons [Doc 8.5], refers to the ES Sensitivity Report [Doc 5.29.1.1] which explains that the change to the connection dates of the Hinkley Point C power station has delayed the need for the proposed connection by two years. However, there have been no changes to the generation connection plans of other generators in the region that would remove the need for the project.

- 4.2.9 As a consequence, an update to the originally submitted need case was provided at Deadline 4 [Doc 7.5A]. Table 4.2 of that document gives a summary of National Grid's contractual requirements in respect of generator connections to the NETS in the South West region. Table 4.3 provides a summary of National Grid's contractual requirements in respect of generator connections to the NETS in the South Wales and Gloucestershire region. The assessment concludes that, based on the contracted generation background, new transmission capacity will be required in the South West by 2022, and it will be required in South Wales and Gloucestershire by 2018.
- 4.2.10 The Panel asked a number of first round and second round questions concerning the particular need for the proposed development. In response to Q3.21 [Doc 8.1.1], the Applicant states that unless, and until, EDF Energy cancels the bilateral connection agreement for the connection to the consented Hinkley Point C power station, it must develop and deliver the connection to meet the contractual connection date. Whilst the contract could be varied by the customer, the current contractual delivery date is: a) back feed - 30 October 2019, b) principal connection - 1 June 2022.
- 4.2.11 The ExA's Qs 2.3.1 to 2.3.4, pursue the matter of the need case put forward by the Applicant in the submitted Need Case for the South West and Gloucestershire Regions [Doc 7.5]. The Applicant's response to Q2.3.2 [Doc 8.18.1] includes Table 2.3.2, which sets out the consent status of each of the contracted generators. This confirms that many of the projects listed have not yet achieved consent. Furthermore, the Applicant acknowledges, in its response to Q2.3.3, that there is a degree of uncertainty around both the likelihood and timing of new generators actually progressing and connecting to the transmission network. However, its role is to manage this uncertainty and invest in new transmission connections at the appropriate time and it describes the way in which this uncertainty is managed and assessed.
- 4.2.12 In response to Q2.3.4, the Applicant accepts that EDF Energy retains the ability to cancel or vary the connection agreement. It is also correct that the proposed scheme is dependent on the contract with EDF Energy. However, as outlined in the updated Need Case [Doc 7.5A], the scheme would also facilitate the connection of Seabank 3 in 2021.
- 4.2.13 EN-1, paragraph 1.7.2, and sections 3.3 and 3.7, and EN-5, section 2.3, allow for the forward planning of projects in order to meet the delivery demand of national infrastructure. In this case, the Applicant contends that forward planning is needed to meet the demand for electricity transmission. Given its contractual obligations, the Applicant submits that there is sufficient certainty regarding the new generation in the South West and now is the right time to seek consent.
- 4.2.14 The Panel finds no substantive reasons to disagree with this conclusion and we are satisfied that the Applicant's need case is reliable and

robust. The proposed development would contribute to meeting the need for new electricity transmission and distribution infrastructure identified in EN-1 and a specific location in EN-6. We shall give further consideration to the various generic impacts of the project, and the question of alternative technologies, in Section 5.14 of this report. However, in terms of broad matters of principle, we are satisfied that the need for the proposed development has been established.

CONFORMITY WITH NATIONAL POLICY STATEMENTS, MARINE POLICY STATEMENT AND MARINE PLANS AND OTHER KEY POLICY STATEMENTS

National Policy Statements

4.2.15 S104(3) PA2008 requires that an application for development consent should be decided in accordance with the relevant NPS, subject to the exceptions set out in subsections (4)-(8). Subsections (4) to (8) PA2008 include where:

- Such a determination would lead to the UK being in breach of its international obligations.
- Such a determination would lead the Secretary of State to be in breach of any duty imposed on the Secretary of State by or under any enactment.
- The adverse impact of the proposed development would outweigh its benefits.
- Any condition prescribed for deciding an application otherwise than in accordance with a NPS is met.

4.2.16 As explained in Chapter 3 of this report, the relevant energy NPSs are EN-1, EN-5 and EN-6. They were considered by Parliament and formally designated in July 2011. They provide the primary basis for decision-making on this application for development consent.

National Policy Statement EN-1

4.2.17 EN-1 notes that it is critical that the UK continues to have secure and reliable supplies of electricity as it makes the transition to a low carbon economy. This means ensuring that there is:

- sufficient electricity capacity (including a greater proportion of low carbon generation) to meet demand at all times, including a safety margin of spare capacity to accommodate fluctuations in supply or demand;
- reliable associated supply chains to meet demand as it arises; a diverse mix of technologies and fuels, (including primary fuels imported from a wide range of countries); and
- effective price signals, so that the market can react in a timely way to minimise imbalances between supply and demand.

4.2.18 EN-1 specifically considers the need for new electricity network infrastructure and concludes that there is an urgent need for new electricity transmission and distribution infrastructure to be provided.

However, it also acknowledges that the costs and benefits of alternative technological approaches should be properly considered as set out in EN-5 before any overhead line proposal is consented.

- 4.2.19 Part 4 of EN-1 sets out certain general assessment principles against which applications relating to energy infrastructure are to be decided, that do not relate to the need for new energy infrastructure (covered in Part 3), or to particular physical impacts of its construction or operation (covered in Part 5 of EN-1 and EN-5).
- 4.2.20 The general principles of assessment set out in EN-1 relevant to the proposed development relate to environmental statements, habitats and species regulations, consideration of alternatives, good design, climate change adaptation, pollution control and other regulatory regimes, safety, health and national security.
- 4.2.21 The Applicant has produced a report to inform the Habitats Regulation Assessment. The potentially significant effects of the proposed development have been assessed alone, as well as in combination with other relevant plans and projects, and mitigation measures are identified where appropriate. The assessment concludes that the proposed development would not have an adverse effect on the integrity of any European Sites of nature conservation importance.
- 4.2.22 The ES includes information about the main alternatives that have been studied. The main reasons for the Applicant's choices are set out in the ES Project Needs and Alternatives [Doc 5.2.1].
- 4.2.23 The design evolution of the proposed development is set out in the Design and Access Statement [Doc 7.2]. The Applicant contends that the proposed development demonstrates compliance with the principles of good design through routing, siting, design, and the sensitive use of materials in order to minimise or to mitigate adverse impacts. The Applicant's design of assets/components and their resilience to climate change are outlined in the ES Project Description [Doc 5.3.1] and within individual topic chapters of the ES. The Applicant submits that its assessment is in accordance with section 4.8 of EN-1.
- 4.2.24 Turning to pollution control, EN-1, paragraph 4.10.3, states that:
- "In considering an application for development consent, the [decision-maker] should focus on whether the development itself is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves. The [decision-maker] should work on the assumption that the relevant pollution control regime and other environmental regulatory regimes...., will be properly applied and enforced by the relevant regulator. It should act to complement but not seek to duplicate them."*

And paragraph 4.10.8 states:

"The [decision-maker] should not refuse consent on the basis of pollution impacts unless it has good reason to believe that any relevant necessary operational pollution control permits or licences or other consents will not subsequently be granted".

- 4.2.25 Relevant topic chapters of the ES have assessed the likely requirement for environmental permits and other consents and the Applicant has liaised with the regulatory authorities involved. These include the ES chapters relating to ground environment, hydrology and water resources, and air quality and emissions.
- 4.2.26 The Planning Statement [Doc 7.1] outlines the approach taken by National Grid to health and the safety issues that might arise from the construction and operation of its infrastructure. The ES has made an assessment of those aspects of the scheme which might have the potential for adverse impacts on health and indicates the manner in which it is proposed to mitigate and minimise such impacts.
- 4.2.27 The Planning Statement [Doc 7.1] acknowledges that there may be national security considerations where applications for development consent relate to potentially 'critical' infrastructure. National Grid maintains a regular dialogue with a range of organisations with responsibility for both local and national crime prevention and security. This includes confidential discussions regarding proposals which form part of the application.
- 4.2.28 EN-1, Part 5 sets out the generic impacts of energy infrastructure projects which must be considered in the ES which accompanies the application. The generic impacts relevant to the proposed development have been addressed in the ES which has assessed the potential effects arising during pre-construction, construction, operation and decommissioning of the proposed development and the inter-relationship of these effects.

National Policy Statement EN-5

- 4.2.29 EN-5 indicates that the decision-maker should start its assessment of applications for infrastructure covered by it on the basis that need has been demonstrated.
- 4.2.30 EN-5 does not seek to direct applicants to particular sites or routes for electricity networks infrastructure. It notes that the general location of electricity network projects is often determined by the location, or anticipated location, of a particular generating station in relation to the existing network. In other cases the requirement for a line may be the result of the need for more strategic reinforcement of the network. EN-5 accepts that the most direct route for a new connection may not be the most appropriate given engineering and environmental considerations.
- 4.2.31 EN-5 Part 2 sets out the basis for assessing such proposals. It advises, for a variety of topic areas, what the applicant's own assessments should address and what principles should be adopted in decision-

making. It also advises on the weight to be given to certain issues and on the treatment of mitigation measures, particularly how these may be enforced through requirements or obligations. Any assessment should also cover those issues raised in EN-1.

- 4.2.32 The ES Project Needs and Alternatives [Doc 5.2.1], and related Appendices and Figures, explains the assessment that the Applicant has made of the alternatives to the preferred connection. The Planning Statement [Doc 7.1] assesses various aspects of the application in the light of EN-5.

National Policy Statement EN-6

- 4.2.33 EN-6 identifies Hinkley Point as a site that the Government has determined as being potentially suitable for the deployment of a new nuclear power station. A site assessment for Hinkley Point is set out in EN-6, Volume II, Annex C. An application for a new nuclear power station at Hinkley Point C has been granted development consent.

National Policy Statement for Ports

- 4.2.34 The Ports NPS relates to proposals for new port development which is, of course, a different type of development compared to the subject-matter of this application. However, it does provide useful background guidance in relation to the essential role of ports in the UK economy. This is relevant to the consideration of that part of the route which passes through the Port of Bristol and the impact upon the operation of the port.

Conclusion

- 4.2.35 The proposed development would provide new electricity network infrastructure. EN-1 recognises this as being a category of development for which there is an urgent need. The Panel is satisfied that the application has taken into account the general principles of assessment set out in EN-1 that are relevant to the proposed development. We shall consider in later chapters of this report whether the proposed development would actually achieve compliance with those general principles, and the generic impacts identified in EN-1 Part 5, and EN-5. The particular question of alternatives is considered in Section 5.14. The socio-economic impact on the Port of Bristol, and whether any serious detriment would be caused through the exercise of the compulsory acquisition powers sought, is considered respectively in Section 5.12 and Chapter 8.

Marine Policy Statement

- 4.2.36 The marine policy context is set out in Chapter 3 of this report. The Marine Policy Statement (MPS) states, at paragraph 3.3.1, that: "*A secure, sustainable and affordable supply of energy is of central importance to the economic and social well being of the UK*". It continues that: "*Contributing to securing the UK's energy objectives,*

while protecting the environment, will be a priority for marine planning".

- 4.2.37 The Statement of Common Ground (SoCG) between the Applicant and the Marine Management Organisation (MMO) [Doc 8.3.10] shows, at Appendix 3, the proposed development in the context of the marine environment. It is common ground that the only works associated with the proposed development below the mean high water springs (MHWS) are the activities relating to the River Avon Crossing. The matters relating to the marine environment, including the Deemed Marine Licence (DML), will be considered in the light of the MPS guidance in Chapter 5.10 of this report.

The National Planning Policy Framework

- 4.2.38 The National Planning Policy Framework (NPPF) sets out the Government's national planning policies for England and how it expects these to be applied strategically in the development plan system and in the management of development. The NPPF is explicit about the role of the NPS being the primary decision-making document for Nationally Significant Infrastructure Projects (NSIPs) under the Act. However, the Panel considers it to be an important and relevant consideration in decision-making for NSIPs.
- 4.2.39 The NPPF, paragraph 6, states that, *"the purpose of the planning system is to contribute to the achievement of sustainable development."* It goes on to state that planning has a key role to play in, *"supporting the delivery of renewable and low carbon energy and associated infrastructure."*
- 4.2.40 The proposed development would reflect that general principle in that it is intended to provide additional transmission capacity to permit the connection of nuclear and other low carbon generation and thereby assist the UK to meet its renewable energy targets.
- 4.2.41 The NPPF does not include policies specifically relating to the provision of new electricity transmission infrastructure. However, it includes policies for conserving and enhancing the natural and historic environment. The Applicant submits that these have been taken into account in planning and assessing potential alignments. The Planning Statement also seeks to identify how the proposed development would be in accordance with the NPPF. It covers matters relating to the overarching principles, traffic and transport, good design, consultation, Green Belt, climate change, biodiversity and nature conservation, landscape, health and amenity, and the historic environment. We shall consider whether there would be any adverse impacts that would conflict with the policy approach set out in the NPPF in our conclusions on the case for development consent in Chapter 7 of this report.

National Planning Policy for Waste (October 2014)

- 4.2.42 As part of the Construction Environmental Management Plan (CEMP), the Applicant has produced a Waste Management Plan (WMP). The

WMP predicts that the proposed development has the potential to generate about 203,000 tonnes of waste.

- 4.2.43 National Grid states that it will seek to minimise waste in accordance with the waste hierarchy, that is to say, adopting the principles of reduction, re-use, recycling and recovering value from materials before disposing of them. This would accord with the general principles set out in the National Planning Policy for Waste (October 2014) (NPPW). We shall consider whether the WMP would be sufficient to achieve the Applicant's stated aims in Section 5.14 of this report.

CONFORMITY WITH DEVELOPMENT PLAN POLICIES

- 4.2.44 EN-1, paragraph 4.1.5, confirms that other matters which the Secretary of State may consider both important and relevant to decision-making include Development Plan documents or other documents in the Local Development Framework. The same paragraph explains, however, that in the event of a conflict, the NPS prevails for the purposes of the Secretary of State's decision-making, given the national significance of the infrastructure.
- 4.2.45 The Planning Statement [Doc 7.1] sets out the key local plan policy documents against which the proposed development should be considered. It provides, in Table 4.1, an assessment of the proposed development against adopted and saved local planning policies and concludes that the proposed development would be broadly consistent with the objectives of those plans as regards minimising adverse effects arising from construction and operational activities. As indicated in Chapter 3 of this report, the LIR also makes reference to relevant local planning policies, and the SoCG between the Applicant and the Joint Councils lists all the policies which both parties consider important and relevant in response to Q19.3 [Doc 8.3.12, Appendix B].
- 4.2.46 There are no specific local policies applicable to the provision of this type of infrastructure. However, there are many policies that seek to control impacts of the type that are likely to be generated by the proposed development. We shall give consideration to relevant Development Plan policies, in the context of the NPS guidance, in our conclusions on the case for development consent in Chapter 7 of this report.

4.3 ENVIRONMENTAL STATEMENT AND ENVIRONMENTAL IMPACT ASSESSMENT

THE NEED FOR ENVIRONMENTAL IMPACT ASSESSMENT

- 4.3.1 National Grid Electricity Transmission plc wrote to the Planning Inspectorate on 16 April 2013, in accordance with regulations 6(1)(b) and 8(1) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 as amended by the Infrastructure Planning (EIA) (Amendment) Regulations 2012 (the EIA Regulations), notifying the Secretary of State that it proposed to provide an

environmental statement (ES) in respect of the proposed development project, and requesting the Secretary of State's opinion as to the information to be provided in the ES. The proposed development is therefore EIA development in accordance with the definition set out in regulation 4(2)(a) of the EIA Regulations.

- 4.3.2 The Applicant submitted a Scoping Report with its letter of 16 April 2013, which provided information regarding the proposed scope of the EIA to be reported in the ES and accompanied the request to the Planning Inspectorate for a scoping opinion under regulation 8(1) of the EIA Regulations.
- 4.3.3 The Secretary of State consulted the prescribed consultees and other IPs, took account of the consultation responses received within the prescribed time period, and took account of the specific characteristics of the project as described by the Applicant and the environmental features likely to be affected by the project before adopting a scoping opinion. The executive summary of the scoping opinion identified the main potential issues as: landscape and visual assessment; biodiversity and nature conservation; historic environment, and socio-economic and land use.
- 4.3.4 The application for a DCO made on 28 May 2014 was accompanied by an ES together with a Non-Technical Summary. Tables 1.3 and 1.4 of, the ES Introduction [Doc 5.1], set out the Applicant's signposting of where the requirements of EN-1 and EN-5 respectively are addressed within the ES.

ADEQUACY OF THE ENVIRONMENTAL STATEMENT/ ENVIRONMENTAL IMPACT ASSESSMENT

- 4.3.5 Overarching National Policy Statement (NPS), EN-1 (EN-1) section 4.2 sets out the considerations to be taken into account in determining the adequacy of the Environmental Statement (ES) accompanying an application for development consent (in this case including a deemed marine licence). Prior to submission the Applicant's ES had been subject to screening by the Secretary of State, which issued a scoping opinion that was taken into account by the Applicant in further refinement of the ES, prior to submission of the application.
- 4.3.6 On submission, all the application documents were reviewed within the statutory period available for Acceptance⁶. The information within the ES was considered adequate. During the course of the Examination, having considered the submitted information in detail and taken into account submissions from the Applicant and IPs, the Panel raised a number of questions; and the Applicant submitted information from

⁶ The Acceptance stage begins when a developer submits a formal application for development consent to the Planning Inspectorate. There follows a period of up to 28 days (excluding the date of receipt of the application) for the Planning Inspectorate, on behalf of the Secretary of State, to decide whether or not the application meets the standards required to be formally accepted for examination

additional surveys, and in response to the ExA's questions and actions from ISHs.

- 4.3.7 The Applicant's submission on 1 October 2014 included additional survey data undertaken during 2014. This was accepted into the Examination by the ExA through its Rule 6 letter dated 28 November 2014 [PD-005]. The ExA regarded the ES updates as "any other information" (as defined in Regulation 2 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended)) (EIA Regs). IPs were asked to submit any comments they may have on this information as part of their representations to meet Deadline 2 on 24 February 2015.
- 4.3.8 The Applicant also submitted an ES Sensitivity Test [Doc 5.2.9.1.1 and associated Appendices and Figures] on 1 October 2014, which was accepted into the Examination by the ExA's Rule 8 letter dated 12 March 2015 [PD-010]. The ES Sensitivity Test was undertaken to consider where there are changes to the environmental effects described in the submitted ES as a result of a proposed revised construction programme. The sensitivity test comprises:
- Environmental Statement Sensitivity Test [Doc 5.2.9.1.1]; and
 - Supporting Documents Sensitivity Test [Doc 5.2.9.1.2].
- 4.3.9 Near to the close of the Examination at Deadline 7, the Applicant submitted its ES Consolidated Errata and Changes, contained in a report with two annexes [Doc 5.30B.1, 5.30B.2 and 5.30B.3]. The Applicant also submitted a document giving updates of submitted documents at each Deadline in its Guide to the Application. The final version [Doc 1.7I] indicates which ES documents are the latest versions and which have been superseded. The Panel has relied upon this information in the Application Guide and the Errata and Changes documents to obtain a full and complete inventory of the ES. Following comments from the Joint Councils on the ES Consolidated Errata and Changes document, the Applicant provided responses in tabular form [Doc 8.47]. These points also provide further detail for the ES.
- 4.3.10 The Applicant considered cumulative effects in the ES [Doc 5.17.1 to 5.17.3]. The Applicant's approach to assessing cumulative effects and a description of the plans and projects taken into account is included in the assessment [Doc 5.17.1, Section 17.2]. The Joint Councils agree with the approach taken to scoping plans and projects into the cumulative assessment [Doc 8.3.12A, ID 17.1] but do not agree with the Applicant's approach to the assessment of inter-project cumulative effects and the identification of and mitigation for cumulative effects [Doc 8.3.12A ID 17.2.1]. The Joint Councils state that the Applicant should have considered the potential cumulative effects of multiple non-significant effects [Doc 8.3.12A, ID 5.3.11]. This point was also raised in the Joint Councils' LIR [REP2-113, para 3.1 to 3.13]. The Joint Councils accept that such effects may be difficult to quantify, but conclude that this does not mean they are irrelevant or should be ignored.

- 4.3.11 In response to the points raised by the Joint Councils within their LIR, the Applicant contends that the cumulative assessments for all environmental topics have been undertaken in an appropriate manner [Doc 8.6.1, ref 1.4]. In response to Q16.7, the Applicant explained that the cumulative assessment was not limited to situations where significant effects were identified in either the proposed development or other projects; that the incremental effect of all other projects and the proposed development were considered before determining if significant cumulative effects were likely [Doc 8.1.3, Q16.7]. The Applicant confirmed that it does not consider it necessary to provide additional mitigation with regard to cumulative effects as no unacceptable residual cumulative effects have been identified [Doc 8.3.12A, ID 17.2.1].
- 4.3.12 The Panel is content that the Applicant's approach as described and clarified in response to questions has addressed the matter of cumulative effects for EIA in an appropriate manner.
- 4.3.13 Overall, in the light of the submitted documentation and the submissions received, the Panel considers that the ES, as supplemented with the additional information secured during the Examination, provides an adequate basis for the environmental impact assessment. In turn we also consider that the various elements of the environmental impact assessment, supplemented by the information received in response to Panel questions and submissions by IPs, now form an adequate basis for our report and recommendation and decision making by the Secretary of State.

CONSIDERATION OF ALTERNATIVES FOR ENVIRONMENTAL IMPACT ASSESSMENT PURPOSES

- 4.3.14 NPS EN-1, para 4.4.1 makes it clear that *"the relevance or otherwise to the decision-making process of the existence (or alleged existence) of alternatives to the proposed development is in the first instance a matter of law. The NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option"*. However, as required under the EIA Directive and relevant regulations, the Applicant was obliged to include in its ES information regarding the main alternatives studied (EN-1, para 4.4.2).
- 4.3.15 Other statutory or policy factors that required alternatives to be considered for this proposed project included the legislative requirements under the Habitats Regulations and the policy requirement in EN-1, section 4.4 and specifically para 4.4.2 to consider alternatives in relation to biodiversity, flood risk and landscape and visual impacts. HRA matters are dealt with in Chapter 6 of this report and the impacts for biodiversity in Section 5.2, for flood risk in section 5.4 and for landscape and visual in Section 5.9.
- 4.3.16 As part of the submitted environmental information, the Applicant submitted an ES Project Need and Alternatives document [Doc 5.2.1],

together with appendices 2A to 2V [Doc 5.2.2.1 to 5.2.2.11] and figures 2.1 to 2.30 [Doc 5.2.3.1 to 5.2.3.5]. Further information was submitted during the Examination in response to IPs' representations and the Panel's written and verbal questions.

CERTIFYING THE ENVIRONMENTAL STATEMENT

- 4.3.17 The Applicant does not consider that it is necessary for the ES to be certified by the Secretary of State. Since the ES is now specifically defined in article 2 of the Applicant's final DCO, and that definition includes all subsequent errata and changes since its original submission in support of the application, the Panel agrees that certification by the Secretary of State is not necessary in this case.

5 FINDINGS AND CONCLUSIONS IN RELATION TO THE POTENTIAL IMPACTS OF THE DEVELOPMENT

The potential impacts of the development are considered under generic topic headings which are generally arranged in alphabetical order. The exceptions to this rule are the penultimate heading which covers a range of 'other issues', including alternatives, and the last topic which is the Portbury/ Portishead Options A and B route choice. The order in which all these section headings are presented should not be taken to imply any order of merit.

5.1 AIR QUALITY, DUST AND OTHER EMISSIONS

INTRODUCTION

5.1.1 This section of the report deals with aspects of air quality including dust and other construction emissions but not ground gas issues which are dealt with under Section 5.6.

5.1.2 Within the Environmental Statement (ES) for the project, the headline document that deals with overall principals of impact assessment is Environmental Impact Assessment Approach and Methodology [Doc 5.5]. The document dealing with air quality is entitled Air Quality and Emissions [Doc 5.13]. For the sake of brevity, references to ES in this sub-section mean references drawn from the latter document [Doc 5.13] which relates solely to air quality.

5.1.3 In this current section, national policy is discussed first followed by an outline of the Applicant's Air Quality and Emissions document [Doc 5.13]. This is followed by a discussion of the issues and the final part of this section is the Panel's conclusions and recommendations on air quality issues.

NATIONAL AND LOCAL POLICY

The Overarching National Policy Statement for Energy EN-1

Overview

5.1.4 Air quality is covered by EN-1 Section 4 which is entitled 'Pollution control and other environmental regulatory regimes'. Paragraph 4.10.2 states that pollution control is concerned with preventing pollution through the use of measures to prohibit or limit the releases of substances to the environment from different sources to the lowest practicable level. It also requires that ambient air and water quality meet standards that guard against impacts to the environment or human health.

5.1.5 In chapter 5: (Generic impacts), EN-1 also provides guidance for cases where the project is likely to have adverse effects on air quality and paragraph 5.2.7 states that the Environmental Statement (ES) should describe:

- *"any significant air emissions, their mitigation and any residual effects distinguishing between the project stages and taking account of any significant emissions from any road traffic generated by the project;*
- *the predicted absolute emission levels of the proposed project; after mitigation methods have been applied;*
- *existing air quality levels and the relative change in air quality from existing levels; and*
- *any potential eutrophication impacts."*

In paragraphs 5.6.4 and 5.6.7, there is a recommendation that insect infestation should also be taken into account.

5.1.6 The decision-maker is asked in paragraph 5.2.11 to consider whether mitigation measures are needed both for operational and construction emissions and there is a pointer towards a construction management plan.

5.1.7 In section 5.6, under the heading of Dust, odour, artificial light, smoke, steam and insect infestation, EN-1 advises:

"During the construction, operation and decommissioning of energy infrastructure there is potential for the release of a range of emissions such as odour, dust, steam, smoke, artificial light and infestation of insects. All have the potential to have a detrimental impact on amenity or cause a common law nuisance or statutory nuisance under Part III, Environmental Protection Act 1990".

5.1.8 EN-1 recommends in paragraph 5.6.5 that the assessment provided by the applicant should describe:

- the type, quantity and timing of emissions;
- aspects of the development which may give rise to emissions;
- premises or locations that may be affected by the emissions;
- effects of the emission on identified premises or locations; and
- measures to be employed in preventing or mitigating the emissions.

5.1.9 The decision-maker is advised in paragraph 5.6.7 to satisfy itself that:

- an assessment of the potential for artificial light, dust, odour; smoke, steam and insect infestation to have a detrimental impact on amenity has been carried out; and
- that all reasonable steps have been taken, and will be taken, to minimise any such detrimental impacts.

5.1.10 Paragraph 5.6.10 asks the decision-maker to consider the need for a scheme of management and mitigation to reduce any loss to amenity which might arise during the construction, operation and decommissioning of the development and as mentioned above, there is a pointer towards a construction management plan that may help codify mitigation.

How national policy is addressed in the application

- 5.1.11 The Planning Statement sets out how compliance with national Policy has been addressed in a convenient and comprehensive table that lists all relevant NPS clauses and points the way to how each has been covered in the ES [Doc 7.1, Appendix A]. This table has not been challenged.

The National Air Quality Strategy and Local Air Quality Management

- 5.1.12 In the ES there are references to additional policy documents. Within the Environment Act 1995 there is a requirement for a National Air Quality Strategy that sets out air quality standards and objectives for specified pollutants. The latest Air Quality Strategy for England, Scotland, Wales and Northern Ireland, was published in July 2007 and sets out the air quality standards and objectives.
- 5.1.13 UK air quality standards have been transposed from European Commission (EC) Directives via the Air Quality (England) Regulations 2000 with Amendment Regulations in 2002. The Air Quality Limit Values Regulations 2003 and subsequent amendments implement the EU Air Quality Framework Directive. Directive 2008/50/EC was transposed into UK law in 2010 via the Air Quality Standards Regulations 2010.
- 5.1.14 These regulations effectively set air quality standards and national air quality objectives. These objectives are used in the review and assessment of air quality by local authorities under Section 82 of the Environment Act (1995). If nonconformities are measured or predicted through the review and assessment process, the local authority must declare an Air Quality Management Area (AQMA) and produce an Air Quality Action Plan to outline how air quality is to be improved to meet the objectives.

National Planning Policy Framework

- 5.1.15 NPPF Chapter 11 provides that planning policies and decisions should avoid giving rise to impacts on health and quality of life. Policies should sustain compliance with and contribute towards EU limit values of national objectives for pollutants taking into account the presence of AQMAs. Planning decisions should ensure new development is consistent with the local air quality action plan.
- 5.1.16 The NPPF Planning Practice Guidance for air quality (March 2014), amplifies the policies introduced in EN-1 with the emphasis on undertaking proportionate assessments, avoiding significant adverse effects and implementing appropriate mitigation measures to prevent unacceptable risks.

Local planning policy

Overview of relevance

- 5.1.17 EN-1 states that the decision-maker may consider Development Plan Documents or other documents in the Local Development Framework both important and relevant to its decisions. In the event of a conflict between these or any other documents and an NPS, the NPS prevails for purposes of decision making given the national significance of the infrastructure (EN-1, para 4.1.5).
- 5.1.18 The ES [Doc 5.13, page 13], cross refers to another document within the ES entitled Environmental Statement Planning Policy Context, Appendix 4A [Doc 5.4.2] and explains that local authorities have formulated local planning policies to ensure that development resulting in pollution, or harm to amenity, health or safety will not be permitted unless the potential adverse effects could be mitigated.
- 5.1.19 Local planning policy does not set policy for testing the acceptability of NSIPs but the ES states [Doc 5.13, page 13] that key themes running through local planning policy have been considered as part of the ES assessment.

Adherence to local planning policy

- 5.1.20 The Planning Statement [Doc 7.1] deals with local planning policy in Section 4.3 and lists the relevant local planning policy documents. A comprehensive assessment of the proposed development against adopted and saved local policies considered to be of relevance has been undertaken by the Applicant and is provided in Table 4.1. The assessment is long and detailed and is not repeated here. The Panel will give consideration to the question of compliance with local planning policy in its conclusions on this section of the report and in its overall conclusions on the case for development consent in Chapter 7.

ENVIRONMENTAL STATEMENT

- 5.1.21 The ES explains [Doc 5.13, page 13] that there are no statutory limits for dust deposition and a number of different criteria and monitoring methods have been developed to assess whether or not complaints are likely. There is Institute of Air Quality Management (IAQM) guidance on the assessment of the effect of construction projects on local air quality⁷. The approach is to classify sites according to the risk of effects and to identify mitigation appropriate to the risk.
- 5.1.22 As indicated previously, the ES findings on air quality are set out in the Document entitled Environmental Statement Air Quality and Emissions, [Doc 5.13] the contents of which are summarised below.

⁷ Institute of Air Quality Management, Guidance on the Assessment of the Impacts of Construction on Air Quality and the Determination of their Significance, IAQM, London, 2011

Principles of the Environmental Statement

Adherence to National Policy Statements

- 5.1.23 Table 13.3 of Doc 5.13 Summary of NPS EN-1 Requirements Relevant to Air Quality and Emissions, conveniently and comprehensively summarises the requirements of EN-1. This table includes a compliance assessment with pointers to sections of the ES which address individual requirements of EN1.

Reference documents

- 5.1.24 In addition to the IAQM guidance note referenced above, the ES also takes into account:
- The Environmental Protection (UK) Planning for Air Quality (2010 Update) guidance on dealing with air quality concerns within the development control process; and
 - Defra Technical Guidance on Local Air Quality Management LAQM.TG(09).

Operational phase

- 5.1.25 In the introductory paragraph of the ES Air Quality and Emissions document [Doc 5.13], there is a statement about the operational phase. The proposed development is assessed to not adversely affect air quality during its operational phase as it will not cause significant emissions to air that could affect air quality or climate change [Doc 5.13 para 13.1.3]. Accordingly, these factors have been scoped out of the ES.
- 5.1.26 There is a possible exception in Sulphur Hexafluoride (SF₆) which is discussed in paragraphs 13.5.40 to 13.5.45 and 13.8.2 of the ES [Doc 5.13]. This non-inflammable but potent greenhouse gas would be used as an effective electrical insulator. However, the SF₆ would be housed inside substations with double sealing to prevent leakage. Switchgear would be factory tested and there would be a gas monitoring system to detect trends of leakage so that appropriate action could be taken. The ES concludes consideration of SF₆ by saying that "*Overall there is not likely to be a significant effect arising from SF₆ gas usage during the operation of the Proposed Development*".
- 5.1.27 In the report's conclusions, in paragraphs 13.10.4 to 13.10.6 operational effects are summarised as not causing significant emissions [Doc 5.13].

Method of assessment

Approach

- 5.1.28 The approach adopted by the Applicant is based on three main principles [Doc 5.13 para 13.3.1 to 13.3.3]:

- (a) A desk-based air quality impact assessment has been undertaken to determine the potential air quality effects on receptors arising from construction, operation and decommissioning of the proposed development.
- (b) The air quality effects at relevant receptors were assessed against identified guidelines and appropriate mitigation measures recommended.
- (c) Fugitive emissions were assessed based on the Order limits for the Proposed Development, to include all potential dust generating activities.

5.1.29 The ES makes the point [Doc 5.13, para 13.3.3] that basing impacts on Order limits is likely to present a conservative view of impacts.

The desk-based assessment

5.1.30 Current air quality conditions have been characterised from Councils' air quality monitoring and data from Defra online records and the impacts of the proposed development have been assessed based on the IAQM guidance documents referred to above in paragraphs 13.3.4 and 13.3.5 of the ES. There are no site measurements establishing current air quality. Given the geographical spread of the proposed development and the ES adherence to published guidance the Panel is content with this as the best practical approach.

5.1.31 In order to determine whether or not quantitative assessment of traffic emissions was necessary, a screening exercise was carried out but no identified roads met the significance criteria. Therefore further quantitative assessment was not carried out [Doc 5.13, para 13.3.6 and 13.3.7].

Air quality effects - general principles

5.1.32 The method of assessment is described in outline form in para 13.3.8 and 13.3.9 of Doc 5.13. The significance of air quality effects is based on the magnitude of the effect and the sensitivity of the receptor. Construction phase impacts were assessed from the IAQM guidance document referred to previously and then the risk category was assessed and used to specify the mitigation required. Decommissioning of the proposed development is predicted to have similar effects on air quality to those effects identified during the construction phase, described below. The effects following decommissioning are considered in the ES to be the reverse of the construction phase.

5.1.33 The detailed steps taken in the assessment are explained in paragraphs 13.3.10 to 13.3.24 of Doc 5.13. Construction activities are divided into demolition, earthworks, construction and 'trackout'. The ES reports that exhaust gas emissions during construction are unlikely to be significant because of the small number of plant items and limited duration at any one location. A significant increase in

concentration or exceedance of air quality objectives due to construction plant is considered to be unlikely. [Doc 5.13 para 13.5.2]

- 5.1.34 Then, for each activity, the effects are determined using three risk categories which are based on the distance to the nearest receptor and the site characteristics. The site characteristics are based in turn on IAQM guidance and which are generally dependant on the size of the site.

Theoretical effects of mitigation

- 5.1.35 The theoretical effects of effective mitigation measures have been considered within the IAQM guidance document and have been applied to the significance Table 13.9 to produce a revised Table 13.10 that takes into mitigation into account. It is this table that has been used to carry out the assessments of significance for air quality effects from HPCC. This is the theoretical basis for the section by section assessment that is reported in the ES.

Baseline assessment

- 5.1.36 The ES [Doc 5.13, Section 13.4] sets out details of AQOMAs that have been declared by the local authorities along the route. The proposed development does not pass through or near to any AQOMAs.
- 5.1.37 A baseline assessment of the individual councils' LAQM progress reports indicated that air quality at background locations is likely to meet the established objectives comfortably [Doc 5.13, Section 13.4].
- 5.1.38 In the absence of measured air quality data along the route, estimated data from the Defra LAQM website have been used [Doc 5.13, para 13.4.18]. The baseline case for the construction period is assumed to be similar to that reviewed from recent historical data (para 13.4.20).

Climate change effects

- 5.1.39 In the ES general assessment, attention is not drawn to any implications for air quality, dust or other emissions of climate change [Doc 7.1, paras 3.3.44 to 3.3.55]. Within the ES topic chapter, it is noted that the construction and decommissioning of the proposed development would cause emissions of 'greenhouse gasses' comparable to those of other infrastructure projects. However, its operation would not cause significant emissions to air. Also, over its estimated 80 year lifetime, climate change resulting in changes to local weather patterns are unlikely to affect operational emissions, but might affect mitigation possibilities during decommissioning, were, for instance, rainfall changes to make water less available to treat fugitive dust emissions. Since this effect would apply to most construction projects, and best practice is likely to evolve to suit changing conditions, the Panel accepts the ES assessment that further consideration within this topic area is unnecessary [Doc 5.13.1, para 13.5.10 to 13.5.13].

Detailed assessment carried out section by section

- 5.1.40 The ES includes a section by section assessment of the receptors that might be affected by the works, focussing on those receptors that are within 20m and then 100m of the Order limits. There is then an assessment of the construction effects based on the overall site characteristics of each section with an eye to the predicted construction activities [Doc 5.13, para 13.5.5 to 13.5.39].
- 5.1.41 There is an assessment of the effects of maintenance works. Access for the purpose of maintenance works is considered to produce effects that are less significant than those identified in the construction stage and the potential for emissions during maintenance would be controlled by mitigation measures similar to those proposed for relevant parts of the construction stage [Doc 5.13, para 13.5.2 and 13.5.3].

Inter-relationship of potential effects

- 5.1.42 The inter-relationship of potential effects is considered in section 13.6 of the ES [Doc 5.13]. There is an important reference to the release of odour from excavations particularly where the route passes through landfills. These would be subjected to further investigation and the potential for odour release is said to be low. Nevertheless this topic is highlighted for inclusion in mitigation measures.
- 5.1.43 Insects are dealt with through para 2.10.1 of the CEMP [Doc 5.26.1C] entitled Pest Control. The risk of infestation by pests or vermin would be reduced by implementing appropriate storage and regular collection of putrescible waste. If infestation is found, removal and prevention measures will be implemented promptly. Any pest infestation of the construction site will be notified to the local authority as soon as is practicable.

Mitigation

- 5.1.44 A previous paragraph discussed the application of IAQM recommended guidance for mitigating air quality effects. Section 13.7 of Doc 5.13 takes that further and provides a schedule of potential mitigation measures relevant to the proposed development (para 13.7.3 Table 13.31). This table leads into the CEMP [Doc 5.26.1C].

Residual effects

- 5.1.45 Residual effects are discussed in Section 13.8 and these are summarised in Table 13.32 which has been extracted from the ES and reproduced below.

Table 13.32 Significance of Impacts of the Construction Activities of Proposed Development with Effective Mitigation Applied.

Section	Maximum Site Risk Category	Sensitivity of Surrounding Environment	Significance
A: Puriton Ridge	High	Medium	Negligible
B: Somerset Levels & Moors South	High	High	Slight Adverse
C: Mendip Hills	High	Very High	Slight Adverse
D: Somerset Levels & Moors North	High	Very High	Slight Adverse
E: Tickenham Ridge	High	Medium	Negligible
F: Portishead	High	Medium	Negligible
G: Avonmouth	High	Very High	Slight Adverse
H: Hinkley Line Entries	High	Very High	Slight Adverse

Comment on the method and results

- 5.1.46 Referring back to ES paragraph 13.3.3 [Doc 5.13], the distance to receptors is assessed from the order limits which, in places, are located at field and property boundaries that may be some distance from the centre of on-site construction activities. The ES recognises that this is likely to present a conservative assessment of impacts.
- 5.1.47 In the assessment of dust and fugitive emissions, and using IAQM generalised assessments from common construction practice, the sites have been classified for most construction activities as being 'large sites'. This classification has been used to generate generalised assessments of emissions. Given that the sites are generally of a linear nature and that the width of construction is comparatively modest in construction terms, allowing very few machines to be deployed at one time in any one property frontage, the generalised assessments made of dust and fugitive emissions may be conservative in this aspect.

VIEWS OF INTERESTED PARTIES

Public Health England

- 5.1.48 Public Health England (PHE) [RR-028, AS-003], notes the conclusion that potential human health impacts due to historically contaminated land, construction related dust emissions and air quality have a negligible to minor significance if mitigation is implemented in line with the recommendations contained in the CEMP.

- 5.1.49 On the basis of the submitted information, PHE accepts that the operational and regulatory controls will be adequately managed by the relevant Local Authorities and Environment Agency to ensure that the development does not cause a significant impact on public health.

Joint Councils

- 5.1.50 Joint Councils expressed concerns about air quality and dust in the Local Impact Report [REP2-111]. The issues raised were concerning updating of the CEMP, provisions for air quality monitoring and the effectiveness of dust control measures at Tarnock.
- 5.1.51 The issue of the CEMP was again raised in the Joint Councils response to Q4.54 which mentioned the complaints procedure and annual review of the CEMP [REP2-087].
- 5.1.52 At the 29 April Issue Specific Hearing (ISH) on Air Quality and other issues, the Joint Councils said [REP4-008] that they were satisfied with the HGV emissions assessment and the description of construction traffic highway effects in relation to dust and dirt and the measures (i.e. wheel wash and road sweeping) to mitigate this.
- 5.1.53 As a number of communities had expressed concern at the continued perception and potential for dust nuisance, the Joint Councils considered that a CIM fund is a justified measure to mitigate any outstanding uncertainty regarding the potential for unforeseen nuisance of this nature.

Parish Councils

- 5.1.54 In written representations and cases put forward orally at the ISH of 29 April, several parish councils raise concerns about air quality, dust and the results of the assessments in the ES. These included Badgworth [RR-002, REP4-001, REP5-008]; Compton Bishop [REP2-016, REP5-009]; Congresbury [REP2-019] and Wraxall and Failand [REP2-074].
- 5.1.55 Their overall concerns can be summarised by the Wraxall and Failand representation as follows:
- "For 8 years or more the routes taken over a wide area by the construction traffic will emit large quantities of toxic particulate and dust which will have an adverse effect on the air quality for residents of the area with increased grit and dirt obvious on windows, paintwork and cars, increased cases of bronchial difficulties for residents together with a deleterious effect on the natural beauty of the flora and fauna. Residents living in the vicinity of a construction site will have similar adverse effects and potentially a range of other chemical fumes to contend with"*
- 5.1.56 Badgworth and Compton Bishop also express concerns about the prevailing south-west winds spreading dust and refer back to problems

encountered during construction of the M5. The effectiveness of dampening down haul roads was also raised.

Other representations from interested parties

- 5.1.57 Mr and Mrs Blewitt [REP2-008] mention dust as being one of their concerns as does Mr Campbell [REP2-013]. Mr P Penfold mentions dust in his WR about the effects of the development on Moorland Park, a residential area [REP2-051]. This is repeated in a submission by Mr L Holmes who is Mr Penfold's agent [EV-114].
- 5.1.58 Mrs EM Taylor raises dust as one of a number of issues that would affect her property because of the proximity of the works [REP2-070]. Mrs Taylor's case as well as those of Mr and Mrs Blewitt and Mr Penfold, are also discussed later in Section 5.3 dealing with haul roads and construction access.

THE EXAMINATION AND RESPONSES FROM THE APPLICANT

- 5.1.59 The concerns raised in representations were placed on the agenda for the ISH of 29 April 2015. The Parish Councils were asked to respond to the views of PHE and to comments made above regarding the degree of conservatism in the ES assessment. There was a follow-up question [PD-012, Q2.2.1] to Wraxall and Failand Parish Council asking for the particular locations of concern to be notified and also for any evidence that would counter the findings of the ES.

Points raised by Parish Councils at the Issue Specific Hearing

- 5.1.60 At the hearing, Badgworth Parish Council and Compton Bishop Parish Council raised these additional points:
- (a) There are extensive works planned at Tarnock and Biddisham. All these activities are assessed as high risk and yet after mitigation they are assessed as slight adverse. The Parish Council failed to understand how this can happen. [REP4-001]
 - (b) There was expressed concern about the south-westerly prevailing winds and the possibility of the prevailing winds carrying the dust into the open countryside and that Biddisham and those that live south of the Mendip Hills in Compton Bishop will feel the full force. [REP4-001]
 - (c) Residents will be unable to open windows during summer because of the airborne dust and noise. [REP4-020]
 - (d) Cumulative effect of dust from the M5, farming, construction works and climactic impact of, for example, Sahara Desert dust. [REP4-020]
- 5.1.61 At the hearing Compton Bishop Parish Council again raised the issue of dust at Webbington and its effects on the Webbington Hotel and other properties. These views were reiterated in a later submission [REP5-009].

Applicant's responses and the Panel's analyses

- 5.1.62 The issues raised by the Joint Councils, Parish Councils and other interested parties are considered in turn and the Applicant's response and the Panel's analyses are set out for each issue in turn.

Section B and the application of mitigation in reducing effects from moderate adverse to slight adverse

- 5.1.63 This point was raised by the Parish Councils and there was also a reference in the LIR to dust controls at Tarnock. Both items are dealt with under this sub-heading.
- 5.1.64 The Panel notes the content of the ES especially tables 13.9 and 13.10 in para 13.3.24 and 13.3.25 [Doc 5.13] which explain how the sensitivity of an area is combined with the significance of effects to assess the significance of effects. This table is reproduced from IAQM guidance on construction impacts which is referred to above.
- 5.1.65 In the case of Section B, the risk of dust effects is rated as high and so is the sensitivity of the surrounding area. These factors combine with reference to Table 13.9 to rate the significance of effects as moderate adverse. After mitigation and applying the IAQM advice on the effects of mitigation drawn from Table 13.10, the significance of the effects is assessed as slight adverse.
- 5.1.66 At the hearing, the Applicant, in referring the assessment of dust impact post mitigation, explained that the CEMP identified a series of best practice measures for controlling dust and protecting air quality and those measures are intended to be suitable to address all ground conditions [Doc 8.13.6.1 para 3.3].
- 5.1.67 Additionally,
- "The [CEMP] measures are not based on assumptions about ground conditions, and are sufficiently flexible to be responsive to the circumstances as they are found to exist on any particular site. There are other specific requirements and provisions of the CEMP designed to deal with those matters that may be sensitive to the condition of the ground (for instance DCO requirement 18 relating to contaminated land) and those matters do have to be submitted for approval by the relevant planning authority. National Grid was therefore confident that the range of general and specific measures proposed covered all likely ground conditions".*
- 5.1.68 The Applicant also explained that whilst there was a high potential for dust, it would be controlled by best practice and widely accepted, effectively applied mitigation. The methods applied would include damping down and cleaning vehicle wheels.
- 5.1.69 With respect to the annual review of the CEMP, the Panel notes from para 3.7.2 [Doc 5.26.1C] that the CEMP provides for review of air quality provisions at least annually throughout the construction period

to ensure that mitigation measures remain effective and reflect best practices including guidance published by IAQM.

5.1.70 Referring to the Joint Councils' concerns about the effectiveness of Monitoring; para 3.7.5 of CEMP deals with monitoring of air quality and action taken in respect of non-conformance. Additionally daily site inspections would be carried out and other measures are explained in para 3.7.7 to 3.7.15.

5.1.71 The Panel finds that the ES, the Applicant's responses and the CEMP adequately answer the points made by the Parish Councils and by the Joint Councils having regard to:

- the methodology of assessment drawn from IAQM advice;
- the provisions within the CEMP;
- the mechanism for annually reviewing the CEMP; and
- the monitoring system established within the CEMP.

The material and health effects of airborne pollution and dust

5.1.72 This sub-section considers the written representation of Wraxall and Failand Parish Council.

5.1.73 With respect to the material effects of dust such as dust on windows, paintwork and cars, the Panel considers that the ES proposals for mitigation and the provisions of the CEMP would answer these concerns.

5.1.74 The effects of aerial pollution on flora and fauna are dealt with as land uses under the identification of receptors, in paragraphs 13.5.10 to 13.5.22 of the ES [Doc 5.13]. Paragraph 13.5.12 explains that as a conservative assessment, land uses are considered potential 'human' receptors for fugitive emissions from construction.

5.1.75 The health implications have been considered by PHE which notes the conclusions of the ES and provisions of the CEMP. PHE states also that it *"accepts that the operational and regulatory controls will be adequately managed by the relevant Local Authorities and Environment Agency to ensure that the development does not cause a significant impact on public health"*.

5.1.76 On the basis of the ES, CEMP and PHE's advice, we consider that the concerns registered by Wraxall and Failand Parish Council are adequately answered.

Webbington

5.1.77 Regarding Compton Bishop Parish Council's concerns about dust at Webbington, the Applicant responded [Doc 8.13.6.1 para 3.4] that the likely effect on the properties at Webbington was correctly identified within the ES as 'slight adverse' and *"the assessment had been reached having regard to the risk of the activities proposed, the sensitivity of the area (applying IAQM guidelines), and the effectively*

controlled mitigation that would be secured through the CEMP and properly applied".

5.1.78 During the Examination, the Panel noted that in the Webbington area the Order limits are very wide and separated from the centre of working activities by a fair margin. The Applicant stated that the reason for the order limits would be wider here was to enable bat mitigation measures to be implemented, not for construction activities [Doc 8.13.6.1 para 3.5].

5.1.79 The Panel notes that given the assessment method is based on distance of receptors from the Order limits rather than from the centre of construction activities, the wide Order limits at Webbington could yield a more conservative view of likely effects than might reasonably be expected to occur in practice. In any event, we find no reason to question the ES assessment as to the likely effect upon properties in this location.

Prevailing winds

5.1.80 In response to concerns raised by Compton Bishop and Badgworth Parish Councils about the consideration within the ES of the prevailing south-westerly wind that might blow dust into those parishes, the Applicant explained that:

"...the assessment was conducted on the assumption that all of the dust and other emissions from construction emitters would be blown in any given direction. There was no attempt to average the emissions across the various directions in which they might be blown. The results for any given location already assume therefore that all of the emission would be received by that location. The prevailing South Westerly wind would not therefore have any significant impact on the results". [Doc 8.13.6.1 para 3.2]

5.1.81 The Panel accepts the explanation that has been provided by the Applicant as answering the expressed concerns about prevailing winds.

Tickenham

5.1.82 The Applicant does not expect any significant impact in terms of dust emissions on receptors near the crossing of Church Lane at Tickenham having regard to the implementation of the mitigation measures secured through the CEMP [Doc 8.13.6.1 para 3.10-3.13].

5.1.83 With regards to the construction compound proposed near Tickenham Court House, the air quality assessment reported in the ES had been assessed at the nearest boundary point, assuming that the compound would be built at the closest proximity within the highlighted area with the equipment located as close as possible to the receptor locations. The Panel considers that this adequately answers the concerns that have been raised.

Mr and Mrs Blewitt, Mrs Taylor and Mr Penfold

- 5.1.84 These cases are dealt with separately in Section 5.3 Haul Roads and Construction Access which deals with the all-round impacts of construction access and construction activities on these properties.

PANEL'S CONCLUSIONS ON AIR QUALITY ISSUES

- 5.1.85 We find that the ES adequately addresses the requirements of para 5.6.5 of EN-1 in respect of:

- the type, quantity and timing of emissions;
- aspects of the development which may give rise to emissions;
- premises or locations that may be affected by the emissions;
- effects of the emission on identified premises or locations; and
- measures to be employed in preventing or mitigating the emissions.

- 5.1.86 We have taken note of the previous experience of parish councils in the construction of the M5 and the concerns raised by the parish councils in respect of cumulative effects but we are not dissuaded from our conclusion that the ES meets the requirements of EN-1. In reaching this conclusion we have taken account of:

- (a) The information presented in the ES [Doc 5.13].
- (b) The advice given by PHE and the Joint Councils.
- (c) The information provide at the ISH.
- (d) The Applicant's responses at the ISH.
- (e) Subsequent follow-up information.
- (f) The mitigation provisions of CEMP.
- (g) The provisions for annual review of the CEMP.
- (h) The monitoring arrangements.

- 5.1.87 We therefore find that the impacts caused by air quality and other emissions during construction have been properly assessed and that all reasonable steps have been taken or will be taken to minimise their impact in accordance with EN-1. We are also content that with the mitigation proposed, the development would comply with the NPPF and local planning policies. The Panel also considers that any threats to air quality during decommissioning would be capable of satisfactory mitigation.

CIM funding

Joint Councils' case

- 5.1.88 At the hearing, and concerning the topic of dust nuisance, the Joint Councils made the suggestion (confirmed later in writing in REP4-008) that their proposal for a CIM fund could go some way to mitigating unforeseen or uncertain effects relating to air quality issues.
- 5.1.89 The case for CIM funding in respect of air quality was again raised by Joint Councils in REP7-067.

Applicant's response

5.1.90 In response, the Applicant referred again to CEMP saying that:

"[It] identifies best practice measures to deal with [impacts], the results of which are clearly reported in the ES. If there was something unforeseen, those measures would still apply and would be effective as constituting best practice in dealing with it. It is difficult to see what additional dust mitigation measures might be brought forward and if there were additional measures that were said to be missing, those should be identified now and added to the list in the CEMP. No additional measures had been suggested by the Joint Councils. There was no hint of a connection between the supposed impact, which had not been identified, or the particular measure that might be required in response to that impact, which had also not been identified, how much that would cost, what it would do and therefore how it could possibly meet the tests in the relevant policy". [Doc 8.13.6.1 para 3.5]

Panel's findings on CIM funding related to air quality issues

5.1.91 The Panel considers that the ES has appropriately assessed the likely air quality impacts that would result from the proposed development. We have concluded that all reasonable steps would be taken to minimise those impacts. This will be secured by the recommended DCO. We have taken into account the guidance provided in para 4.10.3 of EN-1.

5.1.92 We find no substantial evidence to support the view that there would be unforeseen or uncertain residual air quality effects of such an extent that they would render the proposed development unacceptable in planning terms. We consider that it would be unreasonable to require CIM funding to compensate for residual air quality effects. The principles of CIM funding are discussed further in Chapter 9.

5.2 BIODIVERSITY, BIOLOGICAL ENVIRONMENT, ECOLOGY AND GEOLOGICAL CONSERVATION

INTRODUCTION AND POLICY CONTEXT

National Policy Statements and the National Planning Policy Framework

5.2.1 The relevant National Policy Statements (NPSs) are the overarching NPS EN-1: Energy (EN-1) and NPS EN-5: Electricity Networks Infrastructure (EN-5). These are considered in Chapter 3 of this report. The biodiversity, biological, ecological and geological conservation matters of importance to this Examination covered in the policy guidance in EN-1 are sites and species identified through international conventions and European directives, sites of special

scientific interest (SSSIs), regional and local sites, species and habitats that receive statutory protection under the Wildlife and Countryside Act⁸, species with their own legislation such as badgers⁹, ancient woodland and veteran trees and other environmental impact assessment (EIA) matters (EN-1 section 5.3).

- 5.2.2 EN-1 directs the decision maker to take account of the context of climate change and to recognise the need to protect the most important biodiversity and geological conservation interests and to avoid significant harm through mitigation and the consideration of reasonable alternatives as set out in para 5.3.7¹⁰. EN-1 provides for appropriate compensation measures where significant harm cannot be avoided. It sets out the need for the decision maker to attach appropriate weight to designated sites, habitats and species (EN-1 para 5.3.6 to 5.3.8).
- 5.2.3 EN-5 draws attention to the risk of bird collision, particularly large birds, with overhead lines. It advises that particular consideration should be given to feeding and hunting grounds, migration corridors and breeding grounds. It directs the decision maker to ensure these matters are considered in the Environmental Statement (ES) and that appropriate mitigation would be provided when necessary (EN-5, para 2.7.1 to 2.7.6).
- 5.2.4 The National Planning Policy Framework (NPPF) establishes that the planning system should contribute to conserving and enhancing the natural environment, which includes minimising impacts on biodiversity and geodiversity and recognising the wider benefits of ecosystem services in section 11. Principles are set out for conserving and enhancing biodiversity, including planning positively for biodiversity networks. The Panel has had regard to the policies set out in the NPPF in its consideration of the biodiversity aspects of the proposed development.

Organisation of this section of the report

- 5.2.5 The remainder of this section of our report includes:
- consideration of the Applicant's ES, mitigation via the Development Consent Order (DCO) including the Biodiversity Mitigation Strategy (BMS), which is a 'daughter document' of the Construction and Environmental Management Plan (CEMP), the consideration of alternatives as they relate to biodiversity and views from Interested Parties (IPs) on overarching biodiversity matters; and
 - impacts, mitigation and conclusions for nature conservation and designated wildlife sites, habitats and protected and other

⁸ Wildlife and Countryside Act 1981 (as amended)

⁹ Protection of Badgers Act 1992

¹⁰ Provides a cross reference to EN-1 Section 4.4

species, including mammals, fish, birds, reptiles, invertebrates and amphibians.

5.2.6 This section makes reference to, but does not cover in detail:

- matters relating to the Habitats Directive as they are covered in Chapter 6; and
- Portbury Wharf Nature Reserve SNCI and other SNCIs and biodiversity representations relating to the route Options A and B, as these are covered in Section 5.15 on the Portbury/Portishead route options.

THE APPLICATION

The Applicant's Environmental Statement

5.2.7 As described in Section 4.3, the Applicant submitted an ES with its DCO application. The ES contains a chapter on biodiversity and nature conservation [Doc 5.8.1], with a large number of topic-based appendices, referred to in the relevant sub-sections of this report below. By letter dated 1 October 2014, the Applicant submitted errata and supplementary ecological information in response to advice given pursuant to s51 PA2008 in relation to the ES submitted as part of the application. This was accepted into the Examination on 28 November 2014 [PD-005] and regarded as "*any other information*" (as defined in Regulation 2 of the Infrastructure Planning (EIA) Regulations 2009 (as amended)) (EIA Regs).

5.2.8 The Applicant revised its construction programme and submitted an ES sensitivity test on 1 October 2014, which included a sensitivity test of the CEMP [Doc 5.29.2.4]. It was accepted into the Examination by the Examining authority's (ExA's) letter dated 12 March 2015 [PD-010]. The ES sensitivity test set out changes to the CEMP resulting from the changed construction programme related to the revised connection date. The changes relating to biodiversity comprise a phased approach to works in the undergrounded section of line and some early reinstatement works at Sandford substation, which relate to commuting and foraging habitats for bats from two Special Areas of Conservation (SACs); the North Somerset and Mendips Bat SAC and the Mendip Limestone Grasslands SAC.

5.2.9 The ES volume on Biodiversity and Nature Conservation [Doc 5.8.1] sets out construction effects prior to mitigation in Table 8.29, potential operation effects in Table 8.29 (later renumbered Table 8.31 [Doc 5.30B.1]) and residual effects in Table 8.30, where the significance of residual effects are assessed and the likelihood of effect is stated.

5.2.10 Other documents which form part of the ES, to which reference will be made in this section are:

- the updated ES Overarching Mitigation Annex [Doc 5.32A], which sets out all mitigation needs from the ES and other supporting

- information and demonstrates how these are secured in requirements or other enforceable mechanisms; and
- the ES Consolidated Errata and Changes [Doc 5.30B.1, 5.30B.2 and 5.30B.3].

Applicant's consideration of climate change

- 5.2.11 The Applicant has reviewed the potential effects of climate change on biodiversity in the ES [Doc 5.8.1, para 8.5.393 to 8.5.400]. The SoCGs submitted at Deadline 2 indicated that NE, the Avon Wildlife Trust (AWT) and the Joint Councils agree that the Applicant's assessment of future effects of climate change on biodiversity are acceptable [Doc 8.3.1, ID 8.20, Doc 8.3.2, ID 8.5 and Doc 8.3.12, ID 8.17]. No other representations were made during the examination in relation to climate change effects on biodiversity. The Panel is satisfied that the climate change requirements of EN-1 have been met with regards biodiversity.

Conclusion on sites of geological conservation

- 5.2.12 The Applicant's ES states that no sites of geological interest would be affected by the proposed development [Doc 5.8.1, para 8.2.3, Table 8.4, para 5.3.13]. There was no evidence to the contrary, therefore we do not consider sites of geological interest further; and we consider that the Secretary of State can conclude there would be no adverse impact on any such sites.

The Biodiversity Mitigation Strategy

- 5.2.13 A draft Biodiversity Mitigation Strategy (BMS) was submitted with the application documents [Doc 5.26.3] as a key mechanism for securing mitigation for ecological impacts. As a 'daughter document' of the CEMP, the BMS is secured through Requirement 5 of the DCO [Doc 2.1.1E and Doc 2.1.2E]. An updated version of the application BMS was submitted after the preliminary meeting on 22 January 2015 [Doc 5.26.3A] and further updated at Deadline 5 on 4 June 2015 [Doc 5.26.3B] following dialogue between the Applicant and a number of relevant Interested Parties and input from points made at the Biodiversity and HRA ISH on 1 May 2015. Prior to the Biodiversity ISH, the Applicant had provided a summary note listing suggested changes to the BMS and the course of action to be adopted for each [EV-089].
- 5.2.14 At the Biodiversity and HRA ISH, we encouraged the Applicant and IPs to continue their dialogue on the BMS in order that there was as much agreement as possible on the version submitted at Deadline 5. Further amendments were made and comments on the BMS and its securing in the DCO were given at the DCO ISH on 17 June 2015. The Applicant's final version was submitted at Deadline 7 [Doc 5.26.3C]. It is not clear to us if the final wording in this version had been seen in advance and agreed with other IPs, in particular NE and the Joint Councils, prior to its submission.

- 5.2.15 There is one area, which relates to the mitigation secured via the BMS, which has not been addressed in the Applicant's draft DCO. The final version of the BMS [Doc 5.26.3C] provides mitigation necessary for Habitat Regulations Assessment (HRA) matters and general ecology in the operation stage of the works as well as the construction stage; yet Requirements 5 and 6 refer only to construction stage works. Our recommendation on how to address this point is presented below and also in Chapter 6 on HRA matters.
- 5.2.16 The BMS [Doc 5.26.3C] sets out the measures to avoid, reduce, mitigate and compensate for likely adverse effects on ecological receptors. The receptors include sites, species and habitats for which there is statutory or policy protection, or are recognised as being of local rarity or sensitivity. Measures and method statements are set out for three categories of ecological receptor; designated wildlife sites, habitats and species.
- 5.2.17 The Applicant proposes that the BMS, as a 'daughter document' of the CEMP would be certified by the Secretary of State in accordance with DCO Article 45 and then implemented by the Applicant by Requirement 5. The BMS does make allowance for updating; *"Prior to and during each phase of the construction of the Proposed Development, the BMS will be updated to ensure the proposed mitigation measure (sic) are appropriate."* [Doc 5.26.3C, para 1.1.6]. The point regarding the ability to update without approvals is one of sustained disagreement between the Applicant and the Joint Councils and is covered in our reporting of the relevant articles and requirements in Chapter 9 of this report.

The Applicant's consideration of alternatives in relation to biodiversity

- 5.2.18 In this section we consider the policy requirement in EN-1, section 4.4 and para 5.3.7 to consider alternatives in relation to biodiversity. The Applicant submitted an ES Project Need and Alternatives document [Doc 5.2.1], together with appendices 2A to 2V [Doc 5.2.2.1 to 5.2.2.11] and figures 2.1 to 2.30 [Doc 5.2.3.1 to 5.2.3.5]. This set out as fact the main alternatives the Applicant had studied, in line with EN-1, para 4.4.1.
- 5.2.19 The alternatives reported by the Applicant fall into different types. The strategic appraisal of potential connections considered included appraisal of alternative technologies and broad alignments. An environmental appraisal was undertaken for each of the potential connections, considering environmental constraints of international and national importance. From this it was identified that the preferred connection should be based on a new 400kV overhead line between Bridgwater and Seabank, a route corridor study (RCS) was then undertaken. The RCS identified two broad route corridors for achieving the connection, one of which contained two options. The assessment considered the relative merits of the two route corridors against a

range of factors including effects on biodiversity and geological conservation [Doc 5.2.1, para 2.5.18].

- 5.2.20 The next stage was to identify the draft route, which was refined to three overhead line routes (one of which comprised two potential alternatives in one section of the route) and a single underground cable route. A high level environmental appraisal was undertaken on these routes [Doc 5.2.2.5] and this was followed by detailed route selection, studies for the locations of infrastructure including substations and cable sealing end (CSE) compounds, studies of impacts associated with line removal and pylon design [Doc 5.2.2.1 to 5.2.2.11]. At each stage ecology was considered.
- 5.2.21 The Panel is satisfied that the Applicant's appraisal of alternatives gave due consideration to ecological matters at all stages in a proportionate manner. There are no representations regarding alternative technologies, routes or locations for associated infrastructure which presented evidence of serious detriment to biodiversity or ecological assets or which made a case for alternatives on this basis (with the exception of arguments presented for route Options A or B - which are covered in Section 5.15 of this report). There are representations which make the case for alternative technologies and route alignments, which relate to landscape and visual impacts and these are considered in Section 5.9 of this report, with overall reporting on alternatives in Section 5.14.

Principal issues and Interested Parties' views on overarching biodiversity matters

- 5.2.22 The Panel identified biodiversity, biological environment and ecology as a principal issue. Specific mention included impacts for European sites¹¹ and any effect on the future delivery of Hallen Marsh as an offset area. Also mentioned were: impacts for protected species; SSSI features and Nature Reserves; loss of or change to habitats, including loss of foraging and roosting habitat and adequacy of the baseline assessment, including cumulative assessment; and agreement on impacts and mitigation, including bird diverters, monitoring regimes and means of securing funds [PD-005].
- 5.2.23 In its relevant representation, Natural England (NE) set out its position regarding outstanding issues for birds, SSSIs and protected species [RR-144]. All these are covered in more detail below.
- 5.2.24 The Environment Agency (EA) acknowledged that the Applicant had included some provisions in the BMS previously requested by the EA

¹¹ The term European Sites in this context includes Special Areas of Conservation (SACs), Sites of Community Importance (SCIs), candidate SACs (cSACs), Special Protection Areas (SPAs), potential SPAs, Ramsar sites, and any sites identified as compensatory measures for adverse effects on any of the above. For a full description of the designations to which the Habitats Regulations apply, and/or are applied as a matter of Government policy, see PINS Advice Note 10 and the Habitats Regulations Assessment Handbook (DTA Publications July 2014)

and set out a number of further points of clarification, including some relating to water voles, which are mentioned below [RR-120].

- 5.2.25 The Joint Councils' relevant representation [RR-127, RR-128 and RR-130 to RR-133] stated that they lack confidence in the baseline, assessment methods and results in certain topic areas; in relation to biodiversity this included avian collision risk. The Joint Councils also disagreed with the Applicant's approach to cumulative assessment generally and specifically with regard to biodiversity. This is set out in the Joint Councils' Local Impact Report (LIR) [REP2-111 ref 1.4 and 2.3] and the Statement of Common Ground (SoCG) with the Applicant [Doc 8.3.12]. The Joint Councils agreed the broad approach to scoping cumulative projects for assessment, but they *"do not agree the approach to consideration of cumulative assessment of multiple non-significant effects and the approach to mitigation of cumulative effects attributable in part to this scheme"* [Doc 8.3.12, ID 5.3.11]. The Joint Councils' position remained unchanged at the end of the Examination [Doc 8.3.12A, ID 5.3.11].
- 5.2.26 NE, on the other hand, in its updated SoCG agrees that the Applicant's description of the cumulative effects on national and international designated wildlife sites is accurate [Doc 8.3.1B, ID 17.5]. NE gives its opinion on the sites for which it has a statutory duty to comment and in response to Q16.7; NE confirmed it is satisfied with the Applicant's conclusions regarding cumulative effects on European Sites and nationally designated sites [REP2-043].
- 5.2.27 In response to our first round Q2.8 and Q16.7, the Applicant set out a statement of its methodology for cumulative effects. In this, it explained that cumulative effects were not limited to significant effects in either the proposed development or other projects. Incremental effects of all other projects and the proposed development were considered for any shared receptor and this is based on professional judgement from suitably qualified, chartered ecologists [Doc 8.1.1, responses 2.8.1 to 2.8.9 and Doc 8.1.3, responses 16.7.1 to 16.7.3].
- 5.2.28 We explored this point further at the Biodiversity and HRA ISH on 1 May 2015. The Applicant explained its approach to in-combination assessment for HRA, and cumulative assessment. The Applicant explained that it had adopted a receptor-led approach; considering all other projects and effects receptor by receptor [EV-090 to EV-092] and referred us to its response to Q16.7 (above) [Doc 8.1.3, responses 16.7.1 to 16.7.3].
- 5.2.29 The Joint Councils responded to our Q2.16.9, that they *"do not agree that the description of the cumulative biodiversity and nature conservation effects (and residual cumulative effects) is appropriate as a result of uncertainties with the biodiversity and nature conservation chapter in isolation; in addition, it is considered that the in combination effect of two non-significant effects is not taken into account, which could be significant."* [REP5-012]. The Joint Councils concluded that they remain unclear how such firm conclusions can be

reached without quantitative or qualitative analysis. They stated that they had received no new material since the Biodiversity ISH.

- 5.2.30 In its relevant representation, the Bristol Port Company (BPC) set out the areas of the impact assessment on ecological features in which it considered the Applicant's ES to be inadequate, including breeding birds, invertebrates, trees, sites of nature conservation interest (SNCIs), water voles and wider impacts on flora and fauna [RR-046]. These matters were reiterated and elaborated upon in the BPC's written representation and responses to our first round questions [REP2-095]. The BPC considered there are site-specific inadequacies in the updated BMS, a failure to identify appropriate mitigation measures during construction, inadequacies in the species method statements, and that there would be a need to obtain further up-to-date baseline information on populations of protected species and other notable wildlife.
- 5.2.31 At the close of the Examination, it was not clear which if any of the matters raised by the BPC are resolved, although some ecological aspects have been agreed. The BPC's final comment on this matter is *"As part of their negotiations, which have been subject to contract, the Applicant and BPC have agreed terms of an agreement between the Applicant and BPC to preserve and conserve certain ecological interests affecting the dock estate."* [REP8-002, para 11.2].

The Panel's views on overarching matters raised

- 5.2.32 Many of the points raised during the Examination are covered in the site, habitat and species-based reporting that follows later in this section of our report. We give recommendations on those of a more overarching nature, namely securing the BMS in the DCO and cumulative assessment, below.

Securing the Biodiversity Mitigation Strategy in the DCO

- 5.2.33 We raised the matter of whether the BMS should also cover some operational phase activities as well as construction at the DCO ISH on 16 June 2015. This appeared on the action list for that hearing [EV-143, point 1], was mentioned in the Applicant's ISH written summary [Doc 8.13.13, para 3.5] and is stated to have been reflected in the amended DCOs [AS-014]. However the relevant parts of Requirements 5 and 6 have not been updated in the Applicant's draft DCO [Doc 2.1.1E and 2.1.2E].
- 5.2.34 In its response to Q4.46, NE stated it was not content with the wording in Requirement 5 relating the CEMP to the "construction" works as it does not provide sufficient certainty about the precise delivery of necessary mitigation [REP2-043]. The Applicant's response to this was that it could not agree to strike out "construction" as it would undermine the purpose of the CEMP [Doc 8.9]. The Panel considers Requirements 5(1) and 6(2) should make reference to all relevant parts of the works for mitigation purposes as well as

construction works; and accordingly we propose additional wording "and mitigation works to minimise the impacts of construction" in appropriate places. This is set out in Chapter 9 on the DCO.

Cumulative assessment

- 5.2.35 The general matter of cumulative assessment remains a point of difference between the Applicant and the Joint Councils at the end of the Examination. The difference being that the Joint Councils were demanding more than professional judgement to explain how cumulative effects had been derived. We found the Applicant's explanation of the methods it had adopted for cumulative assessment, to be plausible and robust in terms of the way biodiversity cumulative impacts had been assessed because we were told receptors had been assessed on a case by case basis. The methodology was explained at the Biodiversity and HRA ISH on 1 May 2015 [EV-090 to EV-092]. We take account of NE's position of agreement with the Applicant's conclusions for the cumulative (and in-combination effects) effects for European and national sites. For those sites, the Panel considers the Secretary of State can rely on the advice from the Statutory Nature Conservation Body (SNCB).
- 5.2.36 For other receptors; sites, habitats and species, we note the Joint Councils have not drawn the Panel's to attention any specific biodiversity cumulative effect with which they take issue. We therefore consider we can rely on the Applicant's statement that worst case scenarios were considered, professional judgement was applied and reasonable assumptions regarding mitigation to comply with appropriate nature conservation legislation were drawn [Doc 8.1.1, response to Q2.8]. The Panel considers the Secretary of State can rely on the Applicant's assessment of cumulative effects for biodiversity.

Comments by the Bristol Port Company

- 5.2.37 We refer to and give our views on the BPC's more detailed comments on SNCIs and water vole in relevant parts of this section of our report below and in Section 5.15 in reference to Port Areas which are affected by the different route options.

European Sites

- 5.2.38 The effects reported in the Applicant's ES [Doc 5.8.1, para 8.5.75 to 8.5.98] on European wildlife sites takes account of qualifying habitats and species noted in the site citations. The ES describes and assesses potential effects prior to mitigation. However, our consideration of the Applicant's assessment of potential effects on European Sites, including the proposed mitigation measures as reported in the Applicant's HRA Report [Doc 5.20 and updated as Doc 5.20.1A and 5.20.2B] are reported in Chapter 6 of this report under the Habitats Regulations Assessment.

Nationally designated sites: Sites of Special Scientific Interest

- 5.2.39 The SSSIs for which there are potential effects from the proposed development are set out in the ES [Doc 5.8.1, para 8.5.99 to 8.5.112] and listed with mitigation and delivery mechanisms in the Overarching Mitigation Annex [Doc 5.32B, ref 3.7.2 to 3.7.7]. The BMS devotes a section to SSSIs and National Nature Reserves (NNRs) [Doc 5.26.3C, Section 2.3]. Appendix 8A to the Biodiversity and Nature Conservation volume of the ES lists all the national designated sites within 2km of the order limit, setting out details of the sites and rationale for inclusion in the assessment [Doc 5.8.2.1, Appendix 8A, Table 2].
- 5.2.40 The BMS is secured through DCO Requirement 5 [Doc 2.1.1E and 2.1.2E]. All works in SSSIs would require consent from NE under section 28E of the Wildlife and Countryside Act 1981 (as amended). It was confirmed by the Applicant at the Biodiversity and HRA ISH on 1 May 2015 that it is not seeking to disapply s28E; that s28E is the suitable mechanism; and this is reflected in the BMS [EV-090 to EV-092]. NE confirmed in response to our Q2.10 that assent from NE is not legally required under the provisions of the Wildlife and Countryside Act before works commence on an SSSI once a DCO has been granted [REP2-043]. NE stated it is content with this process, as long as there is provision to agree minor details such as seed mixes. This is linked to the Applicant's preference not to require approvals from NE or the relevant planning authority for updates to the BMS, which we have reported in Chapter 9.
- 5.2.41 In its SoCG with the Applicant, NE agreed that the description of effects on designated national and international wildlife sites is accurate and that descriptions resulting from the changes to the construction programme as set out in the ES sensitivity analysis are accurate [Doc 8.3.1B, ID 8.9 and 8.19].
- 5.2.42 The SSSIs which are assessed and for which mitigation is set out in the BMS are:
- Bridgwater Bay SSSI (which partially covers the same area as the Severn Estuary SPA and Ramsar site designation);
 - Puxton Moor SSSI;
 - Biddle Street Yatton SSSI; and
 - Tickenham, Nailsea and Kenn Moors SSSI
- 5.2.43 For these SSSIs, site-specific mitigation is detailed in the BMS including habitat protection and habitat reinstatement, general provisions to prevent accidental pollution and adjustment of working areas to minimise or eliminate encroachment into the designation, use of horizontal directional drilling (HDD) for 132kV undergrounding where relevant and reference to applicable habitat and species method statements [Doc 5.26.3C]. This is in response to temporary construction stage effects. Residual effects for all the above SSSIs are assessed as not significant.

- 5.2.44 Included in the mitigation described in the ES [Doc 5.8.1, Table 8.30 and para 8.9.24] and the Overarching Mitigation Annex [Doc 5.32, ref 3.7.4] for the Tickenham, Nailsea and Kenn Moors SSSI is the provision of a tilting weir to replace the existing sluice to assist with wetland management via a s106¹² agreement. However in response to our first round Q2.13, the Applicant stated "*The tilting weir is not required as mitigation and is offered as enhancement*" [Doc 8.1.1, response 2.13.2]. This point is agreed by NE in its written representation [REP2-043, para 2.13].
- 5.2.45 The Applicant provided an update on the tilting weir after the Biodiversity and HRA ISH [Doc 8.24.4], which reported that progress had been made with NE, the landowner and the Environment Agency (EA), which also offered to provide input to detail design. The installation of a new tilting weir is included in the signed s106 agreement between the Applicant and the Joint Councils [Doc 8.4B, Schedule 5, point 2]. It is to be installed before Work 4D commences, at the Applicant's expense in accordance with instructions from NE, at an agreed location.
- 5.2.46 The Panel is content, based on the advice from NE that the tilting weir is not needed for mitigation, it can be treated as enhancement; and therefore should be mentioned as enhancement in ES documents, rather than as mitigation; and is satisfactorily secured through the s106 agreement. The Panel has not relied on the enhancement this tilting weir would add in reaching our recommendation as we agree it is not necessary in planning terms.
- 5.2.47 The ES lists five more SSSIs, which overlie international sites, designated for the same qualifying features. Effects on these features are discussed in Chapter 6. The sites, with the relevant European Site(s) in brackets after are:
- Severn Estuary SSSI (Severn Estuary SAC and Special Protection Area (SPA) Ramsar Site);
 - Catcott Edington and Chilton Moors SSSI (Somerset Levels and Moors SPA and Ramsar site);
 - Crook Peak to Shute Shelve Hill SSSI (Mendips Limestone grasslands SAC); and
 - Banwell Caves SSSI and Kings Wood and Urchins Wood SSSI (North Somerset and Mendip bats SAC).
- 5.2.48 The Applicant's ES also considers Max Bog SSSI and Yanal Bog SSSI for which it assessed that there is no risk of additional effects on features designated only at the national level.

¹² Section 106 of the Town and Country Planning Act 1990

Nationally designated sites: National Nature Reserves

Huntspill River National Nature Reserve (NNR)

- 5.2.49 Huntspill River NNR is an artificial watercourse which supports otter and a range of grassland and woodland habitats. Site-specific mitigation is detailed in the BMS [Doc 5.26.3C, para 2.3.6 to 2.3.9]. Residual effects are assessed as not significant.

Panel's conclusions on nationally designated sites

- 5.2.50 One matter which was raised in relation to the Applicant's off-site planting and enhancement scheme (OSPES) was the need to identify statutory wildlife sites (which would include SSSIs and NNRs) in which it would be inappropriate to plant trees because their designations related to bird species which prefer wide open spaces for predator avoidance. The OSPES planting locations are not fixed, therefore additional wording and drawings were added to the OSPES documentation [Doc 5.25.1B and Doc 5.25.3.2B, Figures 25.2.1 to 25.2.9]. This is also referred to in Chapter 6 and Section 5.9. The Panel is satisfied that this concern was adequately dealt with through the additional documentation.
- 5.2.51 The updated SoCG between the Applicant and NE sets out agreement between the parties over the methods of embedded construction mitigation for national wildlife sites being appropriate, following the commitment by the Applicant to include appropriate scrub management of SSSI ditch habitats.
- 5.2.52 The Panel is satisfied that the Applicant has assessed and reported the effects on nationally designated wildlife sites thoroughly and that appropriate mitigation is secured to ensure conservation of the sites' biodiversity interest in accordance with EN-1; and that in some places additional enhancement has been offered by the Applicant and is secured.

County and locally designated sites

- 5.2.53 The Applicant's ES scopes 76 county and locally designated sites into the assessment and sets out in a table the pertinent development components, permanent and temporary loss and species and habitats affected [Doc 5.8.2.5, Appendix 80, Table 2]. The county and locally designated wildlife sites considered by the Applicant comprise:
- Avon Wildlife Trust Reserves;
 - County Wildlife Sites;
 - Local Nature Reserves;
 - Local Wildlife Sites;
 - Sites of Nature Conservation Importance (SNICs); and
 - Wildlife Network Sites (in Bristol City, which do not have individual citations, but function as a biodiversity network).

- 5.2.54 The ES identifies 50 sites that would be potentially affected and are listed with a summary of the nature and extent of impact [Doc 5.8.1, Table 8.27]. The significance of effect prior to mitigation is assessed and reported [Doc 5.8.1, Table 8.29] and the magnitude of effects prior to mitigation are set out for route Options A and B. (The county and locally designated wildlife sites which are affected by the Option A and Option B alignments in Sections E, F and G are reported in Section 5.15 of this report). The Applicant's ES presents further evidence for five of the sites where medium magnitude of effect is predicted. No effects of high effects are predicted [Doc 5.8.1, para 8.5.118 to 8.5.124].
- 5.2.55 The Joint Councils' LIR does not make mention of local or county wildlife sites, but the SoCG with the Applicant agreed that the Applicant's description of residual effects on local wildlife sites is appropriate and that the embedded construction mitigation for local wildlife sites is appropriate (with the exception of Hallen Marsh, which we cover later) [Doc 8.3.12, ID 8.38, ID 8.25]. There were few other comments on county and locally designated wildlife sites, except for those from the BPC, reported below.
- 5.2.56 The Applicant's BMS describes habitats and species for which each county and local wildlife site is designated, a summary of the reasons for designation, construction stage works which could cause adverse effects and the proposed mitigation [Doc 5.26.3C, Section 2.4 local wildlife sites]. A number of sites fall within the order limits but outside the works areas.
- 5.2.57 The ES states the Applicant would also provide further sums for offsetting the effects of the project on biodiversity [Doc 5.8.1, para 8.9.17 to 8.9.23]. This is intended as enhancement and/or compensation and is stated as distinct from the embedded mitigation. The purpose of the funding is to mitigate residual harm that would arise from habitat modifications in and around sites and to offset the adverse effects arising from disturbance.
- 5.2.58 The offsetting proposals include possible works such as management and habitat creation, which the Applicant proposes would be implemented under the supervision of the relevant local planning authority [Doc 5.8.1, para 8.9.23]. From the outset, the draft s106 agreement [Doc 8.4] between the Applicant and the Joint Councils included provision for contribution to local wildlife sites. During the course of the Examination, agreement was reached between the parties regarding the financial contributions to each relevant local authority and with different sums set out for North Somerset Council, depending on which route option is taken forward [Doc 8.4B, schedule 4].
- 5.2.59 Representations were received from the BPC on local wildlife sites relating to Portbury Wharf SNCI, Portbury Dock Wood SNCI, Gloucester Road Railway Sidings SNCI and Drove Rhyne and Adjacent Fields SNCI [REP2-065]. The BPC considered the Applicant had failed

to take account of the BPC environmental management plan for the Royal Portbury Dock Estate [RR-046]. As some of these sites fall in the area under consideration for the route Options A and B, we also refer to the BPC's representations in Section 5.15 of this report. The Panel considers that the Applicant's agreement to fund local wildlife offsetting through the s106 agreement, could resolve the issues raised by the BPC, as the local authorities will have the authority to allocate funding to the relevant sites as necessary. The mitigation set out in the BMS addresses site-specific issues for the SNCIs.

- 5.2.60 At the adjourned Portbury/ Portishead ISH on 15 June 2015, the Applicant indicated it would be willing to provide management advice to SNCI landowners where appropriate, which we agree would contribute to enhancement of these sites' conservation interests. We have ensured this is secured by an addition to Requirement 10.

Panel's conclusions on locally designated wildlife sites

- 5.2.61 The Panel considers the Applicant has undertaken a comprehensive assessment of the impacts on county and locally designated wildlife sites. Mitigation of adverse effects from construction stage activities are addressed through embedded mitigation in the BMS.
- 5.2.62 In addition the Panel has given weight to the Schedule 4 local wildlife sites contribution of the s106 agreement because we consider it is necessary to make the proposed development acceptable in planning terms and meets the other criteria set out in EN-1, para 4.8.1. This is because the Applicant recognises that although effects may not be significant for a site itself, in combination with other adversely locally affected sites there would be an overall decline in biodiversity in the short to medium term. Whilst the agreement cannot at this stage set out the precise effects that will require compensatory works, we can be sure there would be a financial quantum, which will be allocated to specific sites by the relevant local authorities. We consider in the circumstances, this is an appropriate approach and the local planning authority is the relevant, competent body to decide on the detail.

Panel's conclusions on designated wildlife sites (excluding Portbury Wharf reserves)

- 5.2.63 The Panel is satisfied that the Applicant's assessment in its ES, combined with the evidence presented to us during the Examination means that the effects on designated wildlife sites have been thoroughly assessed. For nationally designated sites; SSSIs and the NNR, the Panel is satisfied that the mitigation presented in the BMS on a site by site basis with reference also to the relevant species and habitat method statements; and secured through the CEMP in Requirement 5, would ensure the conservation interest of the sites is met and therefore the proposed development meets the test in EN-1.
- 5.2.64 Likewise for locally designated sites, the Panel is satisfied that the mitigation, when combined with the further biodiversity off-setting

contributions which are committed through the s106 agreement would ensure the conservation interest of the sites is met and therefore the proposed development meets the test in EN-1

- 5.2.65 The Panel is satisfied that the Applicant has assessed and reported the effects on all designated wildlife sites and that appropriate mitigation is secured to ensure conservation of the sites' biodiversity interest in accordance with EN-1.

HABITATS

Woodlands and trees

- 5.2.66 The Applicant's ES sets out the woodland and scrub habitats across the order limits [Doc 5.8.1, Table 8.24]. The Arboricultural Impact Assessment (AIA) [Doc 5.21.1 and as updated by Doc 5.21.1B and associated Appendices and Figures] includes a detailed assessment of the effect of the proposed development on trees, tree groups and hedgerows on a Section by Section basis. The AIA also sets out a method statement which shows how losses can be minimised.
- 5.2.67 The AIA compares trees and tree groups lost with those proposed for replacement planting [Doc 5.21.1B, Table 9.10]. The figures are shown below, with the differences for the two route options indicated. The Applicant commits to replanting on a four to one basis for trees removed.

Table 5.2.1 [taken from Doc 5.21.1B, Table 9.10]

	Trees		Tree groups	
	Removed (No.)	Planted (No.)	Removed (ha)	Planted (ha)
Route Option A	557	3,539	6.79*	10.24
Route Option B	520	3,537	7.63*	10.24

* inclusive of out-grown hedge that is included in hedgerow planted figures.

Veteran Trees and Ancient Woodland

- 5.2.68 The AIA presents data on veteran trees and ancient woodland explains that detailed routing of the overhead line did take account of locations of veteran trees [Doc 5.21.1B, para 4.3.12 to 4.3.14 and Doc 5.21.3.1B, Figure 21.1] and ancient woodland [Doc 5.21.1B, para 4.3.1 to 4.3.5 and Doc 5.21.3B, Figure 21.1]. Ancient woodland within 200m of the order limits is named [Doc 5.21.1B, Table 4.5]. The veteran trees and ancient woodland are reported in the Section descriptions in the AIA and the impact in terms of removal or pruning being required are set out in Table 7.4 for the entire route and then on a section by section basis.

Mitigation

5.2.69 Mitigation is set out in the BMS and tree works including protection and removal are covered in the AIA, with Requirement 6 setting out the need for a Tree and Hedgerow Protection Strategy (THPS) to be prepared and submitted to the relevant planning authority before authorised development may commence and Requirement 12, which sets out the content of the THPS [Doc 2.1.1E and 2.1.2E]. The AIA contains a section which describes all the replacement planting [Doc 5.21.1B, Section 9], which is secured through DCO Requirement 10 via a scheme for planting trees which must be agreed with the local planning authority. And is secured through the s106 agreement.

5.2.70 The Applicant's proposals for replacement planting of woodlands and trees are partly in-situ (replaced in the location of removal) and mainly ex-situ (replaced as near as possible to the location of removal). The proposed development would rely on embedded landscape mitigation in some areas, such as at the Sandford substation and the South of the Mendips and other CSE compounds and cable bridges (if used) for mitigation. In addition the Applicant offers up through the OSPES:

- planting for softening and enhancement, the precise location of which cannot be guaranteed by the Applicant;
- woodland management; and
- a distinctive landscape elements contribution.

This is reported in greater detail in the landscape and visual Section 5.9 below.

5.2.71 The evidence and arguments set out by IPs and the Applicant in relation to adverse effects on woodlands and trees and the effectiveness of the mitigation proposed relates to landscape (and visual) impacts as well as biodiversity. We cover the main arguments under the landscape section below, as many of the representations were made with respect to landscape effects. Tree and woodland matters relating to the route options are covered in Section 5.15. There are sustained differences between parties over some issues to do with the mitigation, replacement and enhancement planting, which are reported on in Section 5.9.

Hedgerows

5.2.72 Hedgerows were assessed under the ecological criteria of the Hedgerow Regulations 1997 during the extended Phase 1 Habitat surveys. Those that may be impacted were subject to full assessment in 2013 [Doc 5.8.1, para 8.3.26, Doc 5.8.2.1, Appendix 8D and Doc 5.8.3.2 Figures 8.5 and 8.6].

5.2.73 The BMS sets out a hedgerow method statement, which is cross referenced to general requirements for good working practice, other species method statements and allows for micrositing of the works, adjustments and where relevant to bat foraging corridors [Doc

5.26.3C, para 3.3.4 to 3.3.12]. The overall residual effect is assessed as minor beneficial because the replacement planting and embedded landscape mitigation deliver new hedges and gap-filling [Doc 5.8.1, Table 30: Residual Effects].

- 5.2.74 Hedges to be retained are subject to agreement through the preparation and agreement of a THPS secured in Requirement 12 and hedges which need removal are subject to agreement of replacement planting under Requirement 10.
- 5.2.75 For the purposes of new hedgerows which do not perform a function either in bat mitigation or embedded landscape mitigation, we are content the BMS sets out the necessary mitigation. We report separately in Chapter 6 on maintenance of hedges necessary for SAC bat mitigation and on maintenance of embedded landscape mitigation.

Habitat loss

- 5.2.76 Predicted habitat loss is set out in the ES [Doc 5.8.1, Table 8.30]. Mitigation to habitats which are temporarily affected includes reinstatement of habitats in-situ to their former condition [Doc 5.8.1, para 8.5.39]. This is secured through DCO Articles 30 and 31 and Requirement 15, with the caveat of the possibility of restoration being to a different condition, with the approval of the relevant planning authority. Exceptions where habitat cannot be replaced in-situ are set out in the ES and comprise:
- areas of permanent infrastructure such as substations;
 - tree planting beneath overhead lines because of the need to respect safety clearances;
 - grassland lost to pylon feet; and
 - River Axe crossing if the bridge option is used and Towerhead Brook crossing. [Doc 5.8.1, para 8.5.48]
- 5.2.77 The BMS sets out general principles for habitat protection [Doc 5.26.3C, Section 3.2]. The various types of planting including replacement, embedded mitigation and OSPES are reported in more detail in the landscape and visual Section 5.9.

Watercourse crossings

- 5.2.78 The BMS sets out a schedule of watercourse crossings and a method statement, which encompasses a wide range of working practices including re-establishing vegetation and enhancing ecological habitat on reinstated watercourses [Doc 5.26.3C, Section 3.4].

Invasive plants

- 5.2.79 The Phase 1 habitat survey identified the presence of a number of non-native invasive species [Doc 5.8.1, para 8.3.20 to 8.3.25 and Doc 5.8.3.15, Figure 8.58]. The BMS sets out method statements for invasive terrestrial plants [Doc 5.26.3C, Section 3.5] and for aquatic plants [Doc 5.26.3C, Section 3.6]. The watercourse crossing

statement would also be used in management of aquatic invasive species. Biosecurity measures are set out in the BMS [Doc 5.26.3C, para 3.4.23 to 3.4.24].

Conclusions on habitats

- 5.2.80 The Panel is satisfied that the Applicant has assessed and reported the effects on habitats thoroughly. Our only concern was the absence of a qualitative assessment of the effects of route Option B, but this was provided at Deadline 7.
- 5.2.81 We are satisfied that the DCO secures appropriate mitigation for habitats other than trees and hedges and that habitat interest in accordance with EN-1 is addressed.
- 5.2.82 We are not convinced the DCO and BMS as proposed by the Applicant meet the requirements of EN-1 in terms of mitigation for both adverse landscape and visual effects and for hedges where they function as flyways for bats from SACs. The Panel's recommendations in this regard are contained in Chapter 6 for the bat flyways and Section 5.9 below for the landscape and visual effects.
- 5.2.83 We have given weight to the support for local wildlife sites element of the s106 as described above and also to the replacement planting secured in the DCO and through Schedule 7 of the s106 agreement, which we consider is necessary to make the proposed development acceptable and to some elements of the OSPES. This is explained in more detail in Section 5.9.

SPECIES

European protected species

- 5.2.84 Issues associated with birds, fish and bats which are designated features of European Sites are covered in Chapter 6, which deals with the Habitat Regulations. The following sub-sections deal with the impacts and mitigation associated with protected species which are not qualifying features of European Sites.

Bats

- 5.2.85 The Applicant undertook surveys desk and tree roost surveys in 2013 which are reported in the ES [Doc 5.8.1, para 8.3.46 to 8.3.57 and 8.4.138 to 8.4.159]. Further survey work was undertaken during 2014 [Doc 5.28.1 and Doc 5.28.2, Appendix 28B].
- 5.2.86 The works to known roosts would need to be carried out under NE licence. NE has issued a letter of no impediment (LoNI) with regard to a bat licence for the proposed development project [REP2-043 and Doc 8.3.1B, ID 8.29]. A copy of the LoNI was provided at Deadline 5 [Doc 8.24.5].

- 5.2.87 The updated BMS set out a bat method statement, supplemented by bat foraging habitat provisions [Doc 5.26.3B, Section 4, and Appendix D]. Bat mitigation measures would be secured in the DCO by Requirement 14. This Requirement covers all bats, including those from SACs. We provide further views on this Requirement in Chapter 6 and propose amendments to the DCO to provide certainty that the hedgerow reinstatement would function as required for SAC bat mitigation. Whilst SAC bats are protected through different legislation, EN-1 requires the decision maker to ensure protected species are protected from the adverse effects of development.
- 5.2.88 As NE's protected species licensing team has issued a LoNI for bats and the Applicant has set out comprehensive bat mitigation in its BMS, the Panel is content that the Secretary of State can conclude the requirements of EN-1 have been met.

Hazel Dormouse

- 5.2.89 The Applicant's surveys for the ES did not identify dormouse records in the route corridor, but several were recorded within the 1km buffer zone [Doc 5.8.1, para 8.3.58 to 8.3.61 and 8.4.160 and Doc 5.8.2.4, Appendix 8I and Doc 5.8.3.10, Figure 8.44]. Given the absence of positive survey data, the ES concludes that there would be no significant long term effect on wider habitat connectivity for dormice, and the habitat reinstatement proposals secured through the DCO [Doc 5.8.1, Table 8.29, renumbered 8.31].
- 5.2.90 A dormouse method statement is included in the BMS [Doc 5.26.3C, para 4.3.8 to 4.3.11]. It sets out what information the Applicant would need to provide to NE in a licence application if evidence of dormouse was found. NE in its updated SoCG with the Applicant agrees that the BMS is an appropriate mechanism to deliver mitigation for protected species not already covered by a NE licence or other legal agreement [Doc 8.3.1B, ID 8.36].
- 5.2.91 The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO.

Great crested newt

- 5.2.92 The Applicant's surveys for amphibians are reported in the ES [Doc 5.8.1, para 8.3.73 to 8.3.80, Doc 5.26.3C Section 4.9, Doc 5.8.2.5, Appendix 8L, and Doc 5.8.3.13 Figures 8.50 to 8.52]. The data were updated and amplified with information submitted in the 2014 Ecology Update Report [Doc 5.28.1, Doc 5.28.2, Appendix 28E and Doc 5.28.3.1.5, Figures 8.50B to 8.52B]. The residual effect following mitigation is assessed as not significant [Doc 5.8.1, Table 8.30: Residual Effects].
- 5.2.93 A NE European Protected Species licence for great crested newt would be required for works on 22 sites where great crested newt have been identified. The Sandford substation construction would result in

permanent loss of terrestrial habitat for great crested newt; the remaining 21 sites are temporary. Proposals for habitat creation at Sandford substation are set out in the BMS [Doc 5.26.3C, para 4.9.26].

- 5.2.94 NE has issued a LoNI in respect of a great crested newt licence; a copy of which was provided at Deadline 5 [Doc 8.24.5]. The BMS includes a great crested newt method statement which states that if the DCO is granted then an application for a licence would be made in line with NE's approach for European Protected Species licencing on nationally significant infrastructure projects. The BMS contains a high level overview, but the licence would detail the full scope of the works.
- 5.2.95 The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO and by evidence of the LoNI from NE.

Otter

- 5.2.96 The ES reports the desk study and field study on otter [Doc 5.8.1, para 8.3.68 to 8.3.69 and para 8.4.173 to 8.4.179, Doc 5.8.2.5 Appendix 8J, Doc 5.8.3.12, Figures 8.47]. Data were provided by the Yatton and Congresbury Wildlife Action Group (YACWAG) for the area west of Nailsea. Field surveys were undertaken in 2012, 2013 and 2014, the results for the later surveys are presented in the Ecology Update report [Doc 5.28.1, Doc 5.28.2, Appendix 28C].
- 5.2.97 In its written representation in lieu of attending an ISH, the YACWAG sets out concerns regarding the proposals for mitigation for impacts on otter [REP4-012]. Following comments also made at the Open Floor Hearing (OFH) in Nailsea on 18 March 2015 [EV-037], the Applicant made further contact with the YACWAG. At the Biodiversity and HRA ISH the Applicant confirmed that the YACWAG's otter specialist was now content with the proposals. The BMS was updated to include an obligation for the ecological clerk of works (ECoW) to contact the YACWAG before commencing works in the specific vicinity of Parish Brook, west of Nailsea (the area for which the YACWAG holds detailed records) [Doc 8.13.8.1, para 6.3 to 6.6 and Doc 8.18.1 response to Q2.2.6 and Appendix 2.2.6.1].
- 5.2.98 Mitigation is set out in the updated BMS and is covered by both the generic methods of working in watercourses and in the specific otter method statement [Doc 5.26.3C, para 4.5.10 to 4.5.14]. Pre-construction surveys are required to be undertaken. If otter holts or couches are found during the pre-construction checks, NE would be consulted and a licence under the Habitat Regulations would be sought. The BMS sets out what information the applicant would need to provide to NE in a licence application [Doc 5.26.3C, para 4.5.11].
- 5.2.99 NE has agreed that the BMS is an appropriate mechanism to deliver mitigation in relation to protected species not already covered by a NE

licence or other legal agreement [Doc 8.3.1B, ID 8.36]. The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO.

Other protected species

Badger

- 5.2.100 The ES reports the desk and field surveys for badger carried out along the route corridor in 2012, 2013 and 2014. The 2014 updated ecological information includes the more recent surveys. Licences would be required under the Protection of Badgers Act 1992. A LoNI was issued by NE's protected species licensing team [Doc 8.3.1, ID 8.30] and a copy of the LoNI was provided at Deadline 5 [Doc 8.24.5]. The BMS states that if the DCO is granted then an application for a full licence would be made, which is consistent with NE's approach to NSIP licensing [Doc 5.26.3C, para 4.6.5]. A badger method statement is included in the BMS [Doc 5.25.3C, para 4.6.5 to 4.6.26 and Doc 5.32B, ref 3.14.1 to 3.14.14].
- 5.2.101 As NE's protected species licensing team has issued a LoNI for badger and the Applicant has set out comprehensive mitigation in its BMS, we are content that the Secretary of State can conclude the requirements of EN-1 have been met.

Water vole

- 5.2.102 The Applicant's application ES records widespread occurrence of water vole, correlating with the ditches and rhynes which are characteristic of the Somerset levels [Doc 5.8.1, para 8.3.62 to 8.3.67 and para 8.4.166 to 8.4.172 and survey data in Doc 5.8.2.5, Appendix 8J and Figures in Doc 5.8.3.11]. Further data were submitted in October 2014 as a result of design changes and locations where access in 2013 season had not been possible [Doc 5.28.1 and Doc 5.28.2, Appendix 28C]. The Applicant stated that although further ditches with water vole were recorded, this did not change the attribution of county value placed on water vole in the Application ES [Doc 5.28.1, Section 4.3].
- 5.2.103 The Applicant predicted construction stage effects that could result in short term habitat fragmentation, disturbance and in the worst case scenario, displacement of water vole for the duration of the works [Doc 5.8.1, Table 8.30]. Residual effects were assessed as not significant long term; although there was potential for high magnitude of effects, which was of major adverse significance prior to mitigation at installation and removal of water crossings. Mitigation was set out in the Application version of the BMS, which contained a Water Vole Method Statement and made reference to protected species licence requirements [Doc 5.26.3].
- 5.2.104 There were a number of representations in relation to the Applicant's proposed methods for mitigation of effects on water vole and water vole habitat. The Joint Councils were content with the approach if

confirmation was given by NE on the Applicant's mitigation approach [Doc 8.3.12A]. The EA's relevant representation [RR-120] identified aspects of the Applicant's BMS, which the EA considered was non-compliant with the 'Water Vole Conservation Handbook' in terms of the method statement for displacement rather than trapping and relocation. The BPC responded to our first round question Q2.7 setting out the inadequacies it felt were contained in the Applicant's species method statements, in particular for water vole [REP2-095 and REP2-065]. The AWT raised concerns in its SoCG in connection with water vole at Portbury Wharf Nature Reserve [Doc 8.3.2, ID 8.3.2 and 8.7.5].

- 5.2.105 In response to queries at the Biodiversity and HRA ISH on 1 May 2015, NE replied that as it would not be possible to avoid water vole habitat completely, it was content that the Applicant's approach (which is now set out in the updated BMS [Doc 5.26.3C, Section 4.4 and Appendix F]) demonstrated reasonable efforts to minimise the risk of committing offences under the Wildlife and Countryside Act 1981 (as amended) [REP5-013, Section 3]. It was concluded that post consent changes would be able to be accommodated whether it be under site licences or class licences. [Doc 8.13.8.1, para 6.17 to 6.18]. The updated BMS states that the updated method statement takes account of the potential changes to water vole mitigation guidance [Doc 5.26.3C, para 4.4.9]. The Applicant confirmed it had incorporated the EA's suggested wording regarding possible displacement and trapping and the EA and NE confirmed they are satisfied with the approach [Doc 8.13.8.1, para 6.21 to 6.25].
- 5.2.106 In closing updates to SoCGs, NE, the EA and the AWT confirmed agreement with the updated BMS's water vole method statement. NE's final SoCG with the Applicant agreed that the Applicant would no longer require a licence to facilitate water vole movement and that the water vole method statement has been approved by NE [Doc 8.3.1B, ID 8.31]. The EA confirmed that it is satisfied that matters previously not concluded with regards water vole management are now covered in the updated BMS [REP5-021]. The AWT confirmed it is satisfied with the water vole method statement and other provisions in the BMS and on all water vole issues [Doc 8.3.2A, ID 8.3.2, 8.6.5, 8.7.5].
- 5.2.107 The Panel considers the Secretary of State can be satisfied that protection from adverse effects of the proposed development that relates to water vole would be adequately secured and mitigated were the development to be consented. We give weight to the views presented from the SNCB and the EA. We do not consider the BPC's sustained objection, even in knowledge of NE's advice, is a matter for concern because the Applicant has demonstrated to NE's satisfaction that the updated water vole method statement is fit for purpose and includes for potential changes to water vole guidance. The BPC's closing statement makes reference to terms of an agreement which preserve and conserve ecological interests agreement on this matter with the Applicant following the close of the Examination [REP8-002, para 11.2]. For these reasons the Panel considers that the Secretary

of State can be satisfied that the requirements of EN-1 have been met.

Lesser silver beetle

- 5.2.108 The only invertebrate record which is protected under the Wildlife and Countryside Act 1981 (as amended) is the lesser silver beetle. Aquatic and Terrestrial invertebrate surveys were undertaken within the Order limits within 3013 [Doc 5.8.1, para 8.3.84 to 8.3.88 and 8.4.216 to 8.4.226, Doc 5.8.2.5, Appendix 8N and Doc 5.8.3.14, Figures 8.55 and Doc 5.8.3.15, Figure 8.56].
- 5.2.109 The updated BMS includes specific mitigation measures for crossing points along one ditch where the species was recorded [Doc 5.26.3C, para 4.12.26 to 4.12.32] and other measures are covered under the invertebrate method statement [Doc 5.26.3C, para 4.12.8 to 4.12.25].
- 5.2.110 No representations were received in connection with lesser silver beetle. NE has agreed that the BMS is an appropriate mechanism to deliver mitigation in relation to protected species not already covered by a NE licence or other legal agreement [Doc 8.3.1B, ID 8.36]. The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO.

Reptiles

- 5.2.111 Results of the reptile surveys are presented in the ES [Doc 5.8.1, para 8.3.81 to 8.3.83 and 8.4.204 to 8.4.208, Doc 5.8.3.14 Figures 8.53]. There are numerous records of grass snake across the route corridor, fewer records of slow worm and three records of common lizard, and adder records with a cluster round Tickenham. Few areas are considered to have high capacity for reptiles. The reptile assemblage is assessed as of local value.
- 5.2.112 The Joint Councils state in their LIR that mechanisms for vegetation clearance to be staged to displace slow-worms are unclear [REP2-111, ref 2.6]. The Applicant agreed to review this and include any updates in the next version of the BMS [Doc 8.9, response to Joint Councils' response to Q2.20].
- 5.2.113 The updated BMS states that replacement habitats for reptiles are not anticipated as necessary because of the low numbers of reptiles found [Doc 5.26.3C, para 4.10.16 to 4.10.22]. The updated BMS sets out a reptile method statement [Doc 5.26.3C, para 4.10.23 - 4.10.49 and Doc 5.32B, ref 3.19.1 to 3.19.7]. The BMS also states that reasonable avoidance measures would be in place and that these measures together with the more specific mitigation would also benefit the common toad. A further sets out working arrangements where reptile works overlap with great crested newt licensed trapping activities [Doc 5.26.3C, para 4.10.50 - 4.10.55 and Doc 5.32B, ref 3.19.7].

5.2.114 NE has agreed that the BMS is an appropriate mechanism to deliver mitigation in relation to protected species not already covered by a NE licence or other legal agreement [Doc 8.3.1B, ID 8.36]. The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO.

Other mammals

5.2.115 Habitats suitable for brown hare and hedgehog were identified and reported as part of the Phase 1 habitat survey [Doc 5.8.1, para 8.3.72]. The updated BMS includes method statements for brown hare [Doc 5.26.3C, para 4.7.7 to 4.7.10] and hedgehog [Doc 5.26.3C, para 4.8.5 to 4.8.9].

5.2.116 NE has agreed that the BMS is an appropriate mechanism to deliver mitigation in relation to protected species not already covered by a NE licence or other legal agreement [Doc 8.3.1B, ID 8.36]. The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO.

Birds

5.2.117 Birds which are qualifying features of European Sites considered within the HRA for this application are covered in Chapter 6 of this report. We do not report matters relating to Portbury Wharf Nature reserves here because this forms a part of the discussion of the proposed route options and is therefore covered in Section 5.15 of this report.

The Applicant's case

5.2.118 The desk study and field bird surveys conducted by the Applicant prior to the route corridor selection and of the selected route corridor, together with other relevant bird surveys undertaken by others are set out in the ES [Doc 5.8.1, para 8.3.33 to 8.3.45 and para 8.4.62 to 8.4.120]. Survey methods, which were designed in consultation with NE are also detailed [Doc 5.8.2.4, Appendix 8F]. The surveys were carried out seasonally from 2009 to 2014 and included winter bird surveys, breeding bird surveys and vantage point surveys. The 2014 survey is reported in the Ecology Update Report [Doc 5.28.1, Doc 5.28.2, Appendix 28A and Doc 5.28.3.1.1 Figures 8.17B to 8.19B]. The Applicant provided additional survey maps in response to Q2.5.

5.2.119 The Applicant's ES concludes on residual effects after mitigation for the construction and operation phase effects by receptor. Some minor adverse effects are predicted comprising: habitat loss for breeding and non-breeding birds, collision risk during migration and feeding flights for swans, geese and waders, construction stage displacement for barn owl and loss or degradation of feeding grounds for heron and egret [Doc 5.8.1, para 8.5.193 to 8.5.220 and Table 8.29 and 8.30, Doc 5.26.3C, para 4.1.10]. We refer to the mitigation proposed below.

5.2.120 The Applicant also concluded it is likely there would be beneficial residual effect in reducing bird collision given that there would be an overall reduction in the overall length of overhead line compared with the baseline position and that bird flight diverters (BFDs) would be installed as a mitigation measure from the outset in three waterway corridors [Doc 5.8.1, para 8.8.9].

Comments from Interested Parties (on matters other than Hallen Marsh)

5.2.121 NE's comments on birds related to European Sites, which we cover in Chapter 6 and to Hallen Marsh, which is reported separately below in this section.

5.2.122 The Joint Councils in their LIR, considered the potential effects on lapwing to have been under-assessed across the scheme [REP2-111, ref 2.4]. They also raised the same issue with regards mute swan at the Biodiversity HRA ISH. At the Biodiversity ISH on 1 May 2015, the Applicant explained that the background mortality rates which the Joint Councils had queried was a pre-mitigation value and once mitigation is in place the mortality rates for both species fall below trigger rates at which further assessment might be needed. The Applicant further clarified that if the collision risk modelling had been undertaken using the Scottish Natural Heritage method, as recommended by NE, the predicted collision risk for both species would be considerably reduced. [Doc 8.13.8.1, para 3.28 to 3.31].

5.2.123 The Joint Councils raised the matter of mute swan mortality at Portbury Wharf Nature Reserve at the reconvened DCO hearing on 15 June 2015. We cover the discussion relevant to this in Section 5.15 below on Portbury and Portishead. The Joint Councils noted NE's position and confirmed there were no outstanding matters [Doc 8.3.12A, ID 8.10.3 and ID 8.10.4]. The SoCG agreement on mute swan is not consistent with the points made at the Portbury/Portishead ISH, but there is not agreement between the Applicant and the Joint Councils on matters to do with Portbury Wharf Nature Reserve, so we have considered mute swan in this context in Section 5.15.

5.2.124 At Deadline 3, the Joint Councils indicated they felt the boundaries for the transect lines for the bird surveys were too simplistic [REP3-003]. At the Biodiversity and HRA ISH, the Joint Councils confirmed that the additional survey plans provided at Deadline 2 were satisfactory [EV-090 to EV-092], a point on which we agreed.

5.2.125 The BPC did not consider the bird method statement for Cetti's warbler and barn owl was adequate, and considered reference to Cetti's warbler should also be made in the site-specific mitigation statement for the Drove Rhyne SNCI [REP2-095]. The BPC points regarding the bird method statements were discussed at the Biodiversity ISH on 1 May 2015. The Applicant had responded earlier at Deadline 3 in response to IP's responses to first round questions, indicating that as Cetti's warbler was present in the SNCI, the bird species method

statement would apply. The Applicant also made specific points in response to the BPC's criticisms and agreed to update the BMS accordingly [Doc 8.9]. Our earlier comments regarding the BPC's final submission apply [REP8-002].

Mitigation

- 5.2.126 The Applicant sets out ecological design considerations which were accommodated during scheme design in the ES. It states "*Selection of the T-pylon through Sections A and B has been influenced by the likely reduced collision risk to birds that it poses, in addition to landscape and visual and engineering design considerations. The T-pylon is lower than the standard 400kV steel lattice (thereby reducing the total collision risk zone).*" [Doc 5.8.1, para 8.5.14]. Following comments from the Joint Councils, the Applicant clarified that it is not appropriate to state definitely that T-pylons would have reduced collision risk relative to lattice pylons because of lack of supporting evidence [Doc 5.30B.1, ref 5.8.1, para 8.5.325].
- 5.2.127 Mitigation is set out in the BMS under a series of bird method statements which are ordered according to potential impact, area affected, relevant time period and mitigation measures to be implemented [Doc 5.26.3C para 4.1.12 and Doc 5.32B, ref 3.9.1 to 3.9.11] and includes the National Grid Bird Diverter Protocol [Doc 5.8.2.4, Appendix 8G], which sets out procedures in the event that increased bird mortality is noticed and reported.
- 5.2.128 The Applicant also includes mitigation through the installation of BFDs on the 400kV overhead line in three locations across flight corridors and for monitoring for bird collisions at an area South of Mark, which are birds which are qualifying features of European Sites, and reporting is covered in Chapter 6.

Hallen Marsh; the offset area for the Avonmouth Severnside Enterprise Area

- 5.2.129 Although initially regarded as a matter for consideration under Regulation 61 of the Habitats Regulations, it was suggested by NE at the Biodiversity and HRA ISH on 1 May 2015 that the need or otherwise for BFDs is an EIA matter rather than one for HRA [Doc 8.13.8.1, para 3.38 to 3.39 and EV-090 to EV-092]. This was later confirmed in response to our Q2.2.5 by NE [REP5-013] and the Joint Councils [REP5-012]. Proposals for Hallen Marsh are therefore reported here and are not covered in Chapter 6 of this report.
- 5.2.130 Hallen Marsh has a proposed role as ecological offsetting habitat for birds associated with the nearby internationally designated sites which might be disturbed by the proposed future development at the Avonmouth Severnside Enterprise Area (ASEA). The Joint Councils' LIR emphasised this point and explained that Hallen Marsh is identified as an offset area in the HRA review for the ASEA [REP2-114, Appendix D]. At the Biodiversity and HRA ISH on 1 May 2015, the Joint Councils

gave evidence to support the fact that their review of the ASEA consent as required by the Habitats Regulations showed that offsetting was required to avoid adverse effects on the integrity of the Severn Estuary SPA. They also explained that Hallen Marsh is the largest of six potential offset sites, strategically important because of its location in proximity to the SPA and wholly in the ownership of Bristol City Council [REP4-008, page 2 to 5 and EV-090 to EV-092 and EV-093].

5.2.131 The Joint Councils had set out their disagreement over a number of matters relating to the ES findings at Hallen Marsh in their SoCG with the Applicant. [Doc 8.3.12A, ID 8.1.2, 8.6.1, 8.6.2 and 8.10.5]. The issues under discussion, where agreement had not been reached at the Biodiversity and HRA ISH on which we report below are:

- collision risk and the installation or otherwise of BFDs;
- the area of buffer required alongside the proposed overhead lines; and
- proposed OSPES planting which could conflict with the requirements of wildfowl.

Collision risk and bird flight diverters

5.2.132 The Joint Councils had called for installation of BFDs from the outset at Hallen Marsh. The Applicant contended that the usage of the site as assessed by SPA birds did not justify BFD installation. However the Applicant did recognise that habitat improvement works could lead to increased potential for mortality of SPA birds from collision risk because more birds would use the area [EV-090 to EV-092 and Doc 8.13.8.1, para 3.41 to 3.49]. The Applicant presented a bird monitoring protocol specific for Hallen Marsh, to which the Joint Councils agreed to give consideration. The Joint Councils felt that BFDs might be a more cost effective solution than the monitoring that was being proposed [REP4-008, page 4]. We also had some concerns about the complexity of the proposed monitoring. We asked the Applicant to explain its reluctance to fitting BFDs in the first instance, which it was stated was because they present maintenance difficulties; and a paper was submitted as evidence [Doc 8.13.8.2].

5.2.133 NE also queried why the BFDs could not be fitted from the outset at the Biodiversity and HRA ISH [EV-090 to EV-092]. NE later said that although installing BFDs from the outset would be the most effective and precautionary option, they believed the alternative post-construction monitoring and mitigation through fitting BFDs once enhancement works at Hallen Marsh have commenced was acceptable [Doc 8.3.1B, ID 8.21].

5.2.134 On request from the ExA at the Biodiversity ISH, the Joint Councils submitted a letter which set out the delivery mechanisms for the wetland habitat creation associated with the ASEA [EV-093]. Following further discussion at the ASEA ISH on 19 May 2015, the Applicant submitted a revised proposal to deal with possible collision risk at Hallen Marsh, which would secure bird diverters at the site after a

habitat-related trigger was reached [Doc 8.25.6]. The Applicant proposed wording for the trigger, relating to the commencement of enhancement works over 9.5 hectares of land, which it justified based on relating the area back to the unrestricted sightline dimensions cited in the conservation objectives of the Severn Estuary SPA.

5.2.135 NE welcomed the proposal to fit bird diverters at Hallen Marsh triggered by habitat creation works rather than the previous mortality monitoring proposals [REP5-013, Section 6]. The Joint Councils also welcomed the principle to install bird diverters triggered by habitat enhancement works, but expressed concern that SPA birds could start to use the Hallen Marsh site; and therefore be at risk of mortality, after a much smaller area of land was improved, especially if that improvement comprised creation or improvement of a water body or scrape [REP6-004]. They called for an unambiguous trigger, relating to the creation of a water body. The Joint Councils re-stated their position at the DCO ISH on 17 June 2015 giving the view that there is a risk to birds as soon as a water body of over 100m² is implemented; and therefore requested that this trigger be used [REP7-004].

5.2.136 The Applicant incorporated some suggestions regarding the potential of BFD installation during construction, but retained its position over the 9.5 hectares. The wording which is included in Requirement 13(3) of the Applicant's final DCO [Doc 2.1.1E and Doc 2.1.2E] reflects this position and is as follows:

"When enhancement works for waders and wildfowl have commenced across 9.5ha of land at Hallen Marsh, National Grid will install large spiral bird diverters on the earth wire between pylons LD125 and LD129 at the next available outage after energisation, or if the trigger is reached prior to, or during, construction of the authorised development, the diverters will be installed during construction of the overhead lines."

5.2.137 The Joint Councils counter suggestion set out at Deadline 6 and repeated at Deadline 7 is as follows [REP6-010 and REP7-010]:

"When either:

(a) enhancement works for waders and wildfowl have commenced across 9.5ha of land at Hallen Marsh (as measured by the total area of the wetland creation project which includes scrapes for wading birds or ponds for waterfowl and the surrounding land) or

(b) the creation of at least 100m² of scrapes or ponds at Hallen Marsh, whichever is sooner, National Grid will install large spiral bird diverters on the earth wire between pylons LD125 and LD129 at the next available outage. If the trigger is reached prior to or during construction of the HCCP, the diverters will be installed during the construction of the overhead lines, or if after energisation of the lines at the first available outage".

- 5.2.138 The Joint Councils enclosed an email from NE, which on this point defers to the Applicant and the Joint Councils to agree a suitable trigger [REP6-010]. The Applicant and Joint Councils fail to agree at the end of the Examination. We have considered this matter, in the light of NE's email which does state the trigger might be: "*an agreed acreage of suitable habitat, a suitable water body of agreed size/characteristics etc or whichever of these comes first.*" [REP6-010]. We have also referred back to NE's earlier remarks at the Biodiversity ISH in which it queried why BFDs could not be installed from the outset.
- 5.2.139 In our recommended DCO, we have amended Requirement 13 to accord with the Joint Councils' suggested wording because we feel this is the more precautionary approach and covers the potential risk identified by the Joint Councils that birds from the Severn Estuary SPA could be attracted to even small water bodies on Hallen Marsh in future; and therefore they could be at risk from collision with overhead lines.

Displacement and appropriate buffer zone

- 5.2.140 There was initial disagreement between the Joint Councils and the Applicant over the size of a buffer zone, the dimensions of which would be used to calculate the area of land sterilisation from offsetting purposes for the purpose of then agreeing an appropriate sum to be paid through the proposed s106 agreement.
- 5.2.141 Agreement was reached between parties, to use a 100m buffer zone calculation and a figure of £124,020 is included in the s106 agreement to be paid before project works commence for ecological enhancement at the ASEA [Doc 8.4B, Schedule 6 and REP5-012, response to Q2.2.2]. NE indicated in its response to our Q2.2.2, that it considered 100m buffer was more appropriate than 50m buffer [REP5-013].

OSPES planting and potential conflict with requirements for birds associated with statutory wildlife sites

- 5.2.142 One of the aspects of the OSPES is that the precise locations for planting cannot be guaranteed [Doc 5.25, para 1.1.7 to 1.1.8]. At Deadline 5, the Applicant submitted a note which set out additional criteria identifying locations where it would be inappropriate for planting to be undertaken. The note also referred to locations identified in the Cresswell Report at Hallen Marsh suitable for habitat enhancement, stating that no new hedgerows or trees would be planted in these areas without the prior agreement of the relevant local authority and NE [Doc 8.24.3].
- 5.2.143 We are content concerns regarding potential conflict between landscape enhancement where the precise locations of planting cannot be guaranteed and the possible unintended negative impacts on birds are satisfactorily resolved through the inclusion of these points and plans in the OSPES document.

Panel's conclusions on birds

- 5.2.144 For areas other than Hallen Marsh, we are satisfied that the effects on birds have been assessed thoroughly and the mitigation proposed and secured through the BMS is adequate. The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO.
- 5.2.145 At Hallen Marsh, the Panel confirms that it considers a change is necessary to the final DCO as proposed by the Applicant in order that the Secretary of State can be satisfied that the requirements of EN-5 are met; and that the offsetting role that Hallen Marsh may play in avoidance of adverse effects on the integrity of the Severn Estuary SPA is not compromised. The Panel agrees with the additional wording proposed by the Joint Councils because this would offer a precautionary approach to the potential increase in bird collision risk.
- 5.2.146 The Panel also agrees that the s106 sum should be calculated using the more precautionary dimensions for the buffer zone. As agreement was reached between the parties, and it accords with advice given by NE, the Panel is content that the matter was resolved satisfactorily and this element of the s106 agreement meets the test of EN-1, para 4.8.1. We have placed weight on the on the ecological enhancement works contribution contained in Schedule 6 of the s106 agreement in reaching our recommendation. Also at Hallen Marsh, the Panel agrees that securing the areas shown for no planting to retain wide open spaces for birds is successfully secured through the updated OSPES.

Fish

- 5.2.147 The Applicant's ES based its survey on data which were available from the Environment Agency (EA) sampling points and fish recorded during the aquatic invertebrate surveys [Doc 5.8.1, para 8.4.227 to 8.4.237 and Doc 5.8.3.15, Figures 8.57]. The majority of records are for common freshwater fish; and there are multiple records of European eel, which is a NERC species and an Avon Biodiversity Action Plan species. The ES refers to the Severn Estuary SAC and Ramsar because it is designated for migratory fish some of which form the primary reason for its designation. Points relating to SAC and Ramsar are covered in Chapter 6 of this report.
- 5.2.148 The BMS provides a fish method statement which sets out a number of mitigation measures [Doc 5.26.3C, para 4.11.4 to 4.11.12 and Doc 5.32B ref 3.20.1 to 3.20.5]. There were no submissions about fish, other than those in connection with noise and vibration associated with fish from the Severn Estuary SAC, which is covered in Chapter 6.
- 5.2.149 The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO.

Amphibians

- 5.2.150 The construction stage habitat losses associated with great crested newt would also affect a wider assemblage of amphibians comprising common toad, frog and the small newt species [Doc 5.8.1, Table 8.30]. Mitigation of potential killing and injury would be delivered through the sensitive working methods for great crested newt. Other water course crossings, outside the great crested newt licence area are subject to the common toad method statement, which also covers other amphibians [Doc 5.26.3B, para 4.9.33 to 4.9.35, Doc 5.32B, ref 3.21.1 to 3.21.8].
- 5.2.151 The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO.

Ditch invertebrates

- 5.2.152 The Applicant reports the surveys of aquatic and terrestrial invertebrates undertaken [Doc 5.8.1, para 8.3.84 to 8.3.89, Doc 5.8.2.5, Appendix 8N, Doc 5.8.3.14, Figure 8.55 and Doc 5.8.3.15, Figure 8.56]. The BMS states that the impacts of the proposed works would be limited to locations where the works fall within 9m of the top of a bank or watercourse or in the ditch or watercourse [Doc 5.26.3C, para 4.12.4 to 4.12.7]. The BMS provides an invertebrate method statement [Doc 5.26.3C, para 4.12.8 to 4.12.25]. The BMS states that sensitive working is also achieved through adherence to the water course crossing method statement [Doc 5.26.3C, para 3.4.8 to 3.4.48, Doc 5.32B, ref 3.3.8 to 3.3.13].
- 5.2.153 The Panel considers the requirements set out in EN-1 for species protection have been met through the relevant parts of the BMS, which would be secured in the DCO.

DECOMMISSIONING

- 5.2.154 The Applicant's ES predicts that in broad terms the effects associated with decommissioning would reflect those predicted for the construction phase, and similar mitigation would apply. However it is recognised that the significance of effects would depend on future land use and nature conservation designations including the future nature and extent of habitats, ecological value and associated fauna. The ES states that appropriate ecological surveys would be carried out prior to decommissioning in accordance with best practice guidance of the time. As with the construction phase, mitigation would be delivered through sensitive working practices, seasonal constraints and access route alignments and subject to method statements and licensing as appropriate. The ES also states that opportunities for ecological enhancement would be reviewed, particularly for habitat connectivity, as part of the mitigation strategy.
- 5.2.155 The Panel is content that the Applicant has given consideration to decommissioning as far as is reasonable with regards biodiversity. The

Panel is satisfied that Requirement 34, which requires a written scheme of decommissioning to be submitted for approval by the relevant local planning authority at least six months prior to any decommissioning works would provide sufficient control over any impacts arising from the decommissioning works and would give the relevant planning authority an opportunity to comment on the mitigation and enhancement proposals.

COMPLIANCE WITH LOCAL POLICIES

- 5.2.156 Bristol City Council Core Strategy (2011), Site Allocations and Development Management Policies (2014) Policy DM17 'Development Involving Existing Green Infrastructure' states that where tree loss or damage is essential to allow for appropriate development, replacement trees of an appropriate species should be provided in accordance with the tree compensation standards set out. Replacement tree numbers are related to trunk diameter of trees lost to development. The Applicant has committed to four-for-one replacements, which aligns with trees with a trunk diameter of between 40.0 to 49.9cms measured at 1.5m high. As the numbers and locations of actual trees to be removed are not confirmed, it would not be possible to calculate accurately if the policy requirement would strictly be met. Data are available in the AIA Appendices to assess this, once the precise trees needing removal are finalised [Doc 5.21.2A]. From an overview of the tree girths listed in the AIA, it would seem that the four-for-one replacement would comply.
- 5.2.157 Policy DM17 also states that development that would result in the loss of ancient woodland, aged trees or veteran trees will not be permitted. The Application does not show any ancient woodland or veteran trees proposed for removal in the Bristol City Council administrative area.
- 5.2.158 These policy requirements would only apply within Bristol City's boundaries; and whilst they could be a material consideration cross boundary, other local authorities have policies which require green infrastructure enhancement, but do not set such specific conditions.
- 5.2.159 The Panel is satisfied with the replacement planting proposals that have been secured through the DCO and Schedule 7 of the s106 agreement. The Panel's conclusions on policy compliance are set out in Section 5.9, where we report on maintenance of new planting as this is an area of difference between the Applicant and the Joint Councils, which relates to local policy.

OVERALL BIODIVERSITY CONCLUSIONS

- 5.2.160 The Panel is satisfied that the duty that every public body must have, with respect to conserving biodiversity under the NERC Act, has been met through the consideration of the effects on biodiversity and mitigation during the course of the Examination. In complying with this, we consider regard has been given to the United Nations Environment Programme Convention on Biological Diversity of 1992.

- 5.2.161 The Panel is satisfied that the Applicant has given thorough consideration to alternatives in relation to biodiversity in accordance with EN-1. The Panel is satisfied that the Applicant's assessments and mitigation measures proposed, in the main, have given due and proportionate regard to the provisions in EN-1 and EN-5 with regard to nationally designated sites, regional and local sites, protected habitats and other species.
- 5.2.162 Where the Panel's opinion differs from what is set out in the Applicant's final DCO, we have made recommendations with justifications for changes to the DCO or for the need for additional agreements. Some of these are reported in Chapter 6, where they relate to HRA matters and Section 5.9, where they are applicable to landscape and visual matters. The Panel's recommendation relies on some but not all of the contributions secured through the s106 agreement as stated above and in Section 5.9.
- 5.2.163 The Panel is satisfied that there are no reasons relating to non-HRA biodiversity effects from the proposed development that would prevent a DCO being granted, providing mitigation is secured. This includes mitigation as set out in the BMS being implemented, maintained and managed in accordance with the specification and timescales proposed by the Applicant; and that those changes to the DCO recommended by the Panel are incorporated.
- 5.2.164 In reaching those conclusions, we have given some weight to some of the different enhancement measures the Applicant has offered, in coming to our conclusions on compliance with the NPPF, EN-1 and EN-5.

5.3 CONSTRUCTION ACCESS AND HAUL ROADS

INTRODUCTION

- 5.3.1 This section of the report deals with construction access and haul roads, and leads in to consideration of noise and vibration. Policy issues are not considered as they are covered elsewhere, particularly in Section 5.13, Traffic and Transportation which is linked to this Section. The Panel has considered site-specific issues in response to its own observations, unaccompanied site inspections (USIs) and accompanied site inspections (ASIs), and representations received.

ENVIRONMENTAL STATEMENT

Principles of construction access

- 5.3.2 The Overall Location Plan and Master Key Plan [Doc 4.1.1] introduces the detailed access plans which are in Documents 4.4.2, 4.4.3A, 4.4.4, 4.4.5A, 4.4.6A, 4.4.9A, 4.4.11, 4.4.12A, 4.4.13, 4.4.14A, 4.4.15 and 4.4.16. These plans, which are at a large scale, clearly show all of the intended access points although the plans do not differentiate between construction and maintenance access routes. Haul roads and construction access routes would generally be joined to the local road

network by bellmouths which are clearly shown on the access drawings as yellow rectangles.

- 5.3.3 There is an explanation of construction access arrangements in Section 3.7 of the Project Description [Doc 5.3.1]. The ES Project Description Figures, [Docs 5.3.3] contains five sub-volumes. The first sub-volume [Doc 5.3.3.2] includes Figure 3.3, entitled Construction Plans, and which comprises fifty separate A3 plans of the proposed development. These are referred to as Insets and clearly show the proposed layout of the haul routes that serve the proposed construction works.
- 5.3.4 Further information is provided in the Construction Traffic Management Plan (CTMP) [Doc 5.26.5C] which is part of the CEMP. Annex C of CTMP [Doc 5.26.5.C] provides plans of proposed construction routes and bellmouth locations.
- 5.3.5 The ES states that the process of decommissioning the overhead line would require similar access as outlined for construction. On decommissioning, cables would remain buried in the ground. If the underground cables were to be removed upon decommissioning, similar methods and access would be required as outlined for installation. For CSE compounds and substations, similar methods and equipment would be required for dismantling as outlined for construction.

CONSTRUCTION TRAFFIC MANAGEMENT PLAN

- 5.3.6 The CTMP identifies three levels of access to the Proposed Development:
- Strategic Road Network (SRN) – motorway network with a wide catchment to the local road network;
 - Local Road Network (LRN) - local roads which provide access from the SRN to the Proposed Development; and
 - Haul roads – a temporary road network linking the LRN to areas of the Proposed Development which are currently inaccessible.
- 5.3.7 The routing strategy has been agreed with the local highway authorities and Highways England and is detailed at Annex C of the CTMP. There are proposed construction routes that form eight distinct traffic networks which link the haul roads to the SRN via the LRN.
- 5.3.8 The primary considerations for each routing strategy are:
- to use the shortest route from the location of bellmouths to the primary distributive network;
 - to avoid settlements and any other sensitive receptors;
 - to reduce congestion and minimise effects in cities, towns and villages; and
 - to minimise travel on the LRN and use haul roads where possible.

5.3.9 According to the CTMP, all construction traffic would need to adhere to the prescribed routing strategy. As part of the CTMP's control and monitoring measures, deviation from the approved routes would result in enforcement procedures and penalties. Mitigation measures are discussed in section 6 of the CTMP and management, monitoring and enforcement are discussed in detail in section 7 of the CTMP.

Description of the haul road system

- 5.3.10 The following paragraphs are interpretations of the documents referred to above, principally the CTMP and the construction plans [Doc 5.3.3.2]. Also information was provided by the Applicant in its answers to ExA's questions [Doc 8.1.3 para Q15.86 to 15.97] which are referenced where relevant.
- 5.3.11 For most of the route, the haul road configuration would be typical of a linear utilities project with short or modest lengths of haul road connecting the construction sites to the LRN.
- 5.3.12 This proposed development is different however, because there would be two or three 'strategic' haul road sections which are of considerable length. There are likely to be several reasons for these strategic sections but it is likely that they are shaped by existing topography, the rural nature of the site and the objectives of the routing strategy which are listed above, particularly the principle of minimising travel on the LRN. The strategic sections are discussed in turn below.
- 5.3.13 It is important to note that there would be 117 bellmouths [Doc 5.26.5A para 3.3.7] throughout the proposed development and their positions and designs have been agreed with the relevant highways authorities [Doc 8.1.3 para 15.86.4 and 15.95.33]. Also, all the locations would go through the Road Safety Audit (RSA) procedure which would review all safety aspects.
- 5.3.14 Numerous bellmouth locations are at straight-over crossings of a highway that is intersected by the haul road route. Some of these are crossings of a little used highway such as Fletchers Lane but others are straight-over crossings of busy highways such as the B3139 at Mark. HGVs would not be allowed to use crossover bellmouths in order to gain direct access from the highway to the proposed works.
- 5.3.15 The longest strategic section of haul road in the south of the proposed route would be from Factory Lane, East Huntspill¹³, crossing Mark Moor and the B3199 in Mark village and passing all the way through to join the south side of the A38 at Tarnock.
- 5.3.16 At Tarnock, construction to the north would be served by one important bellmouth referenced AC41. From Tarnock onwards, where there are two construction compounds, the route trends northwards,

¹³ This access is the subject of objections from IPs and is discussed later

roughly parallel to Biddisham Lane eventually reaching the South of the Mendips CSE structure and construction compound which is just south of the M5. At that point the proposed development would change from overhead line to underground construction.

- 5.3.17 The haul road would continue to the north-east serving the underground construction, crossing Sevier Road at Webbington and en-route serving Barton Road compound and Castle Hill compound, until reaching Sandford Batch where the route would continue to the north crossing A368 Towerhead Road near Sandford and on to Sandford substation.
- 5.3.18 This whole length of the proposed development from Tarnock to Sandford substation, (a large part of Section B and the whole of Section C) would therefore be served by one haul road and the AC41 bellmouth access at Tarnock. It is clear that the bellmouth referenced AC41, at Tarnock, would be a key access point and this is discussed in later paragraphs.
- 5.3.19 The Applicant has said, however, that there would be a subsidiary access at Towerhead Road enabling access to the northern sections of the underground route [Doc 8.1.3 para 15.91.1 and 15.91.2]. The Towerhead Road bellmouths referenced AC50 and AC51, are also shown on the Access and Rights of Way Drawing [Doc 4.4.5A sheet 1].
- 5.3.20 Bellmouth AC51 on the north side of Towerhead Road would therefore enable access northwards towards Sandford substation. The ES states that from here, a semi-permanent access road is proposed to access the substation. This road is shown also in the ES Project Description [Doc 5.3.1 inset 3.16] and would link potentially with the permanent access to the substation from the Droveaway/ Nye Road.
- 5.3.21 The route of this access is generally within the land reservation that would be required for the construction, operation and maintenance of underground cables. Near to Sandford substation, the access road deviates away and on the Land Plans, is shown as Class 3 land [Doc 4.2.5C, D71 and D72 sheet 1 D/LP/PS/1]. This access road would be finished in grasscrete¹⁴ enabling the delivery of transformers.
- 5.3.22 There are two additional significant lengths of proposed haul road which are both accessed from the A370 near Moorland Park, Hewish. The southern bellmouth here would serve overhead line construction all the way down to the Sandford substation and the northern bellmouth that would serve the length of overhead line from the A370 to Nailsea.

¹⁴ A form of rectangular or square concrete grid that has seeded soil filling between the concrete ribs. This finish allows traffic to pass over a road whilst still maintaining the appearance of grass

REPRESENTATIONS BY INTERESTED PARTIES

Joint Councils

- 5.3.23 In their LIR [REP2-111], the Joint Councils refer to noise and other nuisance from construction activity at the Tarnock works compound, its access, haul road and build operations. They questioned localised effectiveness of control measures in and around Tarnock leading to unforeseen levels of nuisance affecting local residences and amenity. A CIM fund was suggested to ameliorate this.

Parish Councils

- 5.3.24 Badgworth Parish Council registers concern about the important haul road access in Tarnock and the length of time that the nearby compound would remain in use. There were numerous references to the important AC41 access onto the A38 which is dealt with below.
- 5.3.25 Congresbury Parish Council and others raised concern about the location of the Bellmouth on the A370 near Moorland Park. This issue has now been resolved as the bellmouth has been relocated.

Other Interested Parties

- 5.3.26 There are representations, mostly about the compound and access at Tarnock from Mr Daniel Thomas [RR-035], Mrs Bullett [RR-045], Mrs Celer [RR-121] and Mrs Holly Thomas [RR-142].
- 5.3.27 Mr P Penfold and his agents drew attention to the close proximity of the haul road and construction activities to his development at Moorland Park [REP2-051, REP2-052 and REP2-053].
- 5.3.28 There are numerous objections to the use of Factory Lane as a construction access from East Huntspill Parish Council [EV-078], Mrs Julie Wall of Riverview Farm [REP2-110], Mr Richard Wall of Riverview Farm [REP7-086] and other local residents. This topic is discussed below.
- 5.3.29 Greenslade Taylor Hunt [REP3-031] wrote on behalf of Mr John Gerrett and Mr Stuart Smith objecting to the proposal for a semi-permanent access road due to the disturbance and damage this would cause, in their view, to their retained land and property values and because of the nature and frequency of its use. This is the semi-permanent access road from Bellmouth AC51 on the north side of Towerhead Road providing access northwards towards Sandford Substation [Doc 5.3.1, Inset 3.16].
- 5.3.30 Mr John Miles, chairman of the Cadbury Water Co Ltd, which owns Cadbury Camp Lane, made several submissions relating to the environmental effects of the pylons and also to the potential health impacts of the overhead line passing over Cadbury Camp Lane. In a later submission [REP6-006] focussing on construction activities he states:

"Further to our refusal to allow National Grid construction vehicles into our private lane, we are also concerned with regard to adverse effect on air quality due to construction traffic etc., dust from proposed tunnelling and access road up the valley is likely to cause immense noise and dirt transmission. This is a further health concern on top of the health concern from the effect of 400KW cables straddling the entrance to our lane."

5.3.31 These points are discussed below.

PANEL VIEWS ON HAUL ROADS AND CONSTRUCTION ACCESS

5.3.32 In addition to the submitted and amended application, this section relies on information provided during the course of the Examination.

The haul roads in principle

5.3.33 The Panel strongly supports the construction access strategy and particularly the intention to construct long lengths of haul road that relieve the LRN, which in some places is not well developed. There are also safety and security benefits in having a dedicated and private construction access system for a large proportion of the proposed development. Nevertheless, there is a consequential disadvantage because comparatively long sections of haul road might generate considerable volumes of site traffic and this may lead to significant impacts where the haul roads concentrate site traffic to gain access to or from the LRN.

Impacts from construction activities

Construction noise as an exemplar

5.3.34 The ES establishes limiting distances at which predicted noise level falls off to a level that is below various threshold levels for various construction activities. The effects are tabulated for residential receptors within a limiting distance at which the noise level falls below the 65dB(A) threshold [Doc 5.14, para 14.4.1 and Appendix 14A Table 2 and Table 14.16]

5.3.35 There are no location-specific assessments of construction noise for properties that are situated within the limiting distances. Moreover, no distinction is made regarding noise impacts on properties that are situated substantially nearer to the noise source than the limiting distances that are listed in the table.

5.3.36 In the ExA's Q2.11.1, the Applicant was asked to provide details of local, specific and appropriate physical mitigation measures for residential properties that are situated nearer to the works than the limiting distances stated in the ES. The Applicant was asked to provide, within the CEMP, clear guidance on local noise mitigation.

5.3.37 The Applicant responded that no significant adverse effects are expected [Doc 8.18.1, para 2.11.1.5]. Specific calculations carried out

for the nearest residential properties [Doc 8.18.2.1, Appendix 2.11.1a.1] indicates that the threshold for major adverse effects is not reached and so the proposed development meets the requirements of EN-1.

- 5.3.38 The Panel notes that the assessment in Appendix 2.11.1a.1 does not assess the long term nuisance of haul road traffic that may be present for several months in some locations. Riverview Farm is not mentioned in the assessment although it is very close to a proposed haul road.
- 5.3.39 The Applicant states that overall, the construction noise impacts at the majority of sensitive receptors would be negligible to minor adverse and *"could be categorised as Noticeable and not intrusive"* [Doc 8.18.1, para 2.11.1.10]. For locations where there is potential for moderate adverse construction noise ie *'Noticeable and Intrusive'*, the Noise and Vibration Management Plan [Doc 5.26.7B] provides for further more detailed consideration of the works, in liaison with the relevant local authority, to define local and specific mitigation.
- 5.3.40 Nevertheless, and notwithstanding the results from generalised assessments of construction noise impacts, the Panel considers that in some specific cases, everyday noise from construction traffic and other activities could have an undesirable impact on the living conditions of the residents. These cases are dealt with later in this section and are also discussed under Section 5.7 under health and well-being.

General effects of construction activities

- 5.3.41 This aspect was included in the ExA's Q2.7.10 concerning the assessment of amenity effects on small communities and single dwellings. The Applicant was asked to look again at seventeen properties that might be significantly affected by the construction or operation of the proposed development. The Applicant's response [Doc 8.18.2.1, Appendix 2.7.10.1] indicated that these properties generally would experience minor to moderate adverse effects during construction.
- 5.3.42 Q2.7.11, addressed to the Applicant, Joint Councils and Parish Councils, requested reconsideration of a number of locations that might be affected by construction or operational impacts. The Applicant's response is found in Appendix 2 of Appendix 2.7.10.1 [Doc 8.18.2.1]. This comprises three tables and Table 2B lists sixteen receptors for which material amenity effects were identified during the construction phase. Some of these duplicate properties identified in answer to Q2.7.10.
- 5.3.43 The Applicant concludes by stating [Doc 8.18.1, para 2.7.11.7]

"The effects of construction are not anticipated to be felt cumulatively over a long duration; they will arise intermittently, often for short periods of time, and will be managed through mitigation as appropriate. The mitigation techniques to be used are well established, readily available and will be applied along the construction route as

appropriate. They are set out in the CEMP, and other documents such as the NVMP and the CTMP, and are enforceable through the DCO Requirements".

- 5.3.44 The Panel's comments on these responses in relation to certain identified receptors are set out in later in this section.

DCO Hearing: action points

- 5.3.45 Following the DCO ISH hearing of 16 June, Action Point 20 asked if a 'menu of measures' could be provided to help further mitigate construction impacts [EV-143]. There were also mitigation actions specific to Factory Lane and these are dealt with below.
- 5.3.46 The Applicant's response on a menu of mitigation measures [Doc 8.38.2.1] refers back to the provisions of CEMP. It also states that the Applicant considers that the CEMP measures would allow for sufficient robustness in their design and flexibility in their implementation to enable construction effects to be adequately mitigated.
- 5.3.47 The Applicant states that additionally mitigation has been committed at two sites, Sunnydene and Merriedown and these are discussed later in this section under Resolved Matters. Other potential cases for enhanced mitigation were identified by the Applicant and are discussed below.

Mitigating construction effects

- 5.3.48 The CEMP [Doc 5.26.1C] provides for comprehensive mitigation in respect of general construction impacts and has provided an additional list of Locations Suitable for Enhanced Mitigation in the form of Fencing.
- 5.3.49 The Panel welcomes the idea of providing enhanced mitigation at critical locations. We consider that site specific designs for enhanced mitigation are especially useful, particularly in the form of temporary fencing which, when covered with an appropriate form of impermeable sheeting would mitigate the noise, dust and visual impacts.
- 5.3.50 Section 2.5 of the CEMP states that working areas would be appropriately fenced and states that fencing would comply with section 3.1 of the document and Schedule 3 Requirement 16 of the DCO. Additionally no stage of the proposed development may take place until details of all fencing and enclosure for that stage have been approved by the relevant planning authority.
- 5.3.51 The provisions of the CEMP do require some reinforcement, as para 3.1.11 that lists suitable locations for enhanced fencing mitigation, does not refer explicitly to the use of tarpaulin sheeting or appropriate hard material as covering to the fence. In the case of some receptors, robust temporary fencing that provides a degree of mitigation of noise and other effects is essential in the Panel's view.

- 5.3.52 The Panel is also mindful of the advice provided in Paragraph 4.10.3 of EN-1 which states that:

"The [decision-maker] should work on the assumption that the relevant pollution control regime and other environmental regulatory regimes..., will be properly applied and enforced by the relevant regulator. It should act to complement but not seek to duplicate them."

In this respect, the Panel assumes that locations that are identified as suitable for enhanced mitigation in the form of fencing will be thoroughly assessed by the local planning authority within a full consultation processes.

Resolved matters related to construction access

- 5.3.53 Several issues related to construction access highlighted in representations or during the examination, are considered by the Panel to have been satisfactorily resolved. Alternatively, they have been resolved as far as is practical, under the site circumstances. These are outlined below.

Applicant's list of example locations of enhanced mitigation

- 5.3.54 Further to the Action Point that followed the DCO ISH hearing [EV-143], the Applicant selected a further 19 receptors for which further mitigation measures could be considered during construction. These are listed as Example Locations of Enhanced Mitigation at Appendix A to the Response [Doc 8.38.2.2]. There is a corresponding reference to potential enhanced mitigation in the form of fencing in the CEMP [Doc 5.26.1C section 3.1].
- 5.3.55 For these receptors that have been selected by the Applicant, the Panel welcomes the fact that locally enhanced mitigation is to be considered. Apart from the following exceptions, the Panel is satisfied that the sites that are listed will be considered for enhanced mitigation in conjunction with the local planning authority. The exception sites are:
- (a) Merriedown.
 - (b) St Anthony's Park Travellers Site.
- 5.3.56 These receptors from the Applicant's selected list are discussed in a later sub-section, together with Factory Lane, under the heading of construction access matters that require further consideration.

Northwick Road and Sunnydene

- 5.3.57 The Applicant has explained that the haul road crossing Northwick Road adjacent to Sunnydene would be controlled by two gates operated by a banksman allowing the road to be checked before opening the gates.

- 5.3.58 Sunnydene is on Northwick Road and 71m from the place where the main haul road crosses the highway. [Doc 8 22.3]. The Applicant explained that in respect of dust and fugitive emission the risk of dust would be controlled by best practice and properly applied and secured mitigation. The haul roads would be constructed with hard surfaces that would be kept clean, and a 10mph speed limit would be maintained. Regular inspections would be carried out to monitor the effectiveness of the measures, and where necessary, measures such as damping down would be applied more frequently or additional measures would be applied [Doc 8.13.6.1 para 3.8 and 3.9].
- 5.3.59 At the request of the Panel, the Applicant agreed to consider whether any enhanced mitigation might be appropriate at this property, for instance, the erection of a fence around the property.
- 5.3.60 The Applicant stated that the dust impacts would be mitigated through the provisions of the CEMP including inspections and that the first 100m of the haul road length from the bell mouth would be surfaced with bituminous material [Doc 8.22.3]. Garden screen fencing is proposed subject to discussions with the owners.
- 5.3.61 Sunnydene and another property on Northwick are also mentioned in the list of receptors for which additional mitigation is proposed [Doc 8.38.2.2, Appendix A,] in Table 3.1 and para 3.1.11 of the CEMP [Doc 5.26.1C].
- 5.3.62 Earlier paragraphs in section 3.1 of the CEMP refer to the use of temporary steel mesh fencing, with tarpaulin and such a fence would, in the view of the Panel, have a mitigation effect in respect of both noise and dust. There is a need however for a detailed analysis of the type and location of temporary fencing and this is a matter for agreement with the local planning authority.
- 5.3.63 In order to secure comprehensive enhanced mitigation for Sunnydene, the Panel considers that it is necessary to introduce a DCO requirement for the submission, approval and implementation of a site specific mitigation scheme. On that basis, the Panel is satisfied that the concerns raised by Mrs Blewitt of Sunnydene have been answered.

Tarnock - access to northern haul road through to Sandford

- 5.3.64 The Applicant has issued a drawing that shows improved arrangements for bellmouth AC41 [Doc 8.35.2] and additional or improved sheeted fencing has been outlined in the CEMP for nearby receptors and for the construction compounds [Doc 5.26.1C]. The Panel is satisfied that these proposals are reasonable and adequate given the needs of the proposed development and the site context.

Fletcher's Lane

- 5.3.65 The Applicant has explained that the Fletcher's Lane crossing would be by a manned, two gate system [Doc 8.13.5.1, para 6.19] and two additional bellmouths (AC41 A and B) have been added to the Access

and Rights of Way plans [Doc 4.4.3A]. The Panel considers this arrangement to be satisfactory.

Local roads in the area of the Mendips CSE and Sandford substation

- 5.3.66 The Applicant states that Hams Lane in the village of Loxton would only be used during operation for access by inspection teams [Doc 8.13.5.1 para 6.20.2].
- 5.3.67 The Applicant states also that it would prohibit the use of the Droveaway (connecting to Nye Road) for construction traffic but once the line is operational, maintenance vehicles might occasionally use the Droveaway [Doc 8.13.5.1, para 6.20.1]. The Panel infers that this access would be for light vehicles whereas HGVs would gain access via the semi-permanent access road discussed previously.
- 5.3.68 On balance, the Panel finds that the construction and use of a semi-permanent access road would be preferable and less impacting than the alternative of arranging for maintenance access via the Droveaway. The other alternative of constructing a temporary access road in lieu of the semi-permanent access as and when maintenance is required, is not preferable in our view as there might be a need for urgent replacement of heavy equipment in the substation and the need for prior reconstruction of a temporary access would be time-consuming and, in the long term, a wasteful and less sustainable alternative.
- 5.3.69 The Panel finds that limitations on the use of Hams Lane and the Droveaway are satisfactory and that the use of the semi-permanent access road would be better than the alternative of using the local roads and provides suitable mitigation for these.

Moorland Park

- 5.3.70 Construction access adjacent to Moorland Park, with receptor reference D1.H158, has been the subject of considerable discussion. It is a development of static caravans and chalets each within an enclosed yard area. The development is sometimes termed Moorland Park Travellers' Site.
- 5.3.71 The eastern boundary of Moorland Park is very close to the main haul road from the A370 south to Sandford substation. All vehicles and supplies would gain access from the bellmouth on A370 just north of Moorland Park.
- 5.3.72 The ExA's second round question 2.15.9 asked for traffic volumes on selected haul roads. The information was provided by the Applicant in Table 2.15.9 [Doc 8.18.1] and states that the Peak Daily Two-way traffic movements for this haul road would be 79 in total, 23 of which would be HGVs. The duration of the use would be 35 months. In addition, an appreciable period would be required in order to construct the haul road to the south and then on completion of the works, to dismantle the haul road.

- 5.3.73 Considerable discussion has taken place on the two main issues concerned with construction access. These are the bellmouth giving access to the haul road; and the close proximity of the haul road to the properties and the resulting effects during construction. The bellmouth has now been repositioned directly onto the A370 and agreement has been reached with the highway authority on this matter.
- 5.3.74 Referring to the post-DCO hearing request for specific menu of mitigation measures, this property was included in the list of Example Locations of Enhanced Mitigation at Appendix A to the Applicant's Response [Doc 8.38.2.2]
- 5.3.75 The significance of effect during construction was rated by the Applicant as moderate adverse. The Panel accepts that this rating has been formulated using a standard technique but feels that the end assessment may not fully represent the effects of a prolonged period of haul road traffic movements in near proximity to Moorland Park.
- 5.3.76 Apart from the general mitigation measures described in the CEMP, Doc 8.38.2.2 states that specific mitigation of visual effects proposed during construction at this location would be fencing to the eastern boundary of Moorland Park (or installed along haul route) and advance OSPES planting. These are to be discussed with the property owner.
- 5.3.77 The property is also listed in Table 3.1 and para 3.1.11 of the CEMP, [Doc 5.26.1C] as being suitable for enhanced mitigation in the form of fencing. This alone however may not be sufficient to provide the necessary mitigation.
- 5.3.78 There are further explanations of proposed mitigation in Doc 8.43 and there is a detailed drawing that shows mitigation proposals [Doc 8.43.2]. Having reviewed the submitted drawing, [Doc 8.43.2] the Panel considers that to secure fully comprehensive mitigation measures, it is necessary to introduce a DCO requirement for the submission, approval and implementation of a site specific mitigation scheme related to Moorland Park.

Nailsea

Engine Lane and W route underground cable

- 5.3.79 The ExA's Q15.94 addressed the routing of underground cables. The response explained that once the cable construction works enter the highways along Blackfriars Road, Hannah More Road, Queens Road and Hanham Way, appropriate Temporary Traffic Management Procedures would be put in place in accordance with the CTMP agreed with local authorities.
- 5.3.80 Although the undergrounding would cause interference to traffic and other activities in the existing road network, the Panel is satisfied that this is a common feature of similar developments and is the best

practical arrangement in order to remove the existing 132kV overhead line that passes adjacent to and through a nearby housing area.

Hanham Way and the Causeway

- 5.3.81 Near the junction between Hanham Way and the Causeway, a complex cluster of bellmouths is proposed, giving access to haul roads that serve the construction works to the north and west of the junction. In the response to Q15.89 [Doc 8.1.3] the Applicant explained the purposes of the access routes.
- 5.3.82 Although there will be some interference to local traffic during construction, the Panel is satisfied that the arrangement is the best practical under the site circumstances and having regard to the overall need for the scheme. We are mindful also of the local benefits including the removal of the 132kV line that is currently routed directly behind the house boundaries on Causeway View and Godwin Drive as well as the second 132kV overhead line that is routed through the fields here.

Cadbury Camp Lane

General concerns

- 5.3.83 The submission by Mr John Miles, [REP6-006] refers to concerns about adverse effect on air quality due to construction traffic etc., dust from proposed tunnelling and the access road up the valley.
- 5.3.84 There are three receptors on Cadbury Camp Lane that conceivably might be affected by the works. Working from east to west these are E1.H27 E1.H28 and E1.H29. Property E1.H28 is discussed below.
- 5.3.85 The first property, E1.H27, is on the south side of the junction of Cadbury Camp Lane with Whitehouse Lane and Cuckoo Lane. It is listed in the Example Locations of Enhanced Mitigation at Appendix A to the Applicant's Response [Doc 8.38.2.2] and also in Table 3.1 in the CEMP, as a location suitable for enhanced mitigation in the form of fencing. It is noted that possible garden screen fencing and planting should be discussed with the landowner.
- 5.3.86 The provisions of the CEMP and the DCO specify that no stage of the proposed development may take place until details of all fencing and enclosure for that stage have been approved by the relevant planning authority. As the fencing of works in this location would have to be approved in this way, the Panel is satisfied that this receptor has been adequately dealt with.
- 5.3.87 Receptor E1.H29 is also on the south side of the lane but further west and includes two properties. This receptor is some way from the Order limits and has not been identified as having other than minor impacts from the works.

Spindlewood

- 5.3.88 This property (E1.H28) is not shown on the Construction Drawings [Doc 5.3.3.2 Figure 3.3.37,]. It is shown on the submitted Access and Rights of Way Plans [Doc 4.4.6 sheet 2] and in the plans of visual receptors [Doc 5.7.3.1, Figure 7.2.16]. Spindlewood is also referenced in ES Visual Effects and its plan position is shown [Doc 5.7.1.2 insets 7.148 and 7.158].
- 5.3.89 The Property is on the south side of Cadbury Camp Lane immediately to the west of the Order limit which passes through its garden. The topography falls away to the south and west. A Horizontal Directional Drilling (HDD) pit is planned just outside the southern boundary and the drilled underground lines will trend in a north-east direction, crossing under Cadbury Camp Lane and two utility lines [Doc 8.21.4 and Doc 8.13.5.2].
- 5.3.90 As indicated above, the plans in both documents show that the Order limits graze the side of the building and the outline of the HDD swathe passes under the garden of the property but not under the building itself. The building is approximately 32 metres from the HDD area (measured horizontally at ground level), and it is approximately 14 metres from the construction swathe [Doc 8.13.5.2].
- 5.3.91 The owner, Mr Cole has objected to the siting of the nearest pylon LD 87, and is concerned about the loss in value of his property. He has not complained about construction access matters [RR-095, EV-001]. Mr Cole made an oral presentation to the OFH at Nailsea Methodist Church and followed this up at the ISH on Traffic Transport issues. At the latter meeting, Mr Cole suggested that the line of the drilling shown on the plans displayed at the hearing appeared to run under the garage of the property.
- 5.3.92 The Panel was concerned that the construction activities at the HDD drive pit to the south of the property might have an adverse impact on the residents in terms of visual, noise and air quality effects.
- 5.3.93 In response to the ExA's second round question Q2.7.10, on amenity assessments for groups of five dwellings or less, the receptor (E1.H28), was listed under Appendix 2A of Appendix 2.7.10.1 [Doc 8.18.2.1], Residential Receptors with Material Construction and Operational Effects. In conclusion, the assessment considered that there would be moderate adverse effects on views and minor noise effects during construction. Consequently the overall amenity effect in construction would be minor to moderate adverse.
- 5.3.94 The property is not listed as being likely to experience material effects during construction in Table 2B of Appendix 2.7.10.1 [Doc 8.18.2.1] and is not listed in the Example Locations of Enhanced Mitigation at Appendix A to the Applicant's Response [Doc 8.38.2.2].
- 5.3.95 The Panel considers that Spindlewood should be provided with comprehensive mitigation measures secured by a DCO requirement for

the submission, approval and implementation of a site specific mitigation scheme related to Spindlewood.

Cadbury Camp Lane: Summary of Panel findings on Construction Effects

5.3.96 In summary, the Panel is content that:

- (a) The provisions of CEMP in relation to suitable fencing to be approved by the local planning authority, deals with any concerns regarding E1.H27.
- (b) The recommended DCO provides for a site specific mitigation plan for H1.H28, Spindlewood.
- (c) The assessment of potential construction stage impacts on receptor E1.H29 is adequate.
- (d) There would not be any appreciable impact from dust and noise on the living conditions of other residents of Cadbury Camp Lane.

Construction access matters requiring further consideration

Factory Lane and Riverview Farm

5.3.97 There are two issues here:

- (a) Firstly, as indicated above, it is proposed to gain access to the haul road network by using the surfaced public road known as Factory Lane between Church Lane B3141, and Hackmead Lane. This includes improvement to the junction of Factory Lane and Church Lane.
- (b) Secondly, East of the junction with Hackmead Lane, it is intended to use the existing unsurfaced road, that is an extension of Factory Lane, as a means of connecting to the site Haul Roads. This unsurfaced road, is described as a dismantled railway on the Construction Drawings [Doc 5.3.3.2 Figure 3.3.10]. It passes immediately in front of Riverview Farm and would become one the main strategic haul roads serving the proposed development all the way northwards to the A38 at Tarnock.

5.3.98 The first issue, the use of Factory Lane and its junction with the LRN at Church Lane, has been agreed with the highway authority and is discussed under Section 5.13 that deals with Traffic and Transportation and Public Rights of Way. We deal below with the second issue, the unsurfaced track east of Hackmead Lane passing in front of Riverview Farm.

Application Documents

- 5.3.99 In the Construction Drawings, [Fig 3.3.10 of Fig 3.3¹⁵ of Doc 5.3.3.2] Riverview Farm is not shown. Similarly the farm is not shown on the Access and Rights of Way plans [Doc 4.4.3A, Sheets 3 and 4].
- 5.3.100 Based on the Panel's ASI of 15 April 2015, the house at Riverview Farm lies just south of the unsurfaced road, which broadens slightly here. The house is practically opposite a barn and animal housing that front directly on to the existing roadway. There appears to be, therefore, a need to cross the road and gain frequent access from the house, to feed and tend to the animals.
- 5.3.101 Although the house is not shown on the construction drawings, a building is identified here as B1.H32 in the listing of visual receptors [Doc 5.7.3.1 Figure 7.2.3]. Its visual impacts are listed in Doc 5.7.2.1, Appendix 7B.

Representations

- 5.3.102 Mrs Wall's WR [REP2-110] expressed concern about using her drive to access the haul road. It drew attention to the proximity of the house and expressed concerns about the health and safety effect, impact on the farm, noise, dust and pollution.
- 5.3.103 Mr Wall's submission [REP7-086] stated:

"The proposed Haul Road will mean traffic passing by up to 14 hours per day. In addition our entry/exit to Factory Lane will at all times be controlled by traffic lights at each end of the track from Factory Lane to the old Railway Line; this will be a real problem to the on-site farming activities plus both vehicle and livestock on their journey to and from other lands farmed nearby.

I am also very concerned as to the restriction of movement and safety of my children who to and fro to Bason Bridge as pedestrians, cyclists and horse riders with their friends visiting likewise."

Volume of construction traffic

- 5.3.104 The ExA's second round question 2.15.9 asked for traffic volumes on selected haul roads. The information was provided by the Applicant in Table 2.15.9 [Doc 8.18.1] and states that the Peak Daily Two-way traffic movements for Factory Lane would be 66 in total, 23 of which would be HGVs. The duration of the use would be 24 months.
- 5.3.105 As explained in an earlier paragraph, the Factory Lane haul road is the southern gateway to a strategic haul road that serves the whole length of overhead line route from the River Brue to the A38 at Tarnock.

¹⁵ Figure 3.3 contains 50 No A3 drawings each having individual Figure numbers from 1-50

Actions following the Highways and Transport ISH

- 5.3.106 At the ISH relating to Highways and Transport held on 28 April 2015. The ExA requested that the Applicant should undertake a 'bright ideas study' and investigate the provision of an alternative to the use of Factory Lane, East Huntspill as an access route [EV-068].
- 5.3.107 The Applicant responded [Doc 8.21.1] stating that it had met with Somerset County Council to discuss other feasible options for access which avoided the use of Factory Lane. No further alternative accesses beyond those discussed at the pre-application and post DCO submission stages were identified. The parties also reviewed all bellmouths and transport routes, including Factory Lane, and both parties remain satisfied that the accesses proposed as part of the DCO are the most appropriate.
- 5.3.108 Site Specific mitigation measures were proposed and two drawings were presented [Doc 8.21.1 figures 1 and 2]. From the drawings, it can be inferred that the farmhouse is marked as "Indicative location and size of new development". This marking, which straddles the Order limits and which practically fronts on to the existing roadway, is the curtilage of the property and not the location of the house itself. Also noted is the length of existing hedge to be removed.
- 5.3.109 The Applicant also produced at Appendix 2 [Doc 8.21.1] a table that provides detailed findings of a living conditions assessment completed for Deadline 4¹⁶. In this assessment there is an entry "Dwelling Associated with Factory Lane" which is taken to be Riverview Farm. Noise and air quality are rated as negligible and transport as moderate adverse. The overall conclusion is that during construction, minor adverse effects would result.
- 5.3.110 The Panel considers that this analysis likely understates the full impact of the proposed use of the haul road.

Site Specific Mitigation

- 5.3.111 The Applicant reported that enhanced mitigation measures have been proposed and are currently the subject of discussion with the landowner [Doc 8.21.1 figures 1 and 2 and section 5]. These are:
- Implementation of a speed limit of 5mph at Riverview Farm.
 - To use a manned escort walking in front of construction vehicles to reduce their speed to walking pace past Riverview Farm.
 - Gated/manned control entrance system at Riverview Farm.
 - Upgrade (to include resurfacing with black-top) of Factory Lane/Hackmead Lane junction and private track towards Riverview Farm.

¹⁶ The extract is from Doc 8.13.7.1 Appendix D

- Installation of traffic light system for a stretch of approximately 200m between Hack Mead Lane junction and barns on the private track towards Riverview Farm.
- Widening of private track towards Riverview Farm to provide a holding bay for waiting HGVs.
- Installation of wheel cleansing facilities at black-top/stone haul road interchange.

Actions following the DCO hearing of 6 June 2015

5.3.112 Following the DCO hearing there were two action points:

- (a) Provide detailed note on Factory Lane haul road explaining mitigation and why the decision was made to go with Factory Lane with proposed bespoke requirement to be included in the DCO.
- (b) Inform the ExA of the distance in metres between the property on Factory Lane and the haul road.

5.3.113 The Applicant responded to the first action point [Doc 8.38.3] by recapping the situation as it was prior to the hearing and stating:

"Factory Lane and Church Road are both public highways and agreement has been reached with Somerset County Council (the local highway authority) regarding the design of the road junctions. However, Riverview Farm is situated on a private track and so is not subject local highway authority approval. The private track is owned by two parties and National Grid remains in discussion with those parties regarding proposed mitigation."

and:

"As the land in question is private land and in light of the fact that National Grid remains in negotiation with the relevant landowners National Grid confirms that it will secure any necessary site specific mitigation through private agreement with the owners of Riverview Farm and not through a requirement to the DCO."

5.3.114 In response to the second question [AS-014] the distance to the front face of the property *"is approximately 10-12 metres"*.

The Panel's View

5.3.115 The Panel has taken into account:

- the strategic nature of the Factory lane haul road;
- the estimated volume of construction traffic;
- the prolonged use of the haul road for construction of the proposed development;
- extra time required for construction of the total haul road, further into the project as it is constructed northwards towards Mark;

- the likely time that the Factory Lane haul road will be required after completion of the construction works for the dismantling of the sections of haul road northwards towards Mark and beyond;
- Mr and Mrs Walls' grounds for concern;
- the proximity of the house;
- the presence of children; and
- the need to cross the haul road regularly in order to tend to animals - and particularly during morning and evening peak hours.

- 5.3.116 We consider that the additional mitigation measures, if properly secured, improve the situation but do not wholly address the substance of Mr and Mrs Walls' objections. Nevertheless, subject to great care in the execution of the mitigation measures, the Panel is satisfied that all practicable means for securing safety would have been taken.
- 5.3.117 The Applicant's Doc 8.38.3 states that any site specific mitigation should be through private agreement and not a DCO requirement. The Panel disagrees with the latter stance and considers it necessary to include within the DCO, a specific requirement designed to secure mitigation for Riverview Farm.
- 5.3.118 We believe that those measures should be secured by an addition to Requirement 6 to require the submission and approval of a Riverview Farm Traffic Management Plan. That plan will be defined, in Requirement 1, as being "*a plan for the provision of construction measures at Riverview Farm*". This is a necessary, and reasonable, requirement to secure the proposed mitigation for this property.
- 5.3.119 Thereafter, the Panel considers that:
- (a) The proposed mitigation measures, to be secured through the DCO are an improvement but do not provide a wholly satisfactory outcome for Riverview Farm.
 - (b) The provision of the alternative access mentioned by the Applicant [Doc 8.38.3] through private negotiation is not a matter that would be secured or enforced by means of the DCO. We do not therefore place reliance upon the prospect of this option being achieved.
- 5.3.120 In our view, even after mitigation, the unsatisfactory nature of this access, so very important to the successful implementation of the proposed development, represents a seriously harmful impact on the occupation and use of Riverview Farm. This issue is discussed further in the conclusions of this sub-section and in Chapter 7.

Merriedown

Owner's Concerns

- 5.3.121 Following the ISH in respect of Air Quality, Noise, Ground Conditions, Water Quality and Pollution Prevention and Flood Risk on 29 April

2015, Action Point 4 [EV-069] asked the Applicant to provide a written note outlining its consideration of alternatives and improved mitigation provisions in the location of Mrs Taylor's property (E1.H7) and in response to the other points raised by her at the hearing.

- 5.3.122 Mrs Taylor questioned the route of the underground cable and why it had changed from an earlier version, which she had accepted, to the now proposed route, which would be closer to her property. She raised concerns about the potential construction effects on her property and quality of life specifically with regard to dust, vibration and noise. She was also concerned about the potential effects of construction vehicles crossing the main road between two sharp bends with 'lots of accidents', a government oil pipeline which already crosses her property, and the hedges surrounding her property. These concerns were followed up by direct e-mails from Mrs Taylor and her agent.
- 5.3.123 Mrs Taylor's property is about 81 metres away from a haul road¹⁷ and according to the Applicant's response to the ExA's second round question Q2.15.9, the haul road will be in use for 24 months [Doc 8.18.1 Table 2.15.9]. The Peak Daily Two-way traffic movements would be 90 in total, 34 of which would be HGVs. The duration of the use would be 24 months. The Clevedon Road compound is just the other side of the haul road.
- 5.3.124 The property is also about 31 metres away from a HDD pit that serves the Clevedon Road Cable Crossing. The distances quoted are understood to be those that apply after a series of layout changes that are described below.
- 5.3.125 In answer to the ExA's second round question Q2.7.10, the effects on views during construction would be moderate adverse during construction and noise effects would be minor adverse with air quality effects being negligible. The overall amenity effects would be minor to moderate adverse during construction.

Applicant's response to ISH action point

- 5.3.126 In its response to the ISH action point [Doc 8.22.2], the Applicant referred to its written answer to Q2.16.2 [Doc 8.18.1] which explained why there was no practical alternative route. Additional mitigation was proposed through the CEMP, and through planning and design.
- 5.3.127 Some changes proposed to the construction activities may help:
- (a) The 'drill site' for the HDD under Clevedon Road and all of the necessary equipment would now be on the south side of the road, further away from the property.
 - (b) No materials would be stored at the construction compound. It would comprise welfare facilities for the workers and a security

¹⁷ Drawing No MMD-322069-C-SK-WRoute-XX-0002 attached to Doc 8.22.3

cabin only during the underground cables construction. Following completion of that phase of the works, only a security cabin would remain: at the bell mouth entrance to the haul road. The construction area would be reinstated.

- (c) The position of the haul road would be moved to take it further away from the property, placing both cable phases next to each other to the east of the haul road, thereby reducing any effects from the cables in operation. Topsoil stripped for the haul road and easement would go to the west of the haul road to provide some screening.

Enhanced mitigation

- 5.3.128 To help reduce the potential for dust yet further, the haul road would be covered in bituminous material for the first 100m from the bellmouth. In addition, as has been stated above, no materials will be stored at the compound, thereby reducing the possibility of 'dusty' materials causing a concern.

Traffic

- 5.3.129 The Applicant states that it has been in close consultation with the highway authority in respect of the positioning and design of bellmouths and the crossing of highways by the haul road. The position of the bellmouth on Mrs Taylor's property is considered to be the best place from a safety perspective.

Further enhanced mitigation

- 5.3.130 Following the ExA's request for a specific menu of mitigation measures, this property (E1.H7) was included in the list of Example Locations of Enhanced Mitigation at Appendix A to the Applicant's Response [Doc 8.38.2.2]. The overall construction effects were rated moderate adverse.
- 5.3.131 The Applicant stated that "*apart from the general mitigation measures described in the CEMP, specific mitigation of visual effects proposed during construction at this location... is possible screen fencing to [the] property boundary to be discussed with the property owner*"
- 5.3.132 There is a reference to the property in Table 3.1 of para 3.1.11 of the CEMP, [Doc 5.26.1C] which lists locations where further fencing is possible and which requires the approval of the planning authority before works commence.
- 5.3.133 Mrs Taylor also attended the DCO IS hearing of 16 June 2015 [EV-155 and Doc 8.13.13], and restated her concerns. After the hearing the Applicant was requested [EV-143] to consider whether anything could be done to mitigate the potential effects of construction at Merriedown. The Applicant responded in Document 8.38.1, stating:

"The formation of earth bunds of 1.5m high between the nearest HDD trench and underground cable trench using stripped topsoil would

provide screening, without the need for additional construction works associated with an acoustic fence which would need to be approximately 60m long to be effective. This mitigation cannot be guaranteed at this stage, however as ground investigations will need to be carried out to ensure there is enough topsoil and subsoil to create a bund of this size in this location. If, following detailed design and the ground investigation, the bund is not feasible, then an acoustic fence would be provided after discussions with Mrs Taylor".

Further representations by Mrs Taylor

- 5.3.134 Mrs Taylor made two further representations [REP4-034 and REP7-002] stating concerns about the route, the effects of the cable, the effect on property value and other matters.

Panel's view

- 5.3.135 The Panel accepts the advice of the Highway Authority concerning the placing of the bellmouth and similarly accepts that the route of the underground cable crossing of Clevedon Road is the best available.
- 5.3.136 The Panel notes the assessments made in the ES and the listing of the property in Example Locations for Enhanced Mitigation and in Table 3.1 of CEMP [Doc 5.26.1.C].
- 5.3.137 The Panel also notes and accepts the further steps proposed in mitigation by changing the proposed layout and outline design of the scheme, particularly in moving the haul road and in transferring the HDD drive pit to the south/ west of Clevedon Road and in locating the reception pit on the east side nearest to Merriedown.
- 5.3.138 The Panel considers that the best approach now would be to introduce a DCO requirement for the submission, approval and implementation of a site specific mitigation scheme related to Merriedown. On that basis, the Panel considers that the expressed concerns regarding Merriedown can be suitably mitigated.

St Anthony's Park travellers site

- 5.3.139 In February 2015 the Applicant published an additional Environmental Statement [Doc 5.31] in support of its application to change the route alignment to accommodate the requirements of Wessex Water. The new document identified a new receptor in St Anthony's Park Travellers Site.
- 5.3.140 In section 7.2 of the additional ES, the construction and decommissioning noise effects are rated as minor adverse. In conclusion, the ES states that the realignment does not affect any of the findings of the ES and the conclusions remain as stated in the submitted ES.

- 5.3.141 The property was included in the ExA's Q2.7.11 which questioned amenity ratings for a number of sites. The Applicant stated that it is confident in the assessments.
- 5.3.142 Following the ExA's request for a specific menu of mitigation measures, this property was included in the list of Example Locations of Enhanced Mitigation at Appendix A to the Applicant's Response [Doc 8.38.2.2]. The overall construction effects were rated moderate adverse and apart from the general mitigation measures described in the CEMP, specific mitigation of construction effects were proposed in the form of metal welded mesh fencing in a green finish with tarpaulin to the northern edge of the travellers site and advance OSPES planting. In common with similar sites, it is listed in Table 3.1 of the CEMP as being suitable for enhanced mitigation in the form of fencing.
- 5.3.143 Following consultation with local authorities the Applicant published a note and drawings relating to enhanced mitigation proposals for St Anthony's Park, Avonmouth and Moorland Park, Hewish [Doc 8.43]. A plan of proposals at St Anthony's Park was attached [Doc 8.43.1].
- 5.3.144 The proposals are comprehensive, showing permanent fencing to the north of the travellers site as well as temporary fencing to the overflow area. The Applicant makes the point that DCO Schedule 3, Requirement 16, requires the details of all temporary and permanent fencing to be submitted to and approved by the relevant planning authority prior to construction. This would include the type and location of such fencing.
- 5.3.145 The Joint Councils commented in detail on these proposals. The most important of the comments refers to the conflict between the Order limits and the proposals in 8.43.1:

"The Joint Councils are concerned that there appear to be contradictory statements. The DCO and Works Plan states that construction can take place anywhere within the Order limits and Document 8.43.1 which states that there is an area where above ground construction cannot take place. The Joint Councils are therefore concerned about the enforceability of the proposed mitigation at St Anthony's Park as shown on Document 8.43.1"

and

"The Joint Councils consider this would be easily resolved, either showing the 'area...which will not be used during construction for any reason' on the Works Plan, or by cross referencing the Works Plan to Document 8.43.1."

- 5.3.146 As it is now too late to amend the drawing, the Panel considers that the conflict raised by the Joint Councils should be resolved through a mechanism within the DCO. The DCO has been amended therefore to prohibit construction activities within the area shown hatched grey on the St Anthony's Park Enhanced Mitigation Plan drawing no. MMD-322-

069-C-SK-GRoute-XX –001. This drawing has been added to the plans and drawings schedule within the DCO.

5.3.147 In order to secure comprehensive enhanced mitigation for St Anthony's Park, the Panel considers that it is necessary to introduce a DCO requirement for the submission, approval and implementation of a site specific mitigation scheme. The Panel considers that the arrangements for the St Anthony's Park travellers site are now satisfactorily resolved.

PANEL'S FINAL CONCLUSIONS ON HAUL ROADS AND CONSTRUCTION ACCESS

5.3.148 The Panel considers it necessary for a specific DCO requirement to be established to secure additional mitigation for the properties listed below and requiring the submission, approval and implementation of a site specific mitigation scheme.

5.3.149 The properties are:

- Merriedown;
- Sunnysdene;
- Spindlewood;
- Moorland Park; and
- St Anthony's Park.

5.3.150 Additionally, in reviewing the choice of route options for Portbury/ Portishead; should Option B be chosen, construction access and construction activities would take place close to the Paragon Vehicle Services Ltd's Paint Plant. As explained in Section 5.15 of this Chapter, the Panel considers that this property should be included also within the additional DCO requirement referred to above.

5.3.151 In respect of Riverview Farm, we do not consider the haul road arrangements to be satisfactory even after mitigation. Careful consideration has been given to alternatives to this proposed route during the Examination. The latest assessment concludes that Factory Lane remains the most appropriate access point for the haul road north of the River Brue [Doc 8.21.1]. This matter is considered further in Section 5.13 of this report.

5.3.152 The Panel also considers that the written scheme of decommissioning, which requires approval under Requirement 34 from the relevant local authority would need to take construction access routes into consideration. We consider the necessary approvals would provide sufficient control over any impacts arising from the decommissioning works.

5.4 FLOOD RISK AND HYDROLOGY

INTRODUCTION

5.4.1 This Section deals with flood risk and hydrology but not groundwater and source protection that are dealt with in Section 5.6. Flood risk in the Portbury/ Portishead area is generally excluded and covered in Section 5.15.

The key documents

5.4.2 In addition to policy documents, that are discussed in the next subsection, the Environmental Statement's (ES) principal documents that deal with hydrology and flood risk are in Volume 5.10 of the ES and are:

- Hydrology and Water Resources [Doc 5.10.1];
- Hydrology and Water Resources Appendices [Doc 5.10.2];
- Hydrology and Water Resources Figures Doc [Doc 5.10.3].

Later in this subsection of the Panel's report, the headline document, [Doc 5.10.1], is referred to as the Hydrology Study.

5.4.3 Additionally, comprehensive flood risk assessments (FRAs) are provided in Volume 5.23:

- Flood Risk Assessment Hinkley Point C Connection Route [Doc 5.23.5.1A];
- Associated Appendices A - F [Doc 5.23.5.2.1A]; and
- Appendices G - J [Doc 5.23.5.2.2A].

The headline document [Doc 5.23.5.1A], is referred to as the Route FRA.

5.4.4 As these documents were revised (version A) in January 2015, an update table is provided for them in the Update Table for Flood Risk Assessment Route [Doc 5.23.5.3].

5.4.5 When reading these documents it is important to cross-refer to pages 37 to 42 of the Environmental Statement Consolidated Errata and Changes [Doc 5.30B.1] which lists important amendments to the details of some assessments. These amendments do not affect the overall findings and conclusions of the composite FRA.

5.4.6 The FRAs for cable sealing compounds and substations are provided separately and are dealt with below.

NATIONAL AND LOCAL POLICY

The Overarching National Policy Statement for Energy EN-1

Overview

- 5.4.7 EN-1 states in para 5.7.3 that flood risk is taken into account in the planning process, "...to avoid inappropriate development in areas at risk of flooding¹⁸, and to direct development away from areas at highest risk. Where new energy infrastructure is, exceptionally, necessary in such areas, policy aims to make it safe without increasing flood risk elsewhere and, where possible, by reducing flood risk overall".
- 5.4.8 EN-1 para 5.7.5 sets out the minimum requirements for FRAs and in para 5.7.9 guidance is given for the determination of an application for development consent. Within the list of requirements in para 5.7.9, the decision-maker should be satisfied that where relevant:
- the application is supported by an appropriate FRA;
 - the Sequential Test¹⁹ has been applied as part of site selection;
 - a sequential approach has been applied at the site level to minimise risk by directing the most vulnerable uses to areas of lowest flood risk; and
 - in flood risk areas the project is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed over the lifetime of the development.

Sequential Test and Exception Test

- 5.4.9 The Sequential Test, defined in para 5.7.13 of EN-1, provides that preference should be given to locating projects in Flood Zone 1. If there is no reasonably available site in Flood Zone 1, then projects can be located in Flood Zone 2. If there is no reasonably available site in Flood Zones 1 or 2 then nationally significant energy infrastructure projects can be located in Flood Zone 3 subject to the Exception Test.
- 5.4.10 If, following application of the Sequential Test, it is not possible, consistent with wider sustainability objectives, for the project to be located in zones of lower probability of flooding than Flood Zone 3, the Exception Test can be applied (para 5.7.14). The test provides a method of managing flood risk while still allowing necessary development to occur. The Exception Test is only appropriate for use where the Sequential Test alone cannot deliver an acceptable site, taking into account the need for energy infrastructure to remain operational during floods (para 5.7.15).

¹⁸ Areas at risk of flooding are defined as Flood Zones (FZ) in Planning Practice Guidance - Flood Risk and Coastal Change (DCLG, 7th March 2014) Zones increase in severity from FZ1 to FZ3, the latter having a high probability of river or sea flooding

¹⁹ Defined below

5.4.11 EN-1 para 5.7.16 states: *"All three elements of the test will have to be passed for development to be consented. For the Exception Test to be passed:*

- *it must be demonstrated that the project provides wider sustainability benefits to the community that outweigh flood risk;*
- *the project should be on developable, previously developed land or, if it is not on previously developed land, that there are no reasonable alternative sites on developable previously developed land subject to any exceptions set out in the technology-specific NPSs; and*
- *a FRA must demonstrate that the project will be safe, without increasing flood risk elsewhere subject to the exception below and, where possible, will reduce flood risk overall."*

5.4.12 The exception referred to in the third bullet point of para 5.7.16, is explained in para 5.7.17 as follows: *"Exceptionally, where an increase in flood risk elsewhere cannot be avoided or wholly mitigated, the [decision-maker] may grant consent if it is satisfied that the increase in present and future flood risk can be mitigated to an acceptable level and taking account of the benefits of, including the need for, nationally significant energy infrastructure.... In any such case the [decision-maker] should make clear how, in reaching its decision, it has weighed up the increased flood risk against the benefits of the project, taking account of the nature and degree of the risk, the future impacts on climate change, and advice provided by the EA and other relevant bodies".*

How national policy is addressed in the Application

5.4.13 The Planning Statement sets out how compliance with national policy has been addressed in a convenient and comprehensive table that lists all relevant NPS clauses and points the way to how each has been covered in the ES [Doc 7.1, Appendix A].

Other policy

5.4.14 'Planning Practice Guidance - Flood Risk and Coastal Change' (DCLG, 7th March 2014)²⁰ provides further detailed advice on flood risk including a detailed explanation of flood zones, the content of a FRA and other relevant matters such as the application of the Sequential and Exception Tests.

5.4.15 The Water Framework Directive 2000/60/EC is a European Union directive which commits member states to achieve good qualitative and quantitative status of all water bodies. The Water Framework Directive (WFD) requires an assessment to be made of all permanent developments that may impact the water environment.

²⁰ Accessed via National Planning Portal; NPPF and Practice Guidance Documents

Local planning policy

Overview of relevance

- 5.4.16 EN-1 states that the decision-maker may consider Development Plan Documents or other documents in the Local Development Framework both important and relevant to its decisions. In the event of a conflict between these or any other documents and an NPS, the NPS prevails for purposes of decision making given the national significance of the infrastructure (para 4.1.5).

Adherence to local planning policy

- 5.4.17 The Planning Statement [Doc 7.1] deals with local planning policy in Section 4.3 and lists the relevant local planning policy documents. A comprehensive assessment of the Proposed Development against adopted and saved local policies considered to be of relevance has been undertaken by the Applicant and is provided in Table 4.1.
- 5.4.18 The LIR [REP2-111 to REP2-116] also lists Local Policy documents in its schedule of comments under the heading of Relevant Planning Consideration Reference (NPS; Local Policy; Guidance, Local Evidence etc.). The key items identified that are relevant to Flood Risk are:
- 4.1 need for Drainage Management Plans
 - 4.3 Contribution to the mitigation of flood risk in Sedgemoor
- 5.4.19 The first point has been included within CEMP and the recommended DCO. The financial contribution is discussed below.

THE ENVIRONMENTAL STATEMENT REGARDING FLOOD RISK AND HYDROLOGY

Climate change

- 5.4.20 EN-1 (Section 4.8) requires that both the Applicant and the decision-maker consider the effects of climate change. Consideration of the effects of climate change is one of the minimum requirements of the FRA (EN-1, para 5.7.5).
- 5.4.21 The National Policy Statement for Electricity Networks Infrastructure EN-5 (para 2.4.1 and 2.4.2) states that applicants should set out the extent to which infrastructure is vulnerable and resilient to the effects of climate change.
- 5.4.22 There is a convenient overview of the effects of climate change in Section 6 of the Route FRA [Doc 5.23.5.1A]. This draws on a climate change projection model, UKCP09²¹, which is a statistical weather generator, accessible from a website which is maintained by the Met

²¹ UK Climate Projections: Briefing report. Version 2 2010 published by Defra

Office and which is fitted to 1961-1995 historical observations, and assessing future climate conditions that are consistent with climate change projections. In paragraph 6.2.6 of the Route FRA the Applicant has made an allowance for sea level changes using an “upper end estimate”²².

- 5.4.23 Allowances have been made within the Route FRA, para 6.2.6 to 6.2.11 [Doc 5.23.5.1A] for increases in flood water level for the combined influence of higher sea levels and increased fluvial flows. However, the Applicant reports in para 6.2.12 that the works associated with the transmission infrastructure are resilient to flooding, with operations unaffected by increased flood depth, duration or frequency.
- 5.4.24 According to para 6.2.13 to 6.2.15, increases in rainfall intensity due to climate change have been taken into account for the 40 year operational life of the development and a further 20% has been added to rainfall intensity values to provide for a prolonged service life.
- 5.4.25 In the operational phase of the development, there is a high probability of flooding due to the location of the proposed development route. Having taken account of the resilience of the proposed development, the impact of increased rainfall intensity is concluded by the Applicant in para 6.2.16 to be minor.
- 5.4.26 The Route FRA [Doc 5.23.5.1A para 6.3.3] gives further consideration to climate change projections based on the most extreme UKCP09 H++ scenario. This is considered by to be useful for contingency planning and would impose an additional flood height to the projected 2060 UKCP High Emissions 95% values. The additional flood depths incurred would not affect the operation of the infrastructure.

Headline hydrological study

- 5.4.27 The Hydrology Study [Doc 5.10.1], employs a standardised method of assessing the sensitivity of receptors, the magnitude of potential hydrological impacts, the effect of the works and the likelihood of occurrence. Results are expressed in a tabular form that is common to all parts of the ES. Summaries of findings are provided for the FRA that was carried out for the whole route and for four FRAs significant structures such as CSEs and substations. Flood risk from various sources is considered as well as flooding from reservoirs. The Hydrology Study provides a useful table [Doc 5.10.1 para 10.2.2 Table 10.4] which sets out clearly how the requirements of EN-1 have been met in the suite of FRA documents prepared for the proposed development.

²² Set at the 95% confidence limit established from the IPCC Panel on Climate Change (2000) Special Report on Emissions Scenarios

Outline of the whole route Flood Risk Assessment

- 5.4.28 The Flood Risk Assessment (FRA) distinguishes between the probability of an event and its consequences in terms of severity of impact. The Environmental Statement (ES) explains that flood risk is a combination of the two, so it is possible to have a high probability of flooding but a low flood risk if the structure is resilient to flooding and the consequences of flooding are low [Doc 5.23.5.1A para 3.1.4].
- 5.4.29 The Route FRA is summarised in outline in para 10.5.35 to 10.5.40 of the Hydrology Study [Doc 5.10.1] and draws on the detailed and comprehensive FRA in Section 5 of the Route FRA [Doc 5.23.5.1A]. The FRA takes each section of the route in turn and considers:
- flood risk to the project during construction;
 - potential effects of the project on flood risk elsewhere and to other receptors; and
 - operational effects - potential flood risk to and from the operation of the proposed development.
- 5.4.30 In accordance with the requirements of EN-1 (para 5.7.5) the FRA considers:
- the vulnerability of those using the proposed development including arrangements for safe access;
 - the ability of the proposed development to remain safe and operational during a worst case flood over the development's lifetime; and
 - a full range of appropriate data and information including historical information on previous events.
- 5.4.31 Within the Hydrology Study there is a WFD assessment (para 10.5.68 to 10.5.94) and a brief overview of the effects of decommissioning (para 10.10.13 to 10.10.14).

Summary of the route Flood Risk Assessment

- 5.4.32 Of the overall length of 57km, only about 35% of the proposed development length would be in Flood Zone 1. About 62% of the route would be in Flood Zone 3 where there is a 1 in 100 or greater annual probability of flooding from rivers and a 1 in 200 or greater annual probability of flooding from the sea [Doc 5.23.5.1A para 2.16.15].
- 5.4.33 More insight is provided in insets 7.1 and 7.2 of para 7.6.4 in the Route FRA [Doc 5.23.5.1A], which show that much of the route would fall within the EA designated flood warning area.
- 5.4.34 The probability that a flood would occur is greater in the operational phase than in the construction phase, because of the greater duration

of the former²³. This is not the same as saying flood risks to the proposed development are higher in the operational phase, as the structures would be resilient to inundation and the severity of the impact is low.

- 5.4.35 The overall conclusions of the FRA for the operational phase are conveniently summed up in the Route FRA, para 7.1.2 to 7.1.4, [Doc 5.23.5.1A] which states that while the proposed development may be exposed to flood hazards, the impact on the permanent works would be negligible because they have been designed to be resilient to flooding.
- 5.4.36 The permanent works would not impact on flood risk to other receptors as the influence of the works on each flood source would be negligible and no specific additional mitigation measures are proposed for the permanent works.
- 5.4.37 Decommissioning is discussed in the headline hydrology study paragraphs, 10.10.13 and 10.10.14 [Doc 5.10.1]. The works are considered likely to be of short duration and "*less invasive*". Generally impacts are predicted to be no worse than in the construction stage. Mitigation measures applied during the decommissioning phase are likely to be similar to those applicable for the construction phase. As decommissioning phase would be of shorter duration and lesser extent, the magnitude of effect of proposed decommissioning activities on the ground environment would be lower.
- 5.4.38 The highest risks to the proposed development would occur during the construction stage. This is explained in outline form in the Hydrology study paragraph 10.5.37 [Doc 5.10.1], but in order fully to understand the flood risks in construction and the consequential effects on existing receptors, there is a detailed and comprehensive assessment in Section 5 of the Route FRA [Doc 5.23.5.1A]. Consequential effects on other receptors from construction activities during significant flood events are explained in Section 5.11, Table 5.21.
- 5.4.39 The Route FRA concludes this section by stating that in the construction of the proposed development it is clear that flood mitigation would be required.

Mitigation proposed

- 5.4.40 Mitigation measures are comprehensively explained in Section 7 of the Route FRA [Doc 5.23.5.1A] which considers how the construction works might aggravate flood risk and how these effects might be minimised and managed for all aspects of the construction process.
- 5.4.41 The proposed mitigation works are set out in Section 7.2, and aim to address risk from various sources and to provide a benefit to receptors

²³ All risk assessments require consideration of the period of exposure

elsewhere as well as to the proposed development. Further details of mitigation are to be found in paragraphs 3.4.3, 3.4.6 and 3.4.11 to 3.4.18 of the CEMP [Doc 5.26.1C].

- 5.4.42 The CEMP includes a supporting Drainage Management Plan (DMP), to be prepared by the appointed contractors. Additionally, in Section 3.4, the CEMP sets out methods for dealing with surface water discharges, accumulated rainwater/ surface water and permitted discharges. Flood mitigation measures are outlined for topsoil stockpiling.
- 5.4.43 The DMP and accompanying Emergency Response Plan (ERP) for flooding events will need to be approved by the local planning authority (LPA).

Summary of construction phase flood risks after mitigation

- 5.4.44 Table 7.12 of the Route FRA [Doc 5.23.5.1A] shows the impact of the proposed construction phase on flood risk elsewhere when all necessary construction mitigation measures are implemented. Within Section B - Somerset Levels and Moors South and Section D - Somerset Levels and Moors North, and during construction, there would be a moderate risk of fluvial flooding after mitigation.
- 5.4.45 There is further discussion in Chapter 8 of the Route FRA and the last two paragraphs are reproduced below.

“Mitigation measures have therefore been identified that would minimise the impact of the construction phase works on flood risk elsewhere. In most Route Sections the proposed mitigation measures will ensure that there is a low or very low impact on nearby receptors. Only in the Somerset Levels and Moors North and South (Route Sections B and D) is the residual risk moderate (Table 8.1²⁴). This means that there remains the possibility that the works in this area could increase the flood risk locally (above the existing flood risk) that may not have occurred if the flood event occurred without the presence of the construction works.

These actions provide significant mitigation, reducing the risk as far as is reasonably practicable. Whilst the risks are not completely eliminated, the residual risk is short term, lasting only for the duration of the construction programme, anticipated to be five years (up to seven years as indicated through the FRA Sensitivity Test, Volume 5.29.2.3.”

²⁴ Comment added: this is a simplified version of Table 7.12 which is referred to above

- 5.4.46 The FRA emphasises that the affected areas are already at risk of flooding, and the potential need to evacuate in the event of a major fluvial flood already exists²⁵.
- 5.4.47 By way of illustration, and selecting information from Insets 5.4 and 5.10 of the Route FRA [Doc 5.23.5.1A], which refer to Section B and Section D respectively. In the case of Section B, by inspecting Inset 5.4 it can be seen that a considerable proportion of the route would be inundated by a 1 in 30 year flood. The situation is worse in Section D where from inspection of Inset 5.10 it can be seen that a large proportion of the route would be inundated by a 1 in 30 year flood and to a considerable depth. This supports the statement made in the FRA regarding the areas being at risk from flooding already.

Sequential Test and Exception Test

- 5.4.48 The EN-1 policy requirements for a Sequential Test and the Exception Test were explained previously. The principles of the Sequential Test and Exception Test carried out within the FRA are outlined in sections 2.16 and 2.17 of the Route FRA with full details in, Appendix A [Doc 5.23.5.2.1A].
- 5.4.49 The Sequential Test analysis in Section 7.10 of the Route FRA [Doc 5.23.5.1A] demonstrates that the overhead lines and underground cables could remain operational and safe in times of flood. Additionally, there are no other suitable routes to locate the works so as to avoid Flood Zone 3 within the context of a land connection requirement between Bridgwater and Seabank.
- 5.4.50 In carrying out the Exception Test, Section 7.10 states that the vulnerability of the works has been considered, along with the risks to users of the various assets. There are likely to be forecasts and warnings of major storm surges in advance of the need to mobilise to any locations for maintenance, allowing maintenance to be scheduled around any potential flood conditions. Following completion of the works there would be no increase in flood risk elsewhere.
- 5.4.51 Within the constraints of the nature of the works, there are no suitable previously "developed" areas that could be used for the overhead lines and underground cables. Additionally, as far as possible, the proposed route makes use of existing overhead line routes.
- 5.4.52 In the FRA, the wider sustainability benefits are considered to outweigh the flood risk, as without the proposed connection between Bridgwater and Seabank CSE there would be insufficient transmission infrastructure in the region to enable a move towards a low-carbon economy.

²⁵ As indicated previously, insets 7.1 and 7.2 of para 7.6.4 in Doc 5.23.5.1A, show that much of the route falls within the EA designated flood warning area

5.4.53 The FRA report finds that the proposed works related to the overhead lines and underground cables would meet the requirements of the Exception Test.

5.4.54 Although not explicitly stated in the FRA, the Panel infers that the Applicant relies on EN-1 para 5.7.17 for special exception regarding local increase in the risk of flooding to other receptors in the construction stage. This paragraph states:

"Exceptionally, where an increase in flood risk elsewhere cannot be avoided or wholly mitigated, the [decision-maker] may grant consent if it is satisfied that the increase in present and future flood risk can be mitigated to an acceptable level and taking account of the benefits of, including the need for, nationally significant energy infrastructure"

FRAs for major structures

5.4.55 Separate Flood Risk Assessments (FRAs) have been carried out for the following proposed sites:

- Bridgwater Tee CSE Compounds FRA [Doc 5.23.1];
- South of the Mendip Hills CSE Compound FRA, [Doc 5.23.2];
- Sandford Substation FRA [Doc 5.23.3]; and
- Seabank Substation FRA [Doc 5.23.4].

5.4.56 The FRAs follow the same principles and methodology as the FRA for the whole route.

5.4.57 In considering mitigation measures related to the individual structures, there is an overview in paragraphs 10.7.12 to 10.7.31 of the Hydrology Study [Doc 5.10.1].

5.4.58 In considering flood levels and flood defence provisions at the Bridgwater CSE compounds it is important to refer also to the paragraphs 10.7.12 to 10.7.16 of Consolidated Errata and Changes [Doc 5.30B.1] which amends some of the levels provided in the Hydrology Study.

5.4.59 Summaries of findings have been abstracted by the Panel from the individual structure FRAs and are set out in the table below.

Structure	Current Flood Zone Status	Mitigation Proposed
Bridgewater Tee Cable Sealing End Compounds	Flood Zone 3 (Defended) Within flood warning Area Additional long term risks arising out of climate change effects on flood defence measures.	Raise all water sensitive equipment to be above the design flood level to a minimum level of 7.6m AD. It is considered by the Applicant to be over conservative in this instance to design for the undefended case. The design standard is the 0.5% APE (1 in 200 annual chance) including climate change.
South of Mendip Hills CSE Compound	Flood Zone 3	Raise all water sensitive equipment above the design flood level to a minimum level of 7.2m ie above the 1 in 1000 (0.1%) annual probability event.
Sandford Substation	Flood Zone 1 Minor risk of surface water flooding at the western corner of the site	Existing ground level is above the level of the 1 in 1000 (0.1%) annual probability event. To guard against minor SW flood risk, excavate a minor drainage channel and provide a low bund.
Seabank Substation	Flood Zone 3 Very high risk of flooding from extreme tidal events	Build a perimeter flood defence wall with flood gates at the entrance. Continue with existing sump and pump provisions.

- 5.4.60 In the Sandford Substation FRA paragraphs 8.1.3 and 8.1.4, [Doc 5.23.3], the Applicant reports that for this structure the Sequential Test is satisfied. In that case an Exception Test is not required.
- 5.4.61 In the case of the three other structures, the Applicant reports that the requirements of the Sequential Test and Exception Test have been met. [Docs 5.23.1, 5.23.2, and 5.23.4].
- 5.4.62 During the Examination, and for further clarification, the Panel asked for sketch sections to be prepared showing the level of the equipment and potential flood levels. These were produced by the Applicant in its Response to the Examining Authority's First Round Written Questions [Doc 8.2.2], Appendices 5.12.1.1 to 5.12.4.1. These sketch sections do not provide new information but assist in explaining the relationship between the level of water sensitive equipment and various flood level projections.
- 5.4.63 At the ISH into air quality, noise, ground conditions, water quality and pollution prevention and flood risk, which took place on 29 April 2015 the Applicant was asked to confirm or amend the sketch sections and it confirmed that the figures are correct [Doc 8.13.6.1 para 9.20]. The Panel accepts these illustrations as being a fair representation of the potential flood levels with respect to the levels of sensitive equipment.

REPRESENTATIONS BY INTERESTED PARTIES

Joint Councils

Local Impact Report

- 5.4.64 In their joint representation²⁶, the Joint Councils stated that the detailed design of the substations and CSE compounds is subject to confirmation of detailed flood risk assessment. This was followed up in their further submission [REP2-087]. Additionally, in answer to Q5.2, Joint Councils stated that mitigation measures will require approval through the Drainage Management Plans (DMPs). In an answer to Q9.32 Joint Councils expressed their preference for directional drilling options rather than bridge crossings, which would reduce flood risks, by avoiding construction within Flood Zone 3.
- 5.4.65 In the Local Impact Report (LIR) [REP2-111], Joint Councils consider DMPs crucial to secure mitigation for potential flooding issues.
- 5.4.66 Additionally, through the LIR [REP2-111], Sedgemoor District Council requests the Applicant's contributions toward the mitigation of flood risk in Sedgemoor including the risk of coastal flooding [REP2-115, Appendix G and REP2-111 Table 4B and reference SDC 4.3]. The reasoning is based on the Bridgwater Strategic Flood Defence Tariff Supplementary Planning Document (SPD), which applies to development within Flood Zone 3 and in areas of lower risk.
- 5.4.67 Contribution levels have been set with regard to the flood risk of the area, the flood vulnerability of development types and the level of benefit that adequate flood protection brings to Bridgwater's role in accommodating sustainable development. The rationale of that tariff system indicates that essential infrastructure on the scale of the HPCC should pay a financial contribution of £100,000 towards the mitigation of flood risk. Further background information is in Appendix G of the LIR.
- 5.4.68 The Joint Councils' response to Q2.5.1 [REP5-012] states that in terms of the Parrett Barrier, Sedgemoor District Council had introduced a Community Infrastructure Levy (CIL) on the 1st April 2015. The Council's Regulation 123 List includes the Parrett Barrier as priority infrastructure and it is anticipated that CIL contributions will be broadly similar to that previously secured through the Bridgwater Strategic Flood Defence Tariff. In their view, the rationale for seeking a contribution from HPCC remains valid and necessary, as previously set out.

²⁶ <http://infrastructure.planningportal.gov.uk/wp-content/uploads/2014/08/Joint-Councils-Detailed-Representation.pdf>

- 5.4.69 In the Joint Councils' request for a supplementary s106 Agreement [REP6-009], there was a further call for a contribution towards the mitigation of flood risk in Sedgemoor in the sum of £100,000.

Updated statement of common ground between the Applicant and the Joint Councils

- 5.4.70 In the updated SoCG which was signed in June 2015, [Doc 8.3.12A] and related to flood risk, there are several unresolved or not agreed issues, or issues that are listed by the Joint Councils. These are listed below:
- (a) The Parrett Barrier contribution.
 - (b) Certain detailed construction and operation effects related to structures.
 - (c) The Joint Councils do not agree that the description of construction and operation effects for the route FRA is appropriate. The key issues are: compartmentalising of the flood plain through construction of haul roads, and the preference for water courses in the underground section to be crossed by directional drilling rather than by bridge crossing.
 - (d) Effectiveness of and process for securing appropriate mitigation.
 - (e) Regarding the structures constructed in flood risk areas, the Joint Councils agree the mitigation measures are appropriate subject to the approval of the DMP and design details.
 - (f) Operation mitigation measures related to Sandford substation are agreed as appropriate subject to approval of the DMP and design details.
 - (g) A number of construction mitigation measures for the route, including abstraction licences and discharge consents as well as culvert crossings are agreed subject to the approval of the DMP and design details.

Applicant's response to the Joint Councils

- 5.4.71 In the Applicant's comments on the Joint Councils' LIR [Doc 8.6.1, reference 4.3], it states that in the Applicant's view, the Bridgwater Tee CSE compounds have been designed to operate safely irrespective of the future flood defence works known as the Parrett Barrier. (see updated SoCG Doc 8.3.12A, para (ID) 10.5.2).
- 5.4.72 In the draft s106 Agreement offered by National Grid to Joint Councils as at 26 February 2015 [Doc 8.4], there is drafting note that deals with other claims where agreement had not been reached. This states in relation to the financial contribution that:
- (i) *"National Grid is sympathetic to the claim, but does not agree that current planning policy requires the payment of this sum by this project. National Grid is content for this difference of opinion to be determined by the Secretary of State.*
 - (ii) *However National Grid has encouraged an application to be made via National Grid's corporate and social responsibility initiative*

"Bringing Energy To Life". National Grid cannot predetermine the application, but has confirmed that under the rules of the initiative this application would have a strong chance of success. Current indications are that National Grid should not expect such an application and the matter will be left to the Secretary of State to determine as part of the DCO decision."

- 5.4.73 The Applicant's response to the ExAs Second Round Written Question, [Doc 8.18.1] Second Round Response, addressing Q2.5.1, comments in para 2.5.1.1, that all of the CSE compounds within Sedgemoor District Council's area are resilient to flooding. The respective CSE compound FRAs [Volume 5.23.1 and 5.23.2] demonstrate that the CSE compounds would not adversely affect flood risk elsewhere. Similarly in para 2.5.1.2 of its response, the Applicant refers to the Route FRA [Doc 5.23.5.1A] and states that all of the pylons would be resilient to flooding around their bases and do not impact on flood risk elsewhere.
- 5.4.74 The Applicant refers in para 2.5.1.3 to the existing Bridgwater substation stating that this is not part of the Proposed Development, although it is noted that this existing asset is integral to the overall electricity transmission network.
- 5.4.75 The Applicant further states in para 2.5.1.4, that the Proposed Development does not rely on the Parrett Barrier or other associated future flood defence works in order to function safely and in conclusion in para 2.5.1.5, the Applicant does not agree that current planning policy requires a payment towards the Parrett Barrier.

Environment Agency

Representations

- 5.4.76 In its relevant representation [RR-120], the Environment Agency (EA) says that it is essentially satisfied that the submitted FRA documentation addresses the relevant issues and is compliant EN-1 and the NPPF requirements, in respect of the assessment of flood risk and climate change adaptation.
- 5.4.77 Following a review of the ES (Water Framework Directive Assessment) [Doc 5.10.2 Appendix 10E] the EA confirms that the key elements of the proposed scheme have been screened appropriately. The EA is essentially satisfied that the draft DCO provisions, particularly the CEMP [Doc 5.26.1C] and associated documentation, incorporate appropriate pollution prevention measures to safeguard the water environment.
- 5.4.78 The EA, at that time, had certain concerns about matters pertaining to the draft DCO. These are dealt with elsewhere under DCO matters.
- 5.4.79 In response to the ExA's first written questions the Agency advised that it had no comments to make, other than those detailed in the submitted Environment Agency/ National Grid SoCG [Doc 8.3.7].

- 5.4.80 In the SoCG, the EA states that it is essentially satisfied that the submitted FRA documentation addresses the relevant issues and complies with the Overarching National Policy Statement for Energy (EN-1) and the National Planning Policy Framework requirements, in respect of the assessment of flood risk and climate change adaptation.
- 5.4.81 Additionally, in the SoCG between the Applicant and the EA [Doc 8.3.7], the EA states that it had previous concerns that the submitted FRA had not fully considered the effects on other property of the compartmentalising of the flood plain during construction. At the request of the EA, the Applicant has undertaken additional analysis of the flood risk to quantify any increase in flood depth as a consequence of the temporary works.
- 5.4.82 This additional assessment is contained within the revised Route FRA [Doc 5.23.5.1A and Doc 5.23.5.2.2A Appendix J]. In light of the additional modelling work, the EA is satisfied in principle that the temporary haul road, site compounds, and soil stockpiles would not significantly impact on local flood risks. The EA states that the parties agree that further specific mitigation measures are not required in respect of minor flood risk impacts other than those documented in the revised FRA.
- 5.4.83 In connection with the Avonmouth/ Severnside Enterprise Area and Bristol Port ISH of 19 May 2015 the EA stated [EV-097]:

"The Agency is satisfied that relevant issues have previously been addressed at earlier hearings and/or through written representations."

Information provided during hearings relevant to the Environment Agency

- 5.4.84 At the ISH of 29 April [Doc 8.13.6.1 para 9.19] the Applicant said that detailed measures related to drainage matters would be included in the Drainage Management Plans which would be developed on a site-by-site basis in discussion with the IDB²⁷ and the Environment Agency. This arrangement is secured in the CEMP.

Internal Drainage Boards/ Somerset Drainage Boards

- 5.4.85 This chapter generally describes the representations from the Internal Drainage Boards (IDBs) concerning flooding and hydrology and responses by the Applicant. Matters relating to the DCO are not discussed in this chapter to avoid duplication.

Description of the Internal Drainage Boards

- 5.4.86 A description of the IDBs and their roles is conveniently set out in the SoCG between National Grid and the IDBs (Axe Brue, Parrett and the

²⁷ The Applicant refers to SIDB which represents Somerset Internal Drainage Boards

North Somerset Levels) [Doc 8.3.8]. That information is summarised below. The IDBs that are affected are:

- The Axe Brue Internal Drainage Board (ABIDB)
- The Parrett Internal Drainage Board (PIDB)
- The North Somerset Levels Internal Drainage Board (NSLIDB)

5.4.87 The operations and affairs of the ABIDB and the PIDB are managed by the Somerset Drainage Boards Consortium (SDBC) which also provides engineering services to NSLIDB. Discussions on drainage matters have therefore been undertaken between the Applicant and the Consortium. The three IDBs are referred to as 'the IDBs'.

Representations

5.4.88 To begin with separate representations were submitted by NSLIDB and the SDBC.

5.4.89 NSLIDB submitted a representation [RR-126] which states the need for adequate clearance between the proposed development and the banks of watercourses. This point is taken up in the recommended DCO, Requirement 33.

5.4.90 Additionally:

- Crossings, access points or constructions must not adversely impact on the proper function of watercourses.
- There should be no increase in surface water runoff.
- Time is needed to consider technical issues if changes are made. Details are needed of proposed future access for maintenance.
- Where undergrounding of cables is proposed there is a need to understand the impact this may have on groundwater movements.
- Where there is unavoidable loss or damage to habitat agreement for replacement/mitigation.

5.4.91 SDBC submitted a representation [RR-149] which essentially made the same points.

Statement of Common Ground

5.4.92 In the Statement of Common Ground, [Doc 8.3.8] between the Applicant and the Internal Drainage Boards (IDBs), there are several agreed issues but there are also points of disagreement or matters which have not yet been agreed. The available version, published in February 2015, is described by the Applicant as "*Draft incorporating further IDB comments.*" There are no later versions.

5.4.93 In the SoCG [Doc 8.3.8] the IDBs have requested that:

"Any watercourse access crossing point, cabling that passes beneath any watercourse, or any other construction in, under or over any watercourse is constructed in such a way that will not adversely

impact the on the ability of the watercourse to function properly, be maintained efficiently or be improved in future."

- 5.4.94 The Applicant states that in most cases, there are no existing crossings in place. In such circumstances, the Applicant would ensure that culvert crossings match the hydraulic capacity of the existing watercourses. There is a statement of design principles in paragraph 3.1.5 of the SoCG and this is cross-referenced to standard details and a graph that provides indicative culvert sizes based on existing ditch size.
- 5.4.95 Additionally the Applicant states that Requirement 17 has been amended to make clear that the DMP referred to in Requirement 6 is approved only after consultation with the relevant drainage authority. It is understood that this addresses the IDBs' concern in respect of this matter.
- 5.4.96 The Applicant also draws attention to the mitigation measures recommended by the FRAs in relation to flood risk as set out in para 3.4.11 to 3.4.15 of the revised CEMP [Doc 5.26.1C].
- 5.4.97 The IDB's request that:
- "Any new construction will not increase the surface water runoff rate or volume of water entering the drainage network or detrimentally affect surface water distribution within the local or wider catchments. Land Drainage Consent will be required for any new connections or modifications to existing connections."*
- 5.4.98 The Applicant states in paragraph 3.2.2 of the SoCG [Doc 8.3.8] that detailed drainage proposals would be designed and agreed prior to the construction phase and detailed proposals are not available at this stage. However, several different mechanisms are in place to control drainage to ensure that neither the drainage network nor surface water distribution would be affected.
- 5.4.99 The measures referred to are listed by the Applicant in para 3.2.2 of the SoCG and the parties agree in para 3.2.3 of the provisional SoCG [Doc 8.3.8] that in principle, this approach represents an appropriate means of controlling surface water runoff and drainage, subject to the agreement of the details of proposals through the mechanisms suggested above and the Land Drainage Consent regime,
- 5.4.100 The IDBs are concerned that water tables and movement of groundwater would not be adversely affected. The Applicant states that these issues are assessed in detail in the Ground Environment and Hydrology and Water Resources chapters of the Environmental Statement [Doc 5.9.1 and 5.10.1]. These issues are reported in the relevant section of the Panel's report.
- 5.4.101 In another submission by SDBC [REP2-094] there were references to other DCO matters and also the following comment in which the SDBC require that:

"Any new construction will not increase the surface water runoff rate or volume of water entering the drainage network or detrimentally affect surface water distribution within the local or wider catchments. Land Drainage Consent will be required for any new connections or modifications to existing connections to the watercourses.

This is referred to in the SOCG but there is insufficient detail at this stage for specific solutions. However there is a commitment from National Grid to apply for the relevant consents under the Act."

- 5.4.102 There are later comments by SDBC on the draft DCO [EV-147]. These are mainly concerning DCO matters and are dealt with elsewhere in Chapter 9.

Formal agreements

- 5.4.103 In the Applicant's Position Statement in respect of the IDBs [Doc 8.34.6] the Applicant states that *"although draft agreements had been exchanged and no comments had been received on the second draft that had incorporated IDB comments, the IDB's had confirmed an "in principle" position would be available by the 6 July and that it was anticipated that an agreement would be in place before the close of the examination."*

- 5.4.104 The Applicant went on to say that further amendments had been made to CEMP in the light of IDBs' comments and that culvert specifications and clearances as set out in the SoCG [Doc 8.3.8] would be addressed in the draft agreement and it was understood that this addresses IDBs' concerns.

- 5.4.105 Regarding approval of the DMP, the Applicant stated that requirement 17 had been amended to make it clear that the DMP is approved only after consultation with the IDB.

- 5.4.106 Other matters referred to are more specifically concerned with the DCO and are dealt with in Chapter 9.

Further representations from the Internal Drainage Boards

- 5.4.107 Notwithstanding the apparent progress towards an agreement, a formal agreement between the parties was not submitted before the close of the examination. SDBC did make a final comment at the end of the examination [REP8-011] saying:

"National Grid Document 8.34.6 "Position Statement in respect of the Internal Drainage Boards" is helpful. It refers to a draft agreement that is being developed between National Grid and the 3 drainage Boards in Somerset. There is good progress as described in document 8.34.6, however the agreement is not concluded.

We therefore consider that our representations should remain in place until the conclusion of this agreement at which time both National Grid

and Ourselves will notify the Examining Authority and the Secretary of State."

Other representations

5.4.108 Representations were received from Badgworth Parish Council, [RR-002; REP2-002, REP2-003 and REP2-004], Compton Bishop Parish Council [RR-023; REP2-016], Mark Parish Council [RR-001; REP2-040], and Wraxall and Failand Parish Council [RR-055; REP2-074], drawing attention to the risk of flooding during construction and to the finished works. The concerns that were expressed included:

- The route's siting in Flood Zone 3.
- The effects of climate change.
- Influence of the pylon foundations on flood risk.
- The effects of pile driving on flood risk.
- The high water table present.
- The effect of topsoil stockpiles and the displacement of surface water from compounds and haul roads into the surrounding drainage ditches and rhynes.
- Accumulation of flood water in trenches and the possibility of this being conveyed to other areas.
- Effects of pumping and de-watering from temporary works.
- The rhynes network is not to capacity and in times of heavy rain the fields flood.
- Many of the rhynes in the area are privately owned and not all landowners carry out their riparian duties well.

5.4.109 Natural England [RR-144] requires confirmation of a strategy/ mechanism to secure and effectively deliver funds for a structure (tilting weir) to more effectively manage water levels on Tickenham, Nailsea and Kenn Moors SSSI. This is dealt with elsewhere in Section 5.2.

Applicant's responses and Panel's reasoning

5.4.110 Several of the concerns raised by the Interested Parties (IPs) are addressed by the FRAs. The specific concerns expressed by the parish councils were the subject of questions by the ExA which were answered in The Applicant's Response to Examining Authority's First Round Written Questions [Doc 8.1.1].

5.4.111 During the ISH of 29 April 2015 there was extensive discussion on these topics with the Applicant, the EA and the IDB as well as with parish councils that were present.

5.4.112 In the following paragraphs, the issues raised by IPs are taken in turn. Information provided by the Applicant in written answers, oral presentations at the ISH and in application documents is set against the individual items. In each case, the Panel's conclusions on that issue follow.

The route's siting in Flood Zone 3

- 5.4.113 The concerns about the route location raised by parish councils are answered by the contents of the FRA and specifically the Sequential and Exception Tests. The Applicant's response to the ExA's first round written question 5.4 in para 5.4.2 - 5.4.4 also assists in explaining why the route was so located [Doc 8.1.1]. The Panel considers that the Applicant has adequately answered this concern.

The effects of climate change

- 5.4.114 The effects of climate change are addressed by the FRA in accordance with EN-1. The concern is also answered by the Applicant in para 5.4.5 to 5.4.7 of its response to Q5.4 [Doc 8.1.1] in which it states that pylons are designed and built to extreme standards that incorporate predicted impacts of climate change and extreme weather and; *"The design of the propose development therefore takes account of climate change and adverse weather"*. The Panel considers that the effects of climate change have been properly taken into account.

Influence of the pylon foundations on flood risk

- 5.4.115 This concern was addressed by the Applicant in the answers 5.3.2 and 5.3.3 to the ExA's first round question Q5.3. The Applicant explained that *"the FRA concludes that there is a negligible impact from pylons on the flood risk from surface water"* and *"the Route FRA (Volume 5.23.5.1A) concludes that the influence of the pylon foundations on the groundwater flow and level would be minimal"* (para 3.9.10 to 3.9.20)
- 5.4.116 At the ISH of 29 April [Doc 8.13.6.1 para 9.2], the Applicant stated that the pylon foundations have a negligible impact on flood risk. The Panel concurs with this view.

Influence of pile-driving on flood risk

- 5.4.117 At the ISH of 29 April the Applicant's position recorded in the Written Summary of the Case put forward, is explained in para 9.7 and 9.8 [Doc 8.13.6.1]. The Applicant states that the FRA assessed the impact of piles once they were in place. In that respect, it concurred with the view expressed by the Environment Agency that the small obstruction would have a minimal impact.
- 5.4.118 And *"In terms of the flood risk effect of pile driving itself, this is related to the effect of excavations at the piling location. Water accumulating in excavations where the piling is taking place might need to be pumped out and discharged into the local system of rhynes. If the conditions were such that the water had nowhere to go, then construction would have to cease. However, construction techniques could be adopted that would minimise the amount of water accumulating in excavations."*

The Panel accepts this explanation.

The high water table present

- 5.4.119 In Document 8.1.1 (response 5.4.8 and 5.4.9) the Applicant states that before construction site surveys and investigations would be carried out to establish ground conditions throughout the route. The results would provide information on the water table and flow rates and help inform the correct foundation type and construction methods. In locations where there is a particularly high water table dewatering may be necessary. *"The technical difficulties of pile driving associated with a high water table can therefore be overcome."*

The Panel agrees that this is an appropriate approach to the potential difficulties of a local high water table.

Additional topics raised during the examination

- 5.4.120 The topics listed below were discussed at the ISH on 29 April 2015 and have similar themes so it is convenient to group them together to avoid duplication.

- The effect of topsoil stockpiles and the displacement of surface water from compounds and haul roads into the surrounding drainage ditches and rhynes.
- Accumulation of flood water in trenches and the possibility of this being conveyed to other areas.
- Effects of pumping and de-watering from temporary works.
- The rhynes network is not to capacity and in times of heavy rain the fields flood.
- Many of the rhynes in the area are privately owned and not all landowners carry out their riparian duties well.

- 5.4.121 In considering site drainage and flood events would be managed during construction, it is useful to note again that the CEMP requires that the DMP and ERP should be approved by the LPA before work commences.

- 5.4.122 Referring to the Applicant's Written Summary of case put forward orally at the ISH on air quality noise, ground conditions, water quality and pollution prevention and flood risk 29 April 2015 [Doc 8.13.6.1] the Applicant's response to the stated concerns are considered below.

- 5.4.123 Regarding the question of runoff from construction compounds when the receiving ground was saturated, the Applicant noted in para 9.3 that in conditions where the ground was saturated anyway, the rainfall would have nowhere to go in any event and as such the compounds would have no further impact. This fits in with the Applicant's comments in reported in para 9.4: *"In the event that there was too much water at an excavation site to discharge at an appropriate rate, without increasing flood risk elsewhere, then the construction operation would stop until conditions were such that water could be discharged in accordance with the DMP."*

- 5.4.124 The theme of halting construction activities when water cannot be disposed of, reiterates the explanation reported in para 9.8 related to excavation at piling locations. This is relevant to the concerns about the capacity of the existing drainage network.
- 5.4.125 Additionally, in the context of construction compounds, the Applicant stated *"Under the drainage management plans and within the consents that would be secured from the Environment Agency and relevant IDB, the discharge rate from those compounds would need to be at what was referred to as 'the greenfield runoff rate' There were various mitigation measures that would enable National Grid to manage that."*
- 5.4.126 Further to ongoing discussions with the EA, the Applicant explained, as reported in para 9.12 and 9.13, that the effects of the potential loss of flood storage volume as a result of stock piling in the flood plain and the construction of the haul road, and the potential for haul roads restricting the flow of surface water needed to be managed. The potential impacts had been considered within the FRA and after analysis, were considered to be 'negligible' and the Environment Agency, in previous correspondence, had concurred with that judgement.
- 5.4.127 Regarding the potential obstruction of surface water flows, the Applicant stated that *"in general the haul road was up to about 100mm above natural ground level. As it would cross the Levels, wherever there was a watercourse there would be a culvert to ensure there was no blockage of watercourses. At worst, the level that the water could come to in the absence of an extreme event would be the height of the haul road, which was around 100mm. Once the water exceeded this level it would then flow over the haul road."* (para 9.14)
- 5.4.128 The Applicant further stated that *"there was a range of measures within the FRA and the CEMP to mitigate the potential flood impact of haul roads (Volume 5.23.5.1A, sections 7.2 and 7.4, pages 170 to 181; Volume 5.23.5.2.2A, Appendix J)."*
- 5.4.129 The Panel considers that the Applicant has adequately answered the concerns raised by the IPs and note that the EA's position is concurrent.
- 5.4.130 In response to a query raised by the IDB, the Applicant agreed to discuss how maintenance access to watercourses could be secured for the IDB and private landowners responsible for maintaining them within the IDBs and to report back to the Examination on progress. This matter was not resolved by the end of the examination.
- 5.4.131 In response to the ExA's concern that temporary ditch arrangements along the sides of haul roads and trenches dug for undergrounding works could convey flood water along the line of the works, causing longitudinal flooding, the Applicant explained in paragraph 9.19 that: *"it would be possible to isolate various sections of the works, taking*

account of specific conditions, thereby preventing flood water flowing from one location into another. Detailed measures to be included in the Drainage Management Plans would be developed on a site-by-site basis in discussion with the SIDB and the Environment Agency."

- 5.4.132 In discussing this point, the EA referred again to the SoCG [Doc 8.3.7] and the Panel considers therefore that this concern too has been answered adequately.

SUMMARY OF THE PANEL'S FINDINGS ON THE FLOOD RISK ASSESSMENT

Requirements of the Flood Risk Assessment

- 5.4.133 The minimum requirements of a FRA are set out in EN-1 (para 5.7.5) and the Environmental Statement: Hydrology and Water Resources, [Doc 5.10.1, para 10.2.2, Table 10.4] conveniently sums up how the requirements have been met. The Panel is satisfied that the FRA as modified following additional modelling work received during the examination and referred to above [Doc 5.23.5.1A, and Doc 5.23.5.2.2A, Appendix J] is sufficiently comprehensive and appropriately assesses the risk of flooding.

Summary of Flood Risk Assessment findings

The permanent development

- 5.4.134 The modified FRA finds and the Panel agrees that:
- (a) While the proposed development may be exposed to flood hazards, the impact on the permanent works is negligible because they have been designed to be resilient to flooding.
 - (b) The permanent works would not impact on flood risk to other receptors as the influence of the works on each flood source would be negligible and no specific additional mitigation measures are proposed for the permanent works.
 - (c) The impacts of decommissioning are slight.

Flood risk during construction

- 5.4.135 The modified FRA finds and the Panel accepts that:
- (a) In the construction stage there is a risk that the proposed works might increase the flood risk to other receptors. It is clear that flood mitigation is required during construction.
 - (b) Mitigation is proposed during construction to reduce the effects of flooding on the works and on the surrounding receptors.
- 5.4.136 In some sections of the proposed development, after mitigation, there is a small additional residual risk to other receptors during construction rated in the FRA as 'Moderate' but this is reduced as far as is practical, in consideration of the site of the route which for a

majority of its length falls within Flood Zone 3 and within the Flood warning areas that have been established by the EA.

The views of the Environment Agency

5.4.137 The EA states that it is essentially satisfied that the submitted FRA documentation [Doc 5.23.1 to Docs 5.23.5] addresses the relevant issues and complies with the Overarching National Policy Statement for Energy (EN-1) and the National Planning Policy Framework requirements, in respect of the assessment of flood risk and climate change adaptation.

5.4.138 In respect of construction issues, the EA is satisfied in principle that the temporary haul road, site compounds, and soil stockpiles would not significantly impact on local flood risks. The parties agree that further specific mitigation measures are not required in respect of minor flood risk impacts other than those documented in the revised FRA.

Sequential Test and Exception Test

Sequential Test

5.4.139 The Panel finds that the Sequential Test has been carried out satisfactorily. The analysis demonstrated that the overhead lines and underground cables could remain operational and safe in times of flood. Additionally, there are no other suitable routes to locate the works so as to avoid Flood Zone 3 within the context of a connection requirement between Bridgwater and Seabank.

Exception Test

- 5.4.140 In considering the Exception Test, the Panel finds firstly, that:
- the vulnerability of the works has been considered, along with the risks to users of the various assets;
 - there are likely to be forecasts and warnings of major storm surges in advance of the need to mobilise to any locations for maintenance, allowing maintenance to be scheduled around any potential flood conditions;
 - following completion of the works there is no increase in flood risk elsewhere;
 - within the constraints of the nature of the works, there are no suitable previously "developed" areas that could be used for the overhead lines and underground cables;
 - the proposed route makes use of existing overhead line routes;
 - the wider sustainability benefits are considered to outweigh the flood risk, as without the proposed connection between Bridgwater and Seabank CSE there would be insufficient transmission infrastructure in the region to enable a move towards a low-carbon economy.

The three elements of the Exception Test

- 5.4.141 All three elements of the Exception Test have to be passed in order that the test is satisfied. Based on the preceding facts and findings, the Panel finds that the proposed development meets the first two elements of the Exception Test set out in EN-1 (para 5.7.16).
- 5.4.142 In considering the third element *"a FRA must demonstrate that the project will be safe, without increasing flood risk elsewhere subject to the exception below and, where possible, will reduce flood risk overall"*.
- 5.4.143 The exception referred to in para 5.7.16 is explained in EN-1 (para 5.7.17) as follows:
- "Exceptionally, where an increase in flood risk elsewhere cannot be avoided or wholly mitigated, the [decision-maker] may grant consent if it is satisfied that the increase in present and future flood risk can be mitigated to an acceptable level and taking account of the benefits of, including the need for, nationally significant energy infrastructure.... In any such case the [decision-maker] should make clear how, in reaching its decision, it has weighed up the increased flood risk against the benefits of the project, taking account of the nature and degree of the risk, the future impacts on climate change, and advice provided by the EA and other relevant bodies."*
- 5.4.144 In the application of para 5.7.17 and in weighing up the additional residual risk to other receptors during construction, the Panel takes into account that:
- (a) The benefits of the project have been established as explained in the Environmental Statement and mentioned in preceding paragraphs.
 - (b) The EA has said that it is satisfied that the FRA meets the requirements of EN-1 and NPPF with specific mention of construction activities.
 - (c) The future impacts of climate change have been taken into account.
 - (d) The sections that are affected by the potential additional flood risk are in any case within Flood Zone 3 and significant parts of the route are in any case subject to inundation as a result of a 1 in 30 year event.
 - (e) The additional mitigated risk to other receptors during construction is of a temporary duration.
- 5.4.145 We consider therefore that the proposed development meets the standards for exception that are set out in paragraph 5.7.17 of EN-1.
- 5.4.146 The Panel considers, therefore that the proposed development meets all three elements of the Exception Test.

Other representations

5.4.147 The Panel considers that the concerns raised by Interested Parties have been answered by the FRA documents, the Applicant's answers to written questions and evidence provided at the ISH.

Summary conclusion

5.4.148 In respect of the guidance in EN-1 para 5.7.9, we find that:

- (a) The application is supported by an appropriate FRA.
- (b) The Sequential Test has been applied.
- (c) A sequential approach has been applied insofar as that is possible for a linear route that is constrained to be located in flood risk zones.
- (d) The project is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed over the lifetime of the development.

5.4.149 In respect of the guidance in EN-1 para 5.7.16 and 5.7.17, we find that the project meets the tests for exception.

Contribution to flood defence measures

5.4.150 We have taken note of the Joint Councils' request for a Supplementary s106 Agreement [REP6-009], in which a contribution of £100,000 was asked as a contribution towards flood defence measures.

5.4.151 We have also considered the application of the CIL. Such a levy does not apply to buildings into which people do not normally go and buildings into which people go only intermittently for the purpose of inspecting or maintaining fixed plant or machinery)²⁸. The Planning Practice Guidance confirms that CIL is not payable in respect of "*structures which are not buildings, such as pylons and wind turbines*". This was acknowledged by the Joint Councils and the Applicant in the s106 agreement submitted at deadline 6.

5.4.152 The Applicant does not agree that current planning policy requires the payment of the requested sum by this project and has been consistent in this view.

5.4.153 The Panel considers that there is no justification for recommending to the Secretary of State that the Applicant should make a CIL contribution or should enter into a further s106 agreement for the purpose of making another contribution on the grounds of funding flood protection works.

²⁸ The Community Infrastructure Levy Regulations 2010, Regulation 6(2)

5.5 GOOD DESIGN

POLICY

- 5.5.1 The Overarching National Policy Statement for Energy (EN-1), states at paragraph 4.5.1 that applying "good design" to energy projects should produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible.
- 5.5.2 EN-1 continues, in the following paragraphs, by stating that good design is also a means by which many policy objectives in the NPS can be met. The decision maker needs to be satisfied that energy infrastructure developments are sustainable and, having regard to regulatory and other constraints, are as attractive, durable and adaptable as they can be, taking into account both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located) as far as possible. It also notes that the design and sensitive use of materials in any associated development such as electricity substations will assist in ensuring that such development contributes to the quality of the area.
- 5.5.3 The National Policy Statement for Electricity Networks Infrastructure (EN-5) tells us, at paragraph 2.5.2, that proposals for electricity networks infrastructure should demonstrate good design in their approach to mitigating the potential adverse impacts which can be associated with overhead lines. These include:
- biodiversity and geological conservation;
 - landscape and visual;
 - noise and vibration; and
 - electric and magnetic fields.
- These impacts and their mitigation are considered in detail elsewhere in the Panel's report.
- 5.5.4 Policy indicates, therefore, that good design in its widest sense should apply to all aspects of the proposed development.
- 5.5.5 Moreover, the Electricity Act 1989 confers a duty upon National Grid to ensure that it has regard to amenity when carrying out its undertakings. Schedule 9 states that a licence holder has a general responsibility when formulating proposals for new electric lines to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and protecting sites, buildings and objects of architectural, historic or archaeological interest. Also to do what it can to mitigate any effect which the proposals would have on natural beauty of the countryside or on any such flora, fauna, features, sites, buildings or objects.

- 5.5.6 National Grid continues to employ the Holford Rules and supplementary notes on the routing of new high voltage overhead transmission lines, which it regards as having stood the test of time since they were first formulated in 1959 [Doc 7.2, para 5.3.1-5.3.4]. Although the Holford Rules were developed for steel lattice pylons, National Grid considers them equally applicable to T-pylons. In addition, the Horlock Rules, established in 2009, set out National Grid's approach to substation siting and design [Doc 7.2, para 5.4.1 and 5.4.2].
- 5.5.7 The Design and Access Statement (DAS) sets out undergrounding policy, indicating the exceptional circumstances, because of cost and environmental and operational disadvantages, where National Grid considers undergrounding might be justified [Doc 7.2, para 5.5.1 and 5.5.2]. Consideration of undergrounding may be given in urban or rural areas exceptionally constrained because of physical or amenity factors.
- 5.5.8 EN-1, paragraph 4.5.4 notes that applicants should be able to demonstrate in their application documents how the design process was conducted and how the proposed design evolved. This is achieved in the Environmental Statement (ES) and summarised in the DAS [Doc 7.2]. Paragraph 4.5.5 of EN-1 explains that applicants should consider taking independent professional advice on the design aspects of the proposal. In particular, Design Council CABE can be asked to provide design review for nationally significant infrastructure projects. The Applicant did not take pre-application independent professional advice of the kind suggested.
- 5.5.9 At the resumed ISH on landscape and visual matters held on 23 April 2015, the Panel expressed concern over the lack of a sympathetic overall design approach in the proposed development which would match the width of policy aims set out in EN-1 and allow a holistic approach to post-consent approvals. Whilst National Grid installs and maintains its fixed equipment in a safe, standardised, secure and functionally efficient manner, historically, with one or two notable exceptions it fails to respond to the characteristics of place, in the Panel's opinion, in a way that minimises harmful intrusion or contributes to the quality of its surroundings.
- 5.5.10 As indicated in the Commission for Architecture and the Built Environment (CABE) publication, A Design-led Approach to Infrastructure, there need be no conflict between functional and aesthetic objectives. If considered together at an early stage, they can produce a fully workable, integrated, economical, imaginative, elegant, and visually appropriate solution.
- 5.5.11 At the ISH, the Panel asked the Applicant to demonstrate how EN-1 and other design policy aims would be achieved and, in the second round of written questions, invited an account of progress [PD-012, Q2.9.26]. With its response [Doc 8.18.2.1, Appendix 2.9.26.1], the Applicant produced the document, Design Approach to Site Specific

Infrastructure. This was updated [Doc 8.32] at Deadline 7 in response to points made at the resumed DCO ISH of 17 June 2015, and in response to the Joint Councils' Deadline 6 comments [REP6-017].

DESIGN IMPLICATIONS OF STRATEGIC CHOICES

- 5.5.12 The DAS sets out the development process [Doc 7.2, para 7.2.2] and the factors influencing route selection. Comment is made elsewhere on the alternative routes considered, but attention was paid by the Applicant, amongst other aspects, to ecology, landscape, visual effects, socio-economic effects and the historic environment.
- 5.5.13 The outcome was a route between Bridgwater and Seabank via Portishead, involving the removal of many existing lower voltage sections of line, and installed underground as it passes through the Mendip Hills Area of Outstanding Natural Beauty. The proposed line would comprise sections supported by traditional lattice pylons, and sections supported by the new T-pylon, the first scheme in which use of the T-pylon has been contemplated.
- 5.5.14 It would involve the installation of three CSE compounds at the interface between overhead lines and underground cables. Two single circuit CSEs would be located at the Bridgwater Tee on Horsey Level, to allow undergrounding of one of the two proposed circuits where it would have to dip under the other to allow connection to the existing line. The third, a double circuit CSE, would lie at the point of undergrounding, south of the Mendips. At their emergence north of the Mendips, the underground lines would connect directly into the Sandford substation serving the onward route of the 400kV line and local 132kV distribution.
- 5.5.15 Arising from changes to the 132kV network, modifications would also be required to existing substations at Seabank, Churchill, Avonmouth and Portishead. At Seabank and Churchill, physical extensions to the substations would also be required.

T-PYLONS

Location

- 5.5.16 The T-pylon, which would be used on some sections of the route, resulted from a competition held in 2011 to explore the potential for a new generation of pylon design [Doc 7.2, para 2.6.1-2.6.16]. Its approximate dimensions are 35m high, as against some 45m high for a 400kV lattice pylon, and an overall width including insulators of 31m, as against some 18m. It has a base diameter of approximately 2m compared to over 7m width of the lattice pylon's square base, and is not climbable therefore does not require ground level deterrent measures.
- 5.5.17 The ES contains a pylon design options report which conducts an analysis of the suitability of T-pylons as against traditional lattice pylons throughout the different sections of the route and makes

recommendations [Doc 5.2.2.6]. The report was put out to consultation and the outcome adopted for the proposed development, which differs from the report recommendations in some respects, is contained in the DAS [Doc 7.2, para 7.14.1-7.14.18].

- 5.5.18 The Panel is content with the strategy set out in the DAS, subject to recommendations concerning the siting and height of particular pylons, covered in Section 5.7 (Health, Well-being, and Electric and Magnetic Fields) and Section 5.12 (Socio-economic Matters).

Colour

- 5.5.19 Despite being one of the range of possible finishes indicated in the DAS [Doc 7.2, para 2.6.5], it emerged during the Examination that, for practical reasons, Corten self-finished steel was not a feasible option and that the T-pylons would carry a paint finish [Doc 8.39.3]. Because of the relatively large uninterrupted but confined surface they present, compared to the broken but more extensive visual form of lattice pylons, and the variety of different light and landscape situations in which they would be seen, the choice of colour is very important. It also demands careful consideration because the proposed development involves the first anticipated use of the T-pylon and the outcome could well act as a precedent.
- 5.5.20 The effects of colour were explored through first round question 9.35, the Applicant's answers [Doc 8.1.2 responses 9.35.1-9.35.17 and Doc 8.2.25 Appendix 9.35.1.1 and 9.35.2.1] and the Joint Councils' response [REP3-003]; the second round question 2.9.25, the Applicant's answers [Doc 8.18.1 response 2.9.25.1 and Doc 8.18.2.1 Appendix 2.9.25.1 and Doc 8.18.2.2 Appendix 2.9.25.2], and those of the Joint Councils [REP5-012]; the resumed landscape and visual ISH of 23 April 2015 [Doc 8.13.3.1 and EV-051]; and responses to actions arising from the DCO ISH of 17 June 2015 from the Applicant [Doc 8.39.3, 8.39.4 and 8.39.5] and from the Joint Councils [REP7-069].
- 5.5.21 The process, conducted mainly between the Applicant and the Joint Councils, Historic England being content to defer to the Joint Councils' opinion, included technical reports, alternative colour representations in photomontages, and examination at various locations on site of sample colours and finishes applied to A4 size sections of sheet steel. In addition, one of the pylons at the National Grid training centre at Eakring was painted RAL 7030 (Stone Grey) whilst the remainder stayed as RAL 7035 (Light Grey), the colour originally proposed by the Applicant. The process of colour assessment was carried out in a thorough and open manner.
- 5.5.22 The difficulties of choosing an appropriate colour revolve around the appearance of the pylon against a landscape background, where a darker shade might be more appropriate, or against sky, where a lighter shade might be more successful. Most viewpoints involve both background and sky, and there are likely to be very few, or perhaps

no, situations where a pylon can be viewed only against landscape or only against sky from all viewpoints.

- 5.5.23 These difficulties are compounded by changing light conditions, as can be seen in analogous situations with wind farm turbines. The passing of cloud can substantially alter appearance, with those masts momentarily in direct sun appearing substantially lighter than those in shade, whilst the general background of sky against which they are seen stays relatively constant in tone. Moreover, backlit structures appear dark, tending towards silhouette, irrespective of subtleties of shading.
- 5.5.24 The Joint Councils were able to narrow their consideration to two options, RAL 7038 (Agate Grey) and the slightly darker RAL 7030 (Stone Grey). At Eakring, it was clear to all parties that the original proposal of RAL 7035 (Light Grey) is too light both against the landscape and the sky. The Joint Councils were of the opinion that RAL 7030 (Stone Grey), with its warmer cast, blends relatively well into the muted tones of most landscape backdrops. However, they considered it too dark against all but very gloomy skies, especially as, generally, a larger proportion of pylons is seen against the sky than against the landscape. Therefore, the Joint Councils thought RAL 7038 (Agate Grey), with its cooler tint better suiting sky colours, and a finish of as low reflectivity as is technically possible, to be the more appropriate. The Applicant is content with this choice.
- 5.5.25 The Panel's preference is for the darker colour RAL 7030 (Stone Grey). This is because, seen against the landscape from the middle and far distance, where a lighter vertical feature such as a pylon can otherwise become a discordant focus of attention, this darker shade becomes almost totally absorbed into the landscape. Also, seen against the sky in backlit conditions, quite common for this country, it differs little from the appearance of the lighter shade, RAL 7038 (Agate Grey). Moreover, the proposed lattice pylons would follow the existing colour policy of a much darker shade of grey than either of the two principal options for T-pylons, and would generally appear in silhouette against the sky.
- 5.5.26 Nevertheless, the Panel is content to accept the Joint Councils' choice of RAL 7038 (Agate Grey) and this would be secured in Requirement 36 of the DCO. It respects the reasons given for the choice of lighter colour and acknowledges there would be many situations where this choice represents the more successful of the two options. It also agrees that a single colour should be used throughout the proposed development. Variations might appear appropriate from particular fixed viewpoints, but it is unlikely that visual containment would be such as to avoid conflict from other viewpoints. The Panel also agrees that as low reflectivity of finish as possible should be used, to avoid attracting attention from shiny or glinting surfaces.

THE DESIGN APPROACH DOCUMENT

5.5.27 The Design Approach document [Doc 8.32] explains its primary purpose as supplementing the DAS in providing a framework of design principles:

- within which National Grid will develop detailed design proposals for site specific infrastructure associated with the Hinkley C Connections Project; and
- that will inform the Joint Councils review and determination of applications for the discharge of Requirements in relation to the site specific infrastructure.

It notes that it relates to the following key site specific infrastructure:

- the proposed Sandford substation and Towerhead Brook Bridge;
- the proposed South Mendips CSE compound and River Axe cable bridge option; and
- the proposed Bridgwater Tee CSE compounds.

5.5.28 The document summarises the Applicant's interpretation of the rationale for the siting and design of the site specific infrastructure; their landscape context and receptors; gives examples of existing infrastructure, not necessarily to be emulated; examples of design innovation to aspire towards; sets out a means of achieving a general overall vision; explains the operational processes of the infrastructure; sets out design principles in terms of massing and scale, materials and textures, and design style; analyses the scope for variation in developing detailed design; sets out an approach to detailed design in various aspects of the key infrastructure; and summarises the DCO requirements and approval process.

5.5.29 The Joint Councils welcome the document, as does the Panel. However, some of the comments made in their Deadline 6 submission [REP6-017] are outstanding. The Joint Councils consider that the document should be retitled 'Design Guide' to make clearer its purpose. The Panel agrees with the Applicant that 'Design Approach', and the document's content, adequately makes clear its purpose and leaves scope for the local authorities to refine control having regard to local policy, guidance and good practice.

5.5.30 The most significant point the Joint Councils make is that the document should apply to the design of infrastructure across the entire scheme. Principally, this means the extension or modification of existing substations. Since works to all extended or modified substations are set out in Schedule 1: Authorised Development, the requirements involving approval of design aspects apply equally to these aspects. It is open to the local authorities to exercise equivalent control where appropriate, particularly with respect to buildings and boundary enclosures, and the Panel would encourage them to do so. For clarity, the Panel recommends that the definition of Design

Approach to Site Specific Infrastructure in Requirement 1 includes reference to its application to all site specific infrastructure.

- 5.5.31 In their comments, the Joint Councils also argue for the inclusion of reference to buildings being consistent with the form and finish of vernacular buildings in the local context that make a positive contribution to landscape character. The Panel endorses this aim. However, it appears to be implicit in the Design Approach document. For instance in 5: Vision, the last bullet point refers to employing locally appropriate and innovative designs for site boundaries, accesses, buildings and enclosures. Moreover, local policy, guidance, and good practice points towards such an aim, as it does towards use of appropriate paving and surfacing, and other design aspects to which the Joint Councils refer.
- 5.5.32 The Joint Councils consider that some examples of existing infrastructure shown include fencing and structures that are not necessarily sensitive to their landscape context and may not be acceptable, for example steel palisade fencing in a rural location. The Panel has taken the Examples of Existing Infrastructure section to comprise a simple statement of what is there, without endorsing its suitability. Indeed, it may provide examples to avoid. In this context, the Panel considers that exposed steel palisade or welded mesh fence, whether or not colour finished, is unlikely to be sympathetic to its surroundings.
- 5.5.33 Finally, under Design Principles, the Joint Councils argue for the inclusion of general principles for application across all infrastructure associated with the proposed development, followed by particular considerations for site specific locations. For instance, a general principle for fencing design would be that it should fulfil its intended security function while also receding into the landscape. Whilst we are sympathetic to this thought, the Panel does not consider it essential to the successful working of the document.
- 5.5.34 Moreover, under the heading of Design Principles, we observe that visual recession of boundary enclosures into the landscape may be assisted by some departure from a rectilinear layout.

LIMITS OF DEVIATION

- 5.5.35 In the Updated Statement of Common Ground between National Grid and the Joint Councils (SoCG), the Joint Councils seek to explore the consequences of movement of components of the proposed development within the limits of deviation and within the Order limits as a whole [Doc 8.3.12A, ID 5.4.1]. They point out that small variations in location may have a considerable impact for communities at a local level and suggest that mitigation for unforeseen impacts should be available through a Community Impact Mitigation (CIM) fund.

- 5.5.36 The Applicant confirms that the lateral limits of deviation apply only to overhead lines and underground cables, and in a very limited way [Doc 5.5, para 5.6.31 to 5.6.52]. The ES explains that the prediction and assessment of effects has been undertaken using the positions shown on the plans. However, the consequences of flexibility in location have been assessed and described where the receptor is likely to experience a different significance of effect to that arising from the position shown on the plans [Doc 5.5, para 5.6.87 et seq].
- 5.5.37 Substations and compounds would be built where indicated on the plans [Doc 8.32, Section 8; Doc 8.13.13, para 3.33 to 3.34]. Components which may be sited anywhere within the Order limits, such as haul roads and working areas, are defined in the ES along with the consequences of their siting at various locations within the Order limits [Doc 5.5, para 5.6.69 to 5.6.86].
- 5.5.38 In these circumstances, where the environmental consequences of movement within allowed parameters of deviation have been assessed if significant, the Panel sees no need for a CIM fund to mitigate unforeseen impacts.

CONCLUSIONS

- 5.5.39 The Panel's initial concerns, regarding the proposed development's ability to achieve the policy requirements for good design, were set out in the concluding paragraphs of the Policy introduction to this section of the report. During the Examination, a route to overcoming our concerns developed, largely through the emergence and consideration of the Design Approach document.
- 5.5.40 Given careful attention to a holistic approach, using the Design Approach document, the policy aims of good design set out in the national policy statements, the National Planning Policy Framework in its core principles and Section 7: Requiring good design, and in local policy are achievable in a rewarding manner. This includes, through design, fulfilling functional requirements, mitigating potential adverse impacts, and recognising formal and visual opportunities in such a way that the outcome is sympathetic, stimulating, and imaginative. Alongside successful use of the T-pylon, the opportunity exists for an equal step change in the confident and sensitive integration of all fixed infrastructure across the proposed development into the landscape and the visual environment.

5.6 GROUND CONDITIONS, WATER QUALITY, AND POLLUTION PREVENTION

INTRODUCTION

- 5.6.1 General ground conditions are covered in the ES report on Ground Environment [Doc 5.9.1]. The supporting documentation, including a considerable volume of Appendices and plans [Docs 5.9.2.1 to 5.9.2.24 and Doc 5.9.3], is comprehensive and the main report [Doc 5.9.1] is a summary of findings.

5.6.2 This section highlights the ground environment features that may be sources of concern and deals with these cases in detail. For convenience this section covers also water quality and pollution that arises out of ground water and spillage, including source protection. A sub-section on pylon foundations is also included and again, for convenience, there is a small subsection on pylon structures which is a logical extension of discussions on pylon foundations.

NATIONAL POLICY

The Overarching National Policy Statement for Energy EN-1

Requirements of EN-1

5.6.3 EN-1 sets out a number of requirements of the Applicant that are relevant to this Section and which are summarised below:

- 5.3.3 - ES to set out the effects on national sites of ecological or conservation importance, on protected species and habitats and on other species important to the conservation of biodiversity;
- 5.3.4 - show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests;
- 5.3.7 - avoid significant harm to biodiversity and geological conservation;
- 5.3.9 - potential SPAs to be treated as if they had already been classified;
- 5.3.18 - appropriate mitigation measures;
- 5.3.18 - activities to be confined to minimum areas;
- 5.3.18 - best practice to avoid disturbance or damage;
- 5.3.18 - habitats to be restored;
- 5.3.18 - habitats to be enhanced;
- 5.10.8 - minimise impacts on soil quality;
- 5.10.8 - consider contamination from previously developed land;
- 5.10.9 - Safeguard mineral resources
- 5.15.2 - impacts on the water environment; and
- 5.15.3 - existing characteristics of the water environment.

How National Policy is addressed in the Application

5.6.4 The Planning Statement sets out how compliance with National Policy has been addressed against all relevant NPS clauses and points the way to how each has been covered in the ES [Doc 7.1, Appendix A].

5.6.5 The ES [Doc 5.9.1] states that there are no sites of geological conservation within the order limits. The requirements of EN-1 are summarised within Table 9.4 and in the case of each requirement the compliance is described together with the supporting document references from elsewhere within the ES. Many of the requirements listed in EN-1 are covered under Habitats Regulations Assessment (HRA) and consideration of biodiversity and are discussed elsewhere in this report.

National Planning Policy Framework

- 5.6.6 NPPF paragraph 120, in summary, refers to the prevention of unacceptable risks from pollution and land instability. Development should be appropriate for its location and the effects of pollution should be taken into account. Where a site is affected by contamination or land stability issues, responsibility rests with the developer and/or landowner.
- 5.6.7 NPPF para 121 states that decisions should ensure the site is suitable for its new use taking into account ground conditions and after remediation the land should not be capable of being classified as contaminated. Also adequate site investigation is to be presented.
- 5.6.8 Section 9.2 of the Ground Environment report [Doc 5.9.1] explains how the advice has been followed in the ES which also takes account of National Legislation and general professional guidance.

LOCAL PLANNING POLICY

- 5.6.9 EN-1 states that the decision-maker may consider Development Plan Documents or other documents in the Local Development Framework both important and relevant to its decisions. In the event of a conflict between these or any other documents and an NPS, the NPS prevails for purposes of decision making given the national significance of the infrastructure (para 4.1.5).
- 5.6.10 The Planning Statement [Doc 7.1] deals with local planning policy in Section 4.3 and lists the relevant local planning policy documents in Table 4.1. We address relevant local planning issues later.

ENVIRONMENTAL STATEMENT

The geology

- 5.6.11 It is helpful to begin with a summary of the route geology. It is important to note that most of the route is located in superficial, drift geology [Fig 9.1 Doc 5.9.3]. The main features are listed below, but not in order of importance or prevalence:
- Tidal flat deposits;
 - Occasional peat;
 - Landfill;
 - Elements of mining waste;
 - Alluvium;
 - River tidal deposits; and
 - Head (glacially disturbed soil).
- 5.6.12 Several of these types of ground conditions are capable of emitting ground gases when disturbed by construction activities. There are potential hazards from landfills of various types and from past mining activities including shallow mining.

Environmental Statement methodology

5.6.13 As explained in the Ground Environment Report [Doc 5.9.1, Section 9.3], the ES follows a standardised approach:

- (a) Establish the base case.
- (b) Desk-based assessment.
- (c) Walk-over survey.
- (d) Assessment of effects.
- (e) Assessment of impact significance.

5.6.14 Thereafter, for each Section of the route, Section 9.4 of the report collates and summarises information on:

- (a) Topography
- (b) Superficial geology
- (c) Solid geology
- (d) Ground gases
- (e) Mineral sites
- (f) Ground stability
- (g) Landfill
- (h) Mining
- (i) Designated sites
- (j) Soil
- (k) Groundwater
- (l) Hydrology
- (m) Flooding
- (n) Historical context
- (o) Contaminants
- (p) Existing ground investigation data

5.6.15 Section 9.5 of the ES then describes the significance of effects of construction on the ground environment, and there is also an assessment of the operational and decommissioning effects. Mitigation is discussed in Section 9.7. Assessment of residual effects is in Section 9.8.

Environmental Statement conclusions

5.6.16 Section 9.10 of the ES concludes by stating that the proposed development would have a negligible significance of effect on the ground environment with some locations, associated with past mining or landfill, being assessed as having a minor adverse significance of effect. Operational effects are assessed as negligible and during decommissioning, the effects predicted are likely to be the same as in the construction stage [Doc 5.9.1, para 9.10.3 and 9.10.4]

Panel's conclusions on the adequacy of the Ground Environment Report

5.6.17 Subject to a few exceptions that are discussed below, we find that with the support of the CEMP, the ES Ground Environment Report demonstrates that the proposed development meets the requirements

of EN-1 and that the methodology and conclusions of the report are satisfactory.

5.6.18 Although the CEMP is not stressed in the Ground Environment Report it is a further safeguard of the ground environment and reinforcement of the proposed development, particularly in respect of the requirements for further site investigation, pollution control and the relevant supporting plans:

- Waste Management Plan;
- Biodiversity Mitigation Strategy;
- Archaeological Written Scheme of Investigation;
- Project Environmental Management Plan;
- Contractor Environmental Management Plan;
- Pollution Incident Control Plan;
- Site Waste Management Plan;
- Soil Management Plan; and
- Emergency Response Plan for Flood Events.

Ground conditions topics requiring further consideration

5.6.19 There are some topics that have been raised in representations or by the Panel in questions or at the hearings and these are discussed selectively below.

5.6.20 The Panel considers that attention should be given to the following issues.

(a) Potential hazards:

- existing landfills;
- the mining heritage;
- ground gases;

(b) Foundation characteristics:

- general concerns about foundation characteristics;
- T-pylon structure and stability;
- depth of soil cover over new foundations and partial removal of existing foundations on decommissioning;
- long term stability of underground cables.

(c) New access rights²⁹.

(d) Ground water and water resources.

(e) Ground environment aspects of the Avon crossing.

5.6.21 These topics are discussed in turn below.

²⁹ It is convenient to discuss access rights in this section as the issue was linked to the previous item in a RR

Potential hazards

Existing landfills

- 5.6.22 There are a number of landfills along the route of the proposed development and these were the subject of representations and questions by the ExA during the hearings. They are most conveniently displayed in the Appendices to the Applicant's response to first round questions [Doc 8.2.1 Appendix 1.1.1.1]
- 5.6.23 Although landfills are a potential source of contaminants, the Panel is satisfied that the effects of the potential hazards are adequately safeguarded through the requirements of CEMP [Doc 5.26.1C Section 3] and there is further protection in the provisions of Requirement 18 of the DCO.

Mining heritage

- 5.6.24 The area to the north-west of Nailsea has a mining heritage and this mining area is crossed by parts of the underground cables of the new W line. The potential instabilities from shallow mine workings, which are marked on relevant plans, were covered in the ExA's Q6.4, to 6.10. Answers were provided by the Applicant in its response to first round questions [Doc 8.1.1 and Doc 8.2.2]. The various plans provided by the Applicant are at Appendices 6.4.1.1 to 6.10.1.1 of Doc 8.2.2.
- 5.6.25 Of these plans, Sheet 1 of Appendix 6.6.1.1 shows old workings in the vicinity and the conjectured sub-crop³⁰ of several coal seams crossing the proposed underground cable trench, two of which have evidence of old workings. This conjunction brings into play the possibility of instability such as the proposed works falling into hidden open mine workings or allowing a more direct migratory path for ground gases emanating from old workings.
- 5.6.26 The Applicant states that a Coal Mining Risk Assessment, presented within the ES [Doc 5.9.2.19 and 5.9.2.20] has been completed and the conclusions and recommendations of the Coal Mining Risk Assessment highlights the potential for future intrusive ground investigation, approved by the Coal Authority, should ground conditions require it. The Applicant also states that it is within the Statements of Common Ground (SoCG) to undertake intrusive ground investigation that are in line with guidance and current best practice that assesses potential risks associated with shallow historic mining. All proposed remediation and mitigation will be presented to the local authority and others for approval prior to implementation.

³⁰ Outcrop is the term used to trace the location where a coal seam intersects the ground surface. Sub-crop is a term used to describe the sub-surface location where a coal seam intersects superficial drift deposits if they are present as is the case here

- 5.6.27 In their responses to the ExA's first round questions, the Joint Councils [REP3-003], stated that they were satisfied with the description of effects subject to satisfactory further site investigation and assessment and subject also to local authority approval of required mitigation works. This form of wording is also repeated in the SoCG [Doc 8.3.12A]. The Applicant's response in the SoCG points to the requirements of the CEMP and of Requirement 18 of the DCO.
- 5.6.28 Within the CEMP, Sections 3.3.4 to 3.3.9 prescribe a detailed approach to the investigation of potentially contaminated sites, and under the heading of Coal, [Doc 5.26.1C para 3.3.29 to 3.3.32], there is provision for seeking specialist guidance from industry standard documents for dealing with the mining heritage, and measures appropriate to the site will be incorporated into the site specific working plans. There is a warning on how to deal with exposed coal seams and provisions for briefing all construction workers via 'toolbox talks'.
- 5.6.29 The potential hazards from shallow mine workings when crossed by trench excavation were explored at the ISH ground conditions and other issues held on 29 April 2015. The Applicant explained that there was nothing particularly special about this development within this area with regard to historic coal mining. It is proposed to excavate a service trench into an existing road which will have existing services. Should historic coal mining features have been present these would have been encountered previously.
- 5.6.30 Given the provisions of the CEMP and the DCO together with the commitment to further ground investigations and the necessary approvals of the local authority, the panel is satisfied that there are safeguards in place to protect the development and the public from hazards associated with former mining activities.

Ground gases

- 5.6.31 The Panel was concerned about the potential for migration of ground gases from landfills, disturbed natural deposits and old mine workings which might present hazards to the proposed development, workers and the public. For that reason Q1.1 asked for a series of A3 plans showing the location of all landfills and other known sources of ground gases such as methane and carbon dioxide. The Applicant responded [Doc 8.1.1], referring to the ES [Doc 5.9.1] and presented the plans as requested in Appendix 1.1.1.1.[Doc 8.2.1]
- 5.6.32 This was followed up at the ISH on 29 April under the heading of air quality. The Applicant stated that Requirement 18 of the DCO obliged National Grid to prepare a written scheme to deal with ground conditions, and that this requirement should be read with Requirement 5, which secures the CEMP. The CEMP at 3.3.6 and 3.3.7 contains specific measures requiring a response to be prepared to various ground conditions.

- 5.6.33 The Applicant explained the alert levels and action levels for various ground gases and these are set out in the Applicant's written confirmation of oral evidence [Doc 8.13.6.1, para 5.4 to 5.7].
- 5.6.34 The final version the CEMP contains a provision on gas monitoring (para 3.3.33 to 3.3.37). This includes confirmation of trigger and action levels for gases that are of concern.
- 5.6.35 Given the provisions of the CEMP together with the commitment to further ground investigations, the panel is satisfied that there are safeguards in place to protect the development and the public from hazards associated with ground gases.

LOCAL PLANNING POLICY

Local planning policy and water quality

- 5.6.36 The Planning Statement lists water quality as an issue related to several relevant local planning policies. The Applicant's assessment is that during construction of the proposed development and following the adoption of mitigation measures, any adverse impacts on the hydrological environment will be minor and likely to arise as a result of interruption to ponds and land drains, predominantly within the underground sections. This topic is discussed later in this section and also in the Section dealing with flood risk.

Local planning policy and the mining heritage

- 5.6.37 The Planning Statement also raises the mining issue and particularly ground gases as an issue relevant to local planning policy. The Applicant considers that good practice mitigation measures have been identified to reduce the significance of the likely effects. The mitigation measures will be implemented on site via the CEMP. The Applicant therefore considers that the Proposed Development is in accordance with those listed planning policies.
- 5.6.38 Since the preparation of the Planning Statement, the provisions within CEMP with respect to ground gases have been further strengthened and this is discussed below.

Foundation and structural characteristics

General concerns about foundation stability

- 5.6.39 Parish Councils (Badgworth, Wraxall and Failand) express concerns about soft terrain and pylon foundations and mention that many areas have very soft and unstable ground, prone to flooding, which brings with it the potential for foundations to lift or move.
- 5.6.40 This question was also raised by the ExA in Q5.4. The Applicant responded [Doc 8.1.1 response 5.4.8] saying that before construction, ground investigation would be carried out and the results would

provide information on the water table and flow rates and guide the selection of the correct foundation type and construction method.

- 5.6.41 Badgworth Parish Council stresses the potential for instability saying that there are concerns that piling into the soils of the Somerset Levels is not fully understood. Sections of the proposed development route have loamy and sandy soils with naturally high groundwater and peaty surfaces, which may cause instability of towers.
- 5.6.42 The Bristol Port Company (BPC) express similar concerns in its WR [REP2-065, Section 14.9] in support of its objection to the use of T-pylons rather than lattice pylons. The BPC considers that the dock estate and similar coastal areas will require particular foundation solutions, which are already proven for lattice towers with their basic 4-point ground loading while the options to use a monopile or some platform supported by several piles to support a T-pylon are, as yet, not demonstrated and validated.
- 5.6.43 The Applicant's Comments on WRs addresses these concerns [Doc 8.5 para 1.3.23 to 1.3.25 and 1.7.77] saying that the concept of a single pole support structure is not new to transmission lines; or the wind turbine industry. A number of proven and well understood piling designs exist for different ground conditions, for example, the use of multiple piles linked by a 'pile cap'. The Applicant argues that this is not a novel design and would be used in this location whether a T-pylon or a lattice pylon is deployed.

Issue Specific Hearing

- 5.6.44 At the ISH of 29 April 2015, on ground conditions and other matters, the issue of T-pylon foundation stability was again raised by parish councils.
- 5.6.45 The Applicant explained [Doc 8.13.6.1 para 8.1] that site investigations to date had identified that a piled foundation solution was the most viable option given the prevailing geological conditions on the Somerset Levels and *"there was nothing novel about piling in the Somerset levels, and that the constraints on piling were therefore well understood"*. Additional site investigation would ensure full understanding of the site specific ground conditions which in turn would inform the detailed foundation design.
- 5.6.46 In their written confirmation of oral evidence presented at the ISH of 29 April on the ground engineering and other issues the Joint Councils stated [REP4-008] that they are satisfied with the approach to the engineering design process for foundations.
- 5.6.47 However, as the foundations are not yet designed because the investigation surveys and detailed design have not taken place, there remain uncertainties in the size and type of foundations needed and the scale of construction impacts.

- 5.6.48 Concerning pylons constructed on sloping ground, Joint Councils state that they are concerned at the extent to which this levelling might have to be retained for the operational phase, given that maintenance access may still be needed. This is discussed in a later paragraph.
- 5.6.49 The Joint Councils consider a CIM fund is a justified mitigation measure to address the uncertainty regarding the pylon design process. These concerns were repeated in a later representation [REP7-067].

Panel's findings on the foundation stability of T-pylons

- 5.6.50 In considering the various representations, the Panel notes the explanations that have been provided by the Applicant and we refer also to the CEMP [Doc 5.26.1.C]. We recognise also the commonplace industry standards set out by British Standards and Professional Bodies including Piling Specialists. In summary we are satisfied that the foundation stability of T-pylons can be ensured through application of the available guidance and industry standards.
- 5.6.51 Considering CIM funding in order to compensate for the uncertainty regarding the design and construction of pylon foundations, we find that the design development is not different in its process from any normal design process which generally speaking, would not have been completed at the time of planning approval. Therefore we cannot recommend a CIM fund contribution on these grounds.

T-pylon structure and stability

- 5.6.52 Several representations including that of the BPC [REP2-065] raise concerns in regard to the stability of T-pylon design. As the issue of the T-pylon's inherent stability is linked closely with foundation stability, this issue is discussed in this sub-section rather than elsewhere in the report.
- 5.6.53 In addition to concerns about the cable array footprint width, the BPC states that as T-pylons have not been used elsewhere on the Applicant's network, their suitability (including stability) and utility are entirely unproven: to use a commercial port facility as an experimental location for new technology poses significant business risks when used in a port environment.
- 5.6.54 The Applicant responded on this issue [Doc 8.5 para 1.7.73 to 1.7.75] by stating that T-pylons are a new development and like other new technologies or components, before they are incorporated onto the network, they will be subject to detailed design, development and testing which ensures that they will meet the necessary operational requirements. New components are typically stress tested and subject to detailed assessment and compliance criteria. The T-pylon will not be introduced into service until testing and compliance assessment have been completed.

5.6.55 Wraxall and Failand Parish Council also raised the issue of T-pylon structural stability in their representation [REP2-074] stating that the T-pylon is less robust than the lattice pylon and whilst most problems will be resolved in theory, the application and installation will pose major challenges. The Parish Council mentioned the point again at the 18 March 2015 OFH at Nailsea [EV-038].

5.6.56 The Applicant responded by confirming that the T-pylon design caters for extremes of weather, wind and snow loadings and has been appraised and meets the requirements of National Grid's design specifications [Doc 8.5 para 1.8.40].

The Panel's views on T-pylon structure and stability

5.6.57 The Panel accepts the explanations provided by the Applicant and we recognise also the commonplace industry standards set out by British Standards and professional bodies. In summary and notwithstanding the flood risk, the generally poor ground conditions, and the newly developed structure of the pylons, we are satisfied that the stability of T-pylons can be ensured through application of the available guidance and industry standards.

Depth of soil cover over new foundations and partial removal of existing foundations

Depth of soil cover over new pile caps and foundations

5.6.58 Mr Robert Stone [RR-057] raised concerns from his clients about the depth of soil cover to the foundations of new pylons on their land. He requested that there should be at least 900mm soil cover over the top of the new pylon foundations to allow the grass/crop to grow unhindered. This should then prevent the foundations being damaged by any underground field operations.

5.6.59 He argued that the depth currently proposed, is insufficient as:

- it is within the working depth of some agricultural machinery, e.g. subsoilers;
- soil sat on a bed of concrete will naturally waterlog during high rainfall as the non-permeable layer doesn't allow natural drainage to take place; and
- the soil will conversely dry out during hot weather as the subsoil cannot retain moisture sat on concrete.

5.6.60 A cover depth of 900mm is claimed by Mr Stone to be an accepted Industry Standard to lay pipes/cables safely underground, out of harm's way.

5.6.61 In its response to WRs, [Doc 8.5] the Applicant explained that together with WPD, it proposes to provide a minimum 600mm depth of soil cover for the foundations of the proposed new pylons. This depth of soil cover has been selected to allow typical deep ploughing or subsoiling operations to continue.

- 5.6.62 This issue was taken up also by the ExA in Q4.19. The Applicant responded [Doc 8.1.1] as follows:
- (a) There is no industry standard for the setting of overhead line foundations below ground level.
 - (b) The proposed depth of soil cover has been selected as a reasonable depth to allow typical deep ploughing or subsoiling operations. Eighteen inches (approx. 450mm) would be a typical maximum depth for deep ploughing or subsoiling. A contingency of 150mm was added to this value giving a proposed cover depth of 600mm.
- 5.6.63 The ExA also asked (Q11.16) for further details of the types of foundations that would be used for pylons and the ground investigation carried out to date. The Applicant responded with a reference back to the Project Description [Doc 5.3.3.5 Figure 3.24] and said that final foundation designs will be undertaken by the installation contractor based on a site specific borehole investigation to be undertaken at each pylon location.
- 5.6.64 A further question was raised in the second round of written questions (Q2.6.1) referring to the general foundation case for T-pylons. The Applicant was requested to confirm the soil cover and to detail the consideration that had been given to shrinkage and erosion of the soil and its ability to sustain vegetation. The question also asked for details of the special arrangements that would be made for foundations constructed on sloping terrain.
- 5.6.65 The Applicant's response [Doc 8.18.1] confirms the soil cover thickness as a minimum of 600mm and sets out the way in which the ES had assessed potential damage to the soil structure during soil stripping and reinstatement and its effect on crop yields. Reference is made also to the CEMP requirement for site specific ground investigation. Further reference is made to the Soil Management Plan (SMP), a daughter document of CEMP, and to Defra guidance.
- 5.6.66 Regarding construction on sloping ground, the response states that the minimum soil cover would be 600mm and ground investigation and topographical surveys would be carried out to design the working platform in order to balance cut and fill and also to maintain slope stability on the high side. The ground would be restored on completion. The Panel accepts this explanation and notes that it also answers the expressed concern of the Joint Councils which is referred to above.

Partial removal of existing foundations on decommissioning

- 5.6.67 In the Statement of Reasons the Applicant states that where apparatus is to be removed this will involve restoration of the land to the reasonable satisfaction of the landowner with pylon foundations being removed to a depth of one metre so as to facilitate normal agricultural activities in the future [Doc 3.1 para 6.11 and Table 3]

- 5.6.68 In their WR [REP2-065], the BPC objects to the proposal to remove foundations only to a depth of 1m. It says that justification of removal only to so as to facilitate normal agricultural activities in the future clearly cannot apply in respect of the BPC's land which is in use for port operational purposes and is held by the BPC specifically for use and/or development in connection with its statutory undertaking.
- 5.6.69 The BPC therefore contends that all pylon foundations on its land must be removed in full. Where this is impossible from an engineering perspective, the BPC might on a case by case basis agree that a lesser degree of removal might be acceptable while still preserving the ability for the land to be developed freely in the future at no additional cost.
- 5.6.70 In its response to WRs, [Doc 8.5 para 1.7.22] the Applicant notes the BPC's comments but is confident that its approach to this matter, as set out in the Statement of Reasons is both justified and appropriate.
- 5.6.71 Robert Stone on behalf of clients with existing pylons on their land [RR-056] asserts that all of the apparatus must be removed including all of the foundations as they are foreign material to the original land. If foundations are to be left behind the wayleaves/ easements will remain in place since some of the apparatus will remain in situ.
- 5.6.72 Mr Stone asks:
- How would the foundations be left and who would be responsible/liable for the foundations if the land is ever developed at any time in the future?
 - If apparatus will still be left in the ground, will an annual payment still be payable under the existing wayleave agreements?
- 5.6.73 He also says that the limited soil cover may affect the agricultural productivity of the immediate area.
- 5.6.74 In its response to WRs [Doc 8.5], the Applicant refers Mr Stone to the response it provided to the ExA's first round of written question Q3.7 [Doc 8.1.1]. This response explains why the Applicant proposes this approach.
- 5.6.75 Turning to the ExA's First Questions [PD-007]; Q3.7, 4.21 and 4.22 addressed this topic. Q3.7 asked:
- (a) Why does the Applicant only intend to remove the entire foundations in "exceptional circumstances"?
 - (b) Should the aim not be to remove the entire foundations except in exceptional circumstances?
- 5.6.76 In its answer to Q3.7 [Doc 8.1.1], the Applicant states:
- Removal to a depth of 1m enables existing agricultural or other uses to continue unimpeded.

- The practice of removing existing foundations to 1m below ground level is one that National Grid and other utility companies have adopted over many years.
- The size of the excavation would be much larger for total foundation removal and as a result full excavation would involve greater disruption to the landowner's enjoyment of the land.
- There will be no harm to the environment or land associated with leaving the foundation in situ.
- Complete foundation removal could result in greater damage and environmental effects due to the prolonged working period and size of excavation required.
- It is considerably more expensive to remove a full foundation compared to part removal.

5.6.77 Regarding Q3.7b, the Applicant and WPD consider that total foundation removal should only be in exceptional circumstances. However, the requirements of individual landowners are discussed on a case-by-case basis.

5.6.78 The topic was again raised the ExA's Second Question Q2.3.19 which questioned again the response given by the Applicant to the first round question Q3.7. The Applicant's response [Doc 8.18.1] was comprehensive and explained:

- The standard foundations are of a mass form and occupy a large area at their base.
- The combined area and volume of excavation for each pylon would be substantial and might require temporary works (typical figures are provided)
- Pile foundations would have been used on a site specific basis and their depths could be as much as 30m below ground level.
- Some piles and other foundations might require breaking-up in situ.
- The orders of cost involved for full removal vis-à-vis removal down to 1m depth are of the order of 3-15 times greater. It would be possible to accommodate the complete removal of some foundations in specific locations at the request of the landowner.

5.6.79 At Deadline 7 Mr Stone reiterated his concerns and mentioned the potential restriction on development and the remaining liability for these items [REP7-018].

5.6.80 The Applicant's cover letter to its Deadline 8 submissions [REP8-012] refers to the submissions made by Mr Stone. The Applicant points towards its answers to the ExA's first and second round questions (as referred to above).

5.6.81 Regarding Mr Stone's concern that any pylon foundations which remained in situ below a depth of 1m would be trespassing on his client's landholdings, the Applicant points to the effect of article 25(3) of the Draft DCO [Docs 2.1E] in that the continuing presence of

foundations below a depth of 1m would not give rise to a cause of action, even after the extinguishment of any wayleave.

Panel's findings in relation to the soil cover to new foundations and foundations left in situ on decommissioning

- 5.6.82 In respect of new foundations, the Panel has considered the written submissions and has also taken into account the a priori reasoning that an increase in depth cover to the pile caps would be likely to increase the cost of the works. Additionally, the area of each pile foundation is not great in comparison with the area of land available for cultivation and also bearing in mind, the considerable distance between pylons.
- 5.6.83 We are satisfied that at this stage, prior to site specific ground investigation and detailed design, the Applicant's proposals adequately address the design issues and are satisfactory.
- 5.6.84 In respect of the soil cover to residual foundation structures, following removal of the upper 1 metre of the old foundation structure, the Panel is satisfied with the answers provided by the Applicant including the answer provided to Q2.3.19. Additionally, we consider that a minimum depth of no less than 1m to the top of the residual foundations would also be needed because after demolition, there would be no above-ground structure to sign-post the fact that there could be isolated buried foundations in the fields.

Long term stability of underground cables

- 5.6.85 At the 18 March OFH at Nailsea [EV-038] Mr Stewart Plant of Tickenham Court Farm raised concerns about underground cables through peat. He considered that they should be deeply buried as other underground services had come to the surface.
- 5.6.86 The Applicant was asked to discuss this with Mr Plant and reported during the ISH of 29 April that this was ongoing [Doc 8.13.6.1 para 6.2] and later reported [Doc 8.22.5] that: "*these concerns will be addressed during the pre-construction survey works including ground investigation and then mitigated in the detail design phase of the works in both civil and cable system aspects of the works, as discussed with Mr Plant and his agent at a site meeting.*"
- 5.6.87 We accept this answer as it would be appropriate to address these points at the detailed design stage.

MAINTENANCE OF NEW ACCESS FACILITIES

- 5.6.88 It is convenient to deal here with the second part of Mr Stone's submissions [RR-057] about new pylons on his clients' land.
- 5.6.89 Mr Stone notes that the Applicant seeks to acquire access rights over third party land to gain access to its proposed pylons in certain circumstances. Therefore new access gates would need to be erected

between different landowner's land, and he would like to know who will be responsible for maintaining the access gates/culverts (if necessary). He feels the responsibility should fall on the Applicant. This point was also taken up in the ExA's Q4.19.

- 5.6.90 In response the Applicant states that where third party access rights are sought that give rise to new gateways or culverts these will be maintained by the Applicant or by WPD as appropriate. In its response to WRs [Doc 8.5] the Applicant states that in exercising its access rights on/over landholdings, it provides all landowners with information, including commitments, about the steps that would be taken to minimise disruption to landowners when entering onto land to construct, renew, inspect, maintain, repair or remove equipment.
- 5.6.91 In order to secure these provisions, a change has been made to Article 23 of the recommended DCO to provide for the maintenance of any such new means of access. This change is explained further in Chapter 9 of this report. The Panel is satisfied that the powers set out in the recommended DCO in relation to the acquisition of access rights over third party land are reasonable and the amendment made satisfactorily overcomes the concerns raised by Mr Stone. The compulsory acquisition aspects of the new rights sought are considered in Chapter 8 of this report.

GROUNDWATER AND WATER RESOURCES

Interaction with groundwater

- 5.6.92 In their joint submission, [REP2-018], Compton Bishop, Badgworth and Mark Parish Councils make a passing reference to interference with groundwater. The IDBs, in their SoCG, were concerned that water tables and movement of groundwater are not adversely affected [Doc 8.3.8 para 4.4.1]. The question was raised again by the IDBs in the ISH of 29 April.
- 5.6.93 The ExA's question Q6.3 queried about the possibility of underground cables and cable trenches, interfering with groundwater, through flow³¹ and local perched water tables asking also for examples of a number of test cases.
- 5.6.94 The Applicant responded [Doc 8.1.1 para 6.3.1 to 6.3.9] by saying that the appointed contractor would carry out further investigation to ensure that the construction would not interfere with the sub-soil drainage regime. The response referred also to the provisions of the CEMP including the DMP which, together with the SMP would also address problems arising from perched water tables and surface ponding.

³¹ Throughflow refers to the transient lateral or sub-surface flow of groundwater within a subsoil or weathered rock layer

- 5.6.95 At the ISH the Applicant confirmed that it was in discussions with the IDBs about the points raised in relation to groundwater [Doc 8.13.6.1 para 7.2]. During the discussion the EA stated that it did not see interference with ground water and through flow as an issue [EV-081].
- 5.6.96 At the 17 June DCO hearing the Applicant noted that DCO Requirement 17(1) obliged the relevant planning authority to consult the relevant drainage authority before approving a DMP [Doc 8.13.14 para 2.3].
- 5.6.97 The Panel is satisfied that the provisions of the CEMP including further investigation and the implementation of the DMP and SMP adequately address the concerns addressed in respect of interference with groundwater.

Water resources

- 5.6.98 In their joint submission, [REP2-018], Compton Bishop, Badgworth and Mark Parish Councils state that the effects on ground conditions are not adequately addressed, including: effects on aquifers; water quality and pollution prevention effects.
- 5.6.99 The EA in its RR-120 states:
- "It is noted that the submitted documentation makes no provision for any enhanced mitigation for the protection of groundwater through the Clevedon and Tickenham Source Protection Zone 1 (high vulnerability). The Agency concurs with Bristol Water's comments dated 28 January 2014,"*
- 5.6.100 The EA quoted from Bristol Water's comments:
- "The cable trench has a clear risk potential as a pollutant pathway into the aquifer, both during and post construction. We would recommend that a 150mm bentonite layer in conjunction with an impermeable geotextile membrane is used to line the base and sides of the trench. This would only be necessary where the trench is cut through the inner source protection zone. The liner would help to mitigate the impact of polluted water draining rapidly into the limestone to the well and may also reduce any potential liabilities arising from pollution in future'.*
- 5.6.101 The issue was not raised by Bristol Water plc (BW plc) in its RR-067 but in its WR [REP2-007] the company stated that it was seeking mitigation proposals in order to ensure that ground water sources would not be affected. In its later submission [REP4-019], BW plc referred to continuing discussions with the Applicant on the matter of source protection.
- 5.6.102 In answer to ExA's Q6.1 asking for a response to the RR from the EA, the Applicant states that there is no need for enhanced mitigation measures through the referenced Source Protection Zone. There is a lengthy response referring to all aspects of the scheme near to the

Source Protection Zone but in relation to the underground cables, the Applicant refers to a cross-sectional drawing [Doc 5.3.3.5 Fig 3.17] stating that the cables would be constructed from inert materials and surrounded with stone dust, above which would be natural material as backfill. The compacted fine material would not migrate into the aquifer and the trench would not be significantly more permeable than the baseline situation and therefore would not create a preferential pathway for pollutants to move along the cable trench. The Applicant also referred to the EA's satisfaction with the draft DCO provisions.

- 5.6.103 In the position statement published by the Applicant in lieu of a SoCG [Doc 8.3.14], it is explained that there is a matter not yet agreed about the backfilling of the trench. In summary, the Applicant prefers a more permeable backfilling arrangement than that suggested by BW plc.
- 5.6.104 At the ISH of 29 April the EA stated that it had changed its stance and considered it better to backfill with dust and natural ground and allow throughflow to pass across the trench.
- 5.6.105 Approaching the close of the Examination the Applicant stated that the SoCG is under negotiation [Doc 8.30 reference 3.22.208]. In its letter of 17 July 2015 [REP8-012] the Applicant further stated that: *"all terms of the proposed agreement with Bristol Water plc have now been agreed and the legal documentation is being prepared for execution on behalf of both parties."*
- 5.6.106 In the absence in evidence, of a formal agreement on source protection between the parties, the Panel has considered the evidence presented and also the views of the EA. We rely also on the provisions of the DCO in respect of further site investigation and the protection that is afforded by the supporting documents i.e. the Construction Environmental Management Plan; the Pollution Incident Control Plan; the Site Waste Management Plan; the Soil Management Plan; and the Emergency Response Plan for Flood Events. With these provisions in place and taking account of para 4.10.3 of EN-1, the Panel consider that the matter is not a bar to consenting the DCO.

GROUND ENVIRONMENT ASPECTS OF THE AVON CROSSING

- 5.6.107 The new crossing of the River Avon is a major civil engineering work and there is a potential for adverse effects on the environment. There are also hydrological and geotechnical risks in its construction. The crossing therefore requires further consideration.
- 5.6.108 There are two new lattice pylons. LD107 is on the south-west side of the Avon and LD108 is on the north-east side. [Doc 5.3.3.2, Sheet 43] Both pylons are situated above Mean High Water mark but they are both in Flood Zone 3.
- 5.6.109 The Panel notes the findings of the hydrology study that are summarised in Section 5.4 of this report and as the construction works are adjacent to banks of the river, there is undoubtedly a construction

risk that will be taken into account in the DMP. Taking into account the likely small area of the works compared with the area of the river and flood zone it is very unlikely, in our view, that the works could aggravate the existing flood risk to other nearby receptors.

- 5.6.110 There is a risk that the works might release contaminants into the river but the Panel considers that the Construction Environmental Management Plan; the Pollution Incident Control Plan; the Site Waste Management Plan; the Soil Management Plan; and the Emergency Response Plan for Flood Events will all be in place tried and tested before this important construction is undertaken.
- 5.6.111 There is a convenient pointer to the surface geology in sheet 22 of Appendix 1.1.1.1 [Doc 8.2.1]. Both pylons are located in Tidal Flats deposits. There is a reference in the Ground Environment Report to the likelihood of moderate running sand and compressible ground hazards related to the areas of the site underlain by Tidal Flat Deposits [Doc 5.9.1, para 9.4.357].
- 5.6.112 It is likely therefore, that there will be ground engineering issues to overcome in the construction of the two pylons. There are other major structures nearby, such as the two existing WPD 132kV overhead lines that are currently crossing the river, and which are supported by pylons in the vicinity of the new crossing, the tall wind turbines to the north and the very substantial M5 substructure to the east. Given that these existing structures were constructed and remain in service, and that there are in existence industry standards set out by British Standards and Professional Bodies including Piling Specialists, we find no reason to believe that the construction of the new lattice pylons could not be satisfactorily completed.
- 5.6.113 Taking these circumstances into account, the panel considers that there is no practical or environmental barrier against the construction of the crossing and we are satisfied with the adequacy of the measures in place to inform, guide and control the design and the construction works.

PANEL'S CONCLUSIONS ON GROUND CONDITIONS, WATER QUALITY, AND POLLUTION PREVENTION

- 5.6.114 We find that with the support of the CEMP, the ES Ground Environment Report demonstrates that the proposed development meets the requirements of EN-1 and that the methodology and conclusions of the report are satisfactory.
- 5.6.115 The Panel is content that the any threats to ground conditions and water quality during decommissioning would be capable of satisfactory mitigation. The Panel is also content that that the proposed development would comply with local policy.

5.7 HEALTH, WELL-BEING, AND ELECTRIC AND MAGNETIC FIELDS POLICY

- 5.7.1 The Overarching National Policy Statement for Energy (EN-1) notes in paragraphs 4.13.1 and 4.13.2 that energy production has the potential to impact on the health and well-being of the population. Where the proposed project has an effect on human beings, the ES should assess these effects for each element of the project, identifying any adverse health impacts, and identifying measures to avoid, reduce or compensate for these impacts as appropriate.
- 5.7.2 Paragraph 4.13.5 states that, generally, those aspects of energy infrastructure which are most likely to have a significant detrimental impact on health are subject to separate regulation (for example air pollution) so it is unlikely health concerns will either constitute a reason to refuse consents or require specific mitigation. However, health concerns should be taken into account when setting requirements relating to a range of impacts such as noise. Noise, air quality, and other such factors are considered elsewhere in this report.
- 5.7.3 The National Policy Statement for Electricity Networks Infrastructure (EN-5), at section 2.10, describes Electric and Magnetic Fields (EMFs), and their effects. It states that the levels of the extremely low frequency (i.e.: 50 Hz - ELF) EMFs produced by power lines in normal operation are usually considerably lower than the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines and the related EU Recommendation of 1999 adopted by the Government.
- 5.7.4 The Government has developed a Code of Practice (CoP) with the electricity industry that specifies the evidence acceptable to show compliance with the adopted ICNIRP guidelines. The Applicant has followed this CoP and the proposed development complies. There is no direct statutory provision in the planning system relating to protection from EMFs, nor to the building of power lines near residential or other occupied buildings.
- 5.7.5 However, EN-5 sets out the factors which the applicant should have considered, namely, height, position, insulation and protection (electrical or mechanical); optimal phasing wherever possible; and any new advice emerging from the Department of Health relating to Government policy for EMF exposure guidelines. It states that where it can be shown that EMF exposure is within the relevant public exposure guidelines set out in the CoP, and accords with the policy on phasing, no further mitigation should be necessary. In these circumstances, rerouting a proposed overhead line, or undergrounding it, solely to further reduce the level of EMF exposure, are unlikely to be proportionate mitigation measures.

HEALTH AND WELL-BEING

Public health

- 5.7.6 In its relevant representation [RR-028], Public Health England (PHE) states that it is satisfied with the approach taken by the Applicant in preparing the EIA and with the conclusions drawn.
- 5.7.7 PHE takes note of the ES's conclusion with regard to air quality and contaminated land to the effect that potential human health impacts arising from historically contaminated land, construction related dust emissions and air quality would have negligible to minor significance if mitigation were implemented in line with the CEMP. On the basis of the submitted information, PHE accepts that operational and regulatory controls will be adequately managed by the relevant local authorities and by the Environment Agency.
- 5.7.8 Regarding EMFs, PHE is satisfied that the principles set out in the CoPs have been followed in carrying out the EMF assessment. It notes the main conclusion that the proposed overhead lines, cables, and associated equipment are expected to meet the Government adopted exposure limits.
- 5.7.9 Overall PHE is satisfied that the proposed development's potential impacts on public health have been adequately addressed and suitable mitigation proposed. It does not intend to register any further interest in the Examination.
- 5.7.10 No Health Impact Assessment (HIA) for the project has been carried out. The Applicant's reasons are set out in its responses to a first written question [Doc 8.1.2, response 7.2.1 to 7.2.9]. There is, at present, no legal requirement for an HIA and the Panel notes the Applicant's point that it has included full information on health effects in the ES including, but not limited to, impacts associated with noise, air quality, EMFs and visual amenity. Although the Panel comments on the Applicant's analysis and presentation of impacts at particular locations, it sees no need for an HIA.
- 5.7.11 The Panel accepts that the overall health impacts of the proposed development are, or can be made, acceptable. To that extent, we are satisfied that it would comply with the health policy aspects of EN-1 and of the National Planning Policy Framework (NPPF). However, our concerns focus on the effects on the living conditions of occupants of individual dwellings or groups of dwellings, especially during construction. The effects of the proposed development on living conditions in vulnerable receptors are considered in the following subsection.

Well-being

- 5.7.12 The ES, within the volume on socio-economics and land use, defines amenity value as the enjoyment and well-being that people gain from a receptor together with its intended function [Doc 5.15.1, para

15.5.121]. It tells us that an amenity effects assessment was undertaken which considered effects arising as a result of the inter-relationship of other environmental effects which together could affect the amenity value of receptors during construction, operation and decommissioning. It considered likely amenity effects on over 100 receptors within 250m of the proposed development including:

- visitor attractions, PRow, recreational routes, tourism accommodation and recreational areas; and
- local communities, settlements and community facilities.

- 5.7.13 The process for amenity assessment is set out in the ES [Doc 5.15.1, para 15.5.122 to 15.5.125]. It relies on an in-combination assessment in which significant residual effects from landscape/visual, air quality, noise/vibration, and traffic/transport assessments were reviewed. Those significantly affected by more than one discipline were identified and scoped in, and a qualitative judgement made of their sensitivity based on their amenity value. This was considered alongside a magnitude of effect assessment, derived from that assigned in the individual disciplines.
- 5.7.14 Potential effects were then considered qualitatively, with respect to the effects on their function, on the enjoyment they offer, and on their operation as a business, resulting in a final assessment of the significance of amenity effect. There were, therefore two layers of qualitative professional judgement. Moreover, single, dominant effects which might affect amenity were excluded. The results were tabulated [Doc 5.15.1, Table 15.46]. The Panel's response to the analysis concerning recreational and tourist resources (the first bullet point above) is included in the section of the report on socio-economic matters (Section 5.12).
- 5.7.15 Turning to the effects on local communities, settlements and community facilities (the second bullet point), the principal adverse effects are recorded in the ES as occurring during construction rather than operation. This general distribution of effect appears appropriate. However, the ES assessments are based on professional judgement, with which the Panel may not agree. A finer grained, focussed assessment by the Panel of construction effects is set out in the section of the report on Construction Access and Haul Roads (5.3). Moreover, we do not find in the ES an analysis of the effects of the proposed development on individual living conditions.
- 5.7.16 First written question 7.1 [PD-007] asked whether the cumulative effects of the project on the living conditions of the occupants in the vicinity of the works, both during construction and operation, had been fully assessed. The Applicant's response [Doc 8.1.2, response 7.1.1 to 7.1.11] was that such an assessment had not been undertaken, but that National Grid believes that the potential cumulative effects of the development, in the vicinity of communities affected by the proposed development has been considered fully within the ES. It noted that the amenity assessment considered the

effects on settlements within the Local Area of Influence, but did not assess the effects on individual properties.

5.7.17 Second written question 2.7.10 [PD-012] expresses the Panel's concern that because the assessment of amenity effects on settlements is restricted to those of five or more dwellings it disregards smaller groups and single dwellings. Moreover, ES Doc 5.15.1, para 15.5.123 notes that receptors that were significantly affected by more than one discipline (landscape and visual, noise and vibration, traffic and transport, or air quality) were identified and scoped into the assessment, thereby ignoring those that might be affected very significantly by only one discipline, such as noise, or overbearing visual effect.

5.7.18 In response, the Applicant produced the following [Doc 8.18.2.1]:

- Appendix 2.7.10.1 - Amenity assessment for each receptor named by the ExA.
- Appendix 2.7.10.1 (Appendix 2) - Amenity Assessment for locations with less than 5 dwellings (3 tables).

However, the assessments retained the approach of ignoring those affected by only one discipline.

5.7.19 The Applicant justifies this approach by arguing that effects with respect to each discipline within the EIA are considered and presented in each topic chapter of the ES. It notes that the amenity assessment was undertaken to identify in-combination effects where effects from more than one discipline are anticipated to affect a single receptor within the same project phase. The Applicant maintains that to do otherwise would be to risk double-counting.

5.7.20 However, the Panel considers it important that the effect of the proposed development on living conditions is considered for all potentially vulnerable dwellings, for whatever reason, whether in combination or not. Also, the EIA assessment depends on subjective professional judgement which may not be consistent with the Panel's judgement of effects at individual locations [Doc 5.15.1, para 15.5.124].

5.7.21 Receptors which we think might be vulnerable during construction, operation, or decommissioning, some identified from representations made, are considered below:

Riverview Farm, Factory Lane

5.7.22 The issues affecting Riverview Farm are considered in the sections of the report on Construction Access and Haul Roads (Section 5.3), Traffic and Transport (Section 5.13), and Noise and Vibration (Section 5.11).

Mark

- 5.7.23 The landscape and visual issues affecting Mark are considered in the corresponding section of the report (Section 5.9). The effect on the setting of the Grade II listed Wainbridge Farmhouse is considered in the Heritage and Historic Environment section of the report (Section 5.8).
- 5.7.24 A way of moving pylon LD18 further north, reducing visual effects on the Causeway and on the setting of the listed building without changing to the visually more prominent angle pylon would involve an accompanying move eastwards [Doc 8.18.1, response to Q2.7.12]. This would take the line closer to the buildings to the east, including Court Farm. Although this would not give rise to the occupants experiencing an overbearing visual effect, their well-being would be unnecessarily harmed and is, therefore, not considered appropriate.
- 5.7.25 The Panel notes representations made by Mark Parish Council in writing [RR-001 and REP2-040] and at the OFH in Mark on 17 March 2015 [REP3-024]. These include concerns about the effect on health through proximity to the power line, about loss of tranquillity, and working hours. However, none of these points is of such weight in this case as to have an unacceptable effect on well-being. There are also concerns about loss of demand for property, but this point cannot normally be given weight. Such matters may be a reflection of loss of amenity, and may be taken into account to that extent, but not as a separate and distinct consideration, or one which has human rights implications.

Sunnydene, Northwick Road, Mark

- 5.7.26 Issues concerning disruption during construction, to this property and another on the south side of Northwick Road, are considered in the Construction Access and Haul Roads section of the report (5.3).
- 5.7.27 Regarding the proximity of the power line and the pylons, the Panel appreciates that the line would be a little closer to Sunnydene than the existing 132kV line which would be dismantled. The nearest T-pylon, whilst larger than the existing lattice pylon, would be a similar distance away. Although the overall impact of the visual effect would be greater than at present, given the distance of over 80m between the house and the nearest conductor, the effect would not be unacceptable. Also, there are unlikely to be any health issues arising from EMFs.
- 5.7.28 The inconvenience of temporary access over Sunnydene's garden for an extended period is recognised. However, mitigation, involving screening through enhanced planting and fencing, and the placing of a spoil bund alongside the haul road would help [Doc 8.22.3 and 8.38.2.2]. Although the Panel understands the frustrations involved, the effect of the proposed development on demand for the property is

not something that can be considered in the Examination, for the reasons noted above.

Tarnock Farm

- 5.7.29 Catherine Fisher and David Shepherd made several representations concerning the proposed location of T-pylon LD32, just north of the boundary to their land and close to their dwelling, Tarnock Farm [RR-017, RR-018, REP2-063, REP3-027, REP5-001, REP5-003, REP5-010, REP7-019, EV-052, EV-057]. The pylon would also lie close to neighbouring properties to the west, Tarnock Cottage and Willow Farm. Having visited the site, the Panel is of the view that the pylon would exercise an overbearing presence in its proposed position, preventing reasonable enjoyment of the land.
- 5.7.30 The Applicant produced a note, setting out various ways of moving the pylon northwards [Doc 8.13.3.2, note 3]. A further note was produced later to clarifying certain points [Doc 8.26.4]. The Applicant also made clear that agreement had been reached with landowners regarding the positioning of the pylons involved in the study, and it would be necessary to attempt to renegotiate these, or fall back on compulsory acquisition, were changes made.
- 5.7.31 The simplest solution involves raising the height of LD32, within the limits of deviation, to maintain clearance over the A38 as the pylon moves north. The next simplest is to also raise the height of LD31, the adjacent pylon south of the A38, allowing greater northward movement. More radical solutions comprise relocation of pylons within the section of the power line from LD28 to 34 (Option 1) and relocation of pylons within the section LD27 to LD34 whilst introducing an additional pylon to the south of the A38 (Option 2).
- 5.7.32 Representations were received from the landowner into whose field LD32 would go, objecting to its possible repositioning because of the effect on agricultural activities [REP4-028, REP5-016]. There were also representations from other landowners objecting to the potential relocation of other pylons [REP5-026, REP5-034, REP5-038]. The difficulties to which they allude are the effects on agricultural operations, greater proximity to residential properties, and discouragement to camp site users. These points, combined with the visual and landscape harm arising from the need for an angle pylon (Option 1) or an additional pylon (Option 2) are sufficiently substantial to rule out Options 1 and 2.
- 5.7.33 Raising the height of LD32 only, from 33.5m to 37.5m would allow the pylon to move 33m northwards. However, the Panel considers that the most appropriate solution would be to raise the height of LD31 from 36m to 40m, and LD32 from 33.5 to 36.5m, which would allow LD32 to move 40m northwards. LD32 would then be positioned away from the centre of the field. The Panel agrees with the Applicant's assessment that the ES prediction of landscape and visual effects would not change [Doc 8.13.3.2, para 1.20 and 1.23].

5.7.34 We note Badgworth Parish Council's concern that any increase in height of LD32 and LD31 would have an unacceptable visual impact on the landscape and on users of the A38 [REP6-001]. Nevertheless, although slightly higher - by some 10% - than proposed at present, LD32 would appear much smaller to the occupants of Tarnock Farm and their neighbours, because it would be much further away. It would also appear less dominant to other receptors associated with Tarnock and Rooks Bridge and to users of the A38. LD31 is sufficiently far from residential properties and from the main road for the increased height to be acceptable.

5.7.35 An amendment to DCO Article 5 (Limits of deviation) will be recommended to secure the adjustments described.

Moorland Park

5.7.36 The issues affecting Moorland Park traveller's site are considered in the sections of the report on Construction Access and Haul Roads (Section 5.3), Traffic and Transport (Section 5.13), and in the subsection below on Electric and Magnetic Fields.

West Nailsea

5.7.37 The issues affecting West Nailsea are considered in the section of the report on Construction Access and Haul Roads (Section 5.3).

Merriedown, Tickenham

5.7.38 The issues affecting Merriedown are considered in the section of the report on Construction Access and Haul Roads (Section 5.3).

Cadbury Camp Lane

5.7.39 The effects of the proposed development during construction on the Cadbury Camp Lane dwellings, including Spindlewood [Doc 5.7.3.1, Figure 7.2, E1.H28], are analysed in the Construction Access and Haul Roads section of the report (Section 5.3). The analysis embraces noise and disturbance, dust generation, and visual effects. It concludes that, subject to enhanced mitigation in the form of protective fencing to Cuckoo's Mead (E1.H27), at the corner of Cuckoo Lane and Cadbury Camp Lane, near to a construction compound, and Spindlewood, the effects of construction works would be acceptable.

5.7.40 Concerns have been expressed by local residents that during operation there would be unacceptable visual effects, loss of property prices, and effects on health caused by EMFs.

5.7.41 Turning first to visual effects, two existing 132kV power lines which run side by side from Clevedon, converging on the junction of Cadbury Camp Lane and Cuckoo Lane, would be removed. One of the lines would be buried underground, near to its present alignment, and the proposed 400kV line, supported on T-pylons, would be placed on a

similar alignment, very slightly further away from Cadbury Camp Lane.

- 5.7.42 The visual effect, which photomontages VPE1 and VPE9 help inform, would be of a simpler outlook with pylons slightly higher than those existing, but a little further away. The 400kV power line appears to be designed to run equidistant between the two dwellings, taking it somewhat further away from Spindlewood than one of the existing 132kV lines, albeit the second existing 132kV line already runs much further east at this point. The Panel considers that the net effect would not involve a radical change of outlook and an overbearing visual element would not be introduced into residents' lives.
- 5.7.43 The effect on property prices is not a factor which can normally be given weight in planning considerations such as this, for the reasons already set out. However, considering amenity, power lines already exist and, from whichever route one approaches or leaves Cadbury Camp Lane, one is obliged to pass twice under a 132kV line. After the proposed development, except when approaching from the north or leaving in the same direction, it would only be necessary to pass under the 400kV line once.
- 5.7.44 With regard to effects on health, we realise that families with children occupy the Cadbury Camp dwellings. There are concerns that, entering or leaving Cadbury Camp Lane, one would be forced to pass beneath the overhead 400kV line and over the buried 132kV line and thus be exposed to EMFs from a relatively high combined voltage. The effects of electric and magnetic fields, including fear of harm, are considered in detail in the subsection below.
- 5.7.45 Even standing directly under the 400kV line, the maximum magnetic field of some 73.2 μ T at continuous loading would be less than a quarter of the public exposure limit of 360.0 μ T [Doc 5.16, Table 16.5]. The buried 132kV line would add only some 4.0 μ T to this figure [Doc 5.16, Inset 16.5]. The electric field would also be within public exposure limits.
- 5.7.46 One would be unlikely to linger under the overhead line, and the nearest dwelling, Spindlewood, would be some 88m away from the line where magnetic fields would have diminished to a very low level. The Panel is, therefore, of the view that the health concerns expressed are not supported by the evidence presented to the Examination.

Cole Acre

- 5.7.47 The issues affecting Cole Acre are considered in the section of the report on Portbury/Portishead (5.16) and the subsection on Electric and Magnetic Fields, below.

Elm Tree Park, Portbury

- 5.7.48 The issues affecting Elm Tree Park are considered in the section of the report on Portbury/Portishead (5.16).

St Anthony's Park

- 5.7.49 The issues affecting St Anthony's Park travellers site are considered in the sections of the report on Construction Access and Haul Roads, Noise and Vibration, and Traffic and Transport.

Avonmouth Village

- 5.7.50 Issues affecting Avonmouth Village, resulting in maintained mitigation planting secured through the s106 Agreement, are considered in the section of the report on Landscape and Visual matters (5.9).

Well-being: In-combination and cumulative effects

- 5.7.51 In the Updated Statement of Common Ground between National Grid and the Joint Councils [Doc 8.3.12A, ID 17.2.2] the Joint Councils tell us that the assessment of inter-relationship of effects on amenity is very brief and separated from the assessment of cumulative effects. The Joint Councils continue by noting that the criteria for assessing effects in different chapters (and importantly the spectra used in the classification of significance of effects) varies across the topics and the methodology for assessment of the interrelationship of effects and their cumulative/in-combination effects is not clearly set out.
- 5.7.52 The Panel has questioned the evidence in depth and formed a view on critical in-combination and cumulative effects, and presented it, as part of its assessment, in this and other sections of the report. With regard to aspects of amenity relevant to well-being, although we have sympathy for the Joint Councils' criticism, we are satisfied that, subject to the recommendations made, no further difficulties emerge from such effects.
- 5.7.53 This being so, there are no grounds for suggesting that Community Impact Mitigation funds should be available to meet intangible or unforeseen in-combination or cumulative effects with regard to well-being.

ELECTRIC AND MAGNETIC FIELDS

- 5.7.54 The ES states that electric fields, which depend on the operating voltage of the equipment producing them, are shielded by most common building materials, trees and fences and diminish rapidly with distance from the source. Magnetic fields depend on the magnitude of the electric current flowing and are not significantly shielded by most common materials, but do diminish rapidly with distance from the source [Doc 5.16, para 16.1.4 to 16.1.5]. Public exposure levels in the proposed development would easily meet the recommendations adopted by the Government, even when standing directly beneath the line or directly above a buried line [Doc 5.16, Table 16.4].
- 5.7.55 In response to first written question 7.4 [Doc 8.1.2], the Applicant explained that optimum phasing, the arrangement of conductors to produce maximum cancellation of magnetic field, would be organised

to suit lattice pylons, since the gain would be greater than with T-pylons. The policy on optimum phasing, a precautionary measure, was introduced in the Written Ministerial Statement of 2009 in response to a recommendation from the Stakeholder Advisory Group on ELF EMFs (SAGE) in its First Interim Assessment [Doc 5.16, ref 16.3]. It is incorporated in a CoP [Doc 5.16, ref 16.4].

- 5.7.56 Following on from the response to Q7.4, the Applicant confirmed at the ISH of 30 April 2015 that, without disproportionately complex and expensive conversion equipment, T-pylons can only connect to lattice pylons with optimum phasing using the second best out of six possible arrangements. However, this would mean that the phasing would be optimised for the proposed development as a whole [Doc 8.13.7.1, para 1.20]. The Panel considers this an appropriate technical solution.

Childhood leukaemia

- 5.7.57 Discussion of the association of childhood leukaemia with power sources, and the current state of knowledge of its causation, took place at the ISH of 30 April 2015. Dr John Swanson for the Applicant noted that epidemiological studies indicate a fairly consistent statistical association between either high exposure to magnetic fields or proximity to power lines and the rate of childhood leukaemia [Doc 8.13.7.1, para 1.10].
- 5.7.58 However, he told us that there is no known plausible mechanism to indicate that magnetic fields cause childhood leukaemia. Extensive experimental studies have failed to establish such effects [Doc 8.13.7.1, para 1.11 to 1.12]. These include the theories of Professor Henshaw, which relate to corona ions, pollutants, and their harmful effects. Whilst the science appears correct and has not been seriously challenged, the effects predicted would not be significant [Doc 8.13.7.1, para 1.27]. Moreover, the Panel agrees with Dr Swanson that the analogy of smoking and cancer, where almost as soon as scientists started looking, the causal link was identified, is not helpful. In the case of EMFs, the Applicant notes that health effects have been investigated for some 35 years without a causal link emerging [Doc 8.13.7.1, para 1.25].
- 5.7.59 The Scientific Committee on Emerging and Newly Identified Health Risks regularly publishes reviews through the European Union of scientific evidence relating to EMFs. The latest report published in January 2015 [Doc 8.13.7.1, Appendix B] was not considered in the ES. The Panel has seen the report and agrees with the Applicant that it does not change the position put forward in the ES as examined.
- 5.7.60 Dr Swanson noted that there is no statistical association of power sources with adult leukaemia, and association with other illnesses, such as Alzheimer's disease, is either very weak or negligible. A study considering a possible link between DNA changes and power lines (Yang et al, 2008) was one of many that had informed the setting of

current UK policy but no single study in isolation could ever be conclusive [Doc 8.13.7.1, para 1.30].

- 5.7.61 He also explained that, based on evidence for childhood leukaemia, power frequency magnetic fields are classified as 'possibly carcinogenic' by the International Agency for Research on Cancer and the World Health Organisation. This is the middle of 5 categories and regarded as the correct classification by National Grid [Doc 8.13.7.1, para 1.7 to 1.9].
- 5.7.62 Regarding the adoption of a precautionary approach, besides optimum phasing, prescribed minimum distances between the line and homes and schools were suggested by various parties at the ISH. Although SAGE in its First Interim Assessment had suggested that if a distance restriction were to be introduced, 60m would be appropriate, no such restriction was introduced by Government and none applies in the CoP.
- 5.7.63 The Panel takes seriously the association with childhood leukaemia, and the fears experienced by members of the public, which might themselves lead to distress and harm to health and well-being. However, it recognises the lack of an established causal relationship and that the proposed development would satisfy current regulation, policy and good practice by a wide margin. It takes the view that, where possible, the power lines proposed should not be routed near to dwellings, schools, and other institutions. This is primarily in order to help allay fears rather than to diminish the risks of childhood leukaemia.
- 5.7.64 First written question 7.5 [PD-007] addresses proximity to lines. The Applicant responded [Doc 8.1.2] by producing various schedules setting out distances from proposed new 400kV lines, proposed new and dismantled 132kV lines, and distances to existing retained overhead lines. Relevant here is the response Dr Swanson gave at the ISH to a question about possible differences in effect between 270kV and 400kV lines. Since the strength of magnetic fields is determined by current, not voltage, he expected the value of the magnetic field at 60m to apply equally to the average 270kV and the average 400kV line [Doc 8.13.7.1, para 1.54].
- 5.7.65 The schedules show that, for those dwellings within 60m of a line, only those at Moorland Park (47m) and Cole Acre (57m - route Option A only) would be nearer to a power line than they are at present. The flat above the garage at Tarnock would be 35m from the proposed 400kV line, but this compares to 14m from the existing 132kV line, and the Star Inn Tickenham would be 28m from the proposed line, compared to 5m from the existing line. Exposure to magnetic fields in the case of the garage flat and the Star Inn is therefore likely to be no greater than at present.
- 5.7.66 Second written questions 2.7.2 and 2.7.3 [PD-012] concern the traveller site at Moorland Park (D1.H58), where some 70 children live.

Normal line routing practice takes account of the desirability of avoiding dwellings for amenity reasons and the line proposed is set equidistant between Moorland Park to the west and two buildings to the east which may be part business and part residential use. Given the limited occupation, including few if any children, of these two buildings, the Panel is of the opinion that the DCO routing should not deviate at all towards Moorland Park to the west, whilst normal limits of deviation should apply to the east. Suitable wording is included in Article 5 of the recommended DCO and explained in Chapter 9 of this report.

- 5.7.67 Cole Acre (F1.H42, F1.H43) would be further away from the power line and a large number of residents with a high proportion of children, as at Moorland Park, would not be expected. The case for a similar precautionary approach is, therefore, weaker. Other factors affecting Cole Acre are considered elsewhere in the report as part of the examination of route Options A and B in the Portbury and Portishead area (Section 5.16).

Microshocks

- 5.7.68 First written question 7.6 [PD-012] addresses microshocks, and a discussion on this subject took place in the ISH. They are experienced when unearthed objects under high voltage lines become charged, and then discharge by arcing through a person very close by. The size of the shock depends on many factors and, although they can be uncomfortable, microshocks have no known long term health effects. Their management and control is set out in a CoP, through a protocol and suite of measures.
- 5.7.69 As embedded mitigation, National Grid has adopted higher line clearances where microshocks are thought more likely than elsewhere. If reported during the operation of the line, procedure in the CoP would be followed. The Panel is content that no further safeguards are required through the DCO.

Active Implantable Medical Devices

- 5.7.70 First written question 7.7 [PD-012] addresses Active Implantable Medical Devices and they were discussed at the ISH. Interference with Active Implantable Medical Devices is extremely rare with very few, if any, cases recorded in this country. The Panel has confidence in the control regime administered by the Medicines and Healthcare Products Regulatory Agency and there is no need to incorporate additional safeguards in the DCO.

Corona discharge and electromagnetic compatibility

- 5.7.71 As the ES notes [Doc 5.16, para 16.2.67 et seq] the 2009 European Council Directive on electromagnetic compatibility (EMC) aims to create an acceptable electromagnetic environment within the EU. The Directive requires that the electromagnetic disturbance generated by apparatus, including that operated by National Grid in the proposed

development, should not exceed a level allowing radio, telecommunication, and other apparatus to operate as intended.

- 5.7.72 The main source of interference on the network arises from radio frequency emissions caused by corona discharge. Corona discharge is not associated with health or well-being complaints, although they are audible. The causes - involving surface perturbations of the conductors arising from moisture, harvesting chaff, grease and broken strands - and the effects of corona discharge, were explored through written questions [Q7.8, Q7.10 and Q2.7.7].
- 5.7.73 It is noted that the Applicant is aware of only seven instances of radio interference being reported to its central team over the last six years, although others may have been resolved locally. None of these reported instances was attributed to broken strands which, when they occur, the Applicant tells us take approximately one day to repair.
- 5.7.74 From compliance with the 2009 Directive and the Applicant's responses to written questions, the Panel is satisfied that interference with electronic equipment would not cause substantive difficulties. This includes effects on sensitive Bristol Port and marine communications systems. There is no need to incorporate additional safeguards in the DCO.
- 5.7.75 Corona discharge can also give rise to background noise [Doc 5.14, para 14.10.21 to 14.10.25]. This is examined in Section 5.11 of the report, on Noise and Vibration.

T-pylon testing and performance

- 5.7.76 Because it has not been used anywhere yet, concerns have been expressed about the predictability of the T-pylon's performance characteristics. The ES [Doc 5.16, para 16.2.73], Applicant's response to first written question [Doc 8.1.2, response 7.8.7], and discussions at the ISH [Doc 8.13.7.1, para 3.1 to 3.8] provide information.
- 5.7.77 The T-pylon is not covered by the technical certification currently in place for the electricity transmission network as a whole [Doc 5.16, Appendix 16A]. However, many of the components of the T-pylon system, including conductor bundles and insulators, are common to the existing system. In addition, testing will take place at an appropriate independently accredited high voltage test facility before installation to search out the characteristics of components and assemblies which differ from current technology.
- 5.7.78 The Panel sees no reason why the T-pylon system should perform to a poorer standard than the traditional system in terms of the effects of EMF production, corona discharge, or in any other respect. It will be required to meet EMC standards, current CoPs, and all other tests. Where field measurement of EMFs cannot be carried out and calculation is necessary, the CoP notes that this is always acceptable if performed in accordance with the specification [Doc 8.13.7.1, para 1.19]. No further DCO safeguards are required.

CONCLUSIONS

- 5.7.79 Subject to the recommendations made in this and other sections of the report, the Panel is satisfied that the proposed development would meet the aims of policy advice on health, well-being, and EMFs set out in national policy statements, the NPPF and local policy. This is so both in terms of individual and cumulative effects, and during construction, operation and decommissioning.

5.8 HERITAGE AND HISTORIC ENVIRONMENT

POLICY

- 5.8.1 The Overarching National Policy Statement for Energy (EN-1) states at paragraph 5.8.8 that the applicant should provide a description of the significance of the heritage assets affected by the proposed development and the contribution of their setting to that significance. This appears in the Environmental Statement (ES) at Doc 5.11.1 and associated appendices, including Appendix 11B, Assessment of Effects of proposed development on the Settings of Heritage Assets [Doc 5.11.2.5].
- 5.8.2 EN-1 paragraph 5.8.9 notes, regarding archaeological interest, that the applicant should carry out appropriate desk-based assessment and, where such desk-based research is insufficient to properly assess the interest, a field evaluation. The desk-based assessment and the assessment of the initial trial excavations set out in the documents noted above gave rise to the Written Scheme of Investigation (WSI), a component part of the Construction Environmental Management Plan (CEMP). The WSI was progressively modified during the Examination, resulting in ES Doc 5.26.4C.
- 5.8.3 EN-1, at paragraphs 5.8.13 to 5.8.15, points to the desirability of sustaining and, where appropriate, enhancing the significance of heritage assets, the contribution of their settings and the positive contribution they can make to sustainable communities and economic vitality. It notes that there should be a presumption in favour of the conservation of designated heritage assets and the more significant the asset, the greater the presumption in favour of its conservation. Any harmful impact on the significance of a designated heritage asset should be weighed against the public benefit of the development, recognising that the greater the harm to the significance of the heritage asset the greater the justification will be needed for any loss.
- 5.8.4 Furthermore, paragraph 5.8.18 of EN-1 notes that when considering applications for development affecting the setting of a designated heritage asset, the decision-maker should treat favourably applications that preserve those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset. When considering applications that do not do this, the decision maker should weigh any negative effects against the wider benefits of the application. The greater the negative impact on the significance of the

designated asset, the greater the benefits that will be needed to justify approval.

- 5.8.5 Paragraphs 5.8.4 and 5.8.5 of EN-1 discuss heritage assets with archaeological interest that are not currently designated, but which are demonstrably of equivalent significance. It notes that if the evidence indicates that a non-designated heritage asset may be affected by the proposed development then the heritage asset should be considered subject to the same policy considerations as those that apply to designated heritage assets.
- 5.8.6 The Holford Rules (Guidelines for the Routing of New High Voltage Overhead Transmission Lines) first formulated in 1959, continue to be relevant to route planning [Doc 7.2, para 5.3.1 to 5.3.4]. Holford Rule 2 states that smaller areas of amenity value, or scientific interest, should be avoided by deviation, provided this can be done without using too many angle towers. It advises that, where possible, routes should be chosen which minimise effects on the settings of areas of architectural, historic and archaeological interest. The Panel has had regard to this advice in assessing the effects of the proposed development on the settings of historic assets.

ASSESSMENTS AND REPRESENTATIONS

Applicant

- 5.8.7 The Environmental Impact Assessment (EIA) predicts no direct physical effect in relation to any designated heritage asset but, after mitigation, minor adverse physical residual effects, caused by construction or the removal of plant, on three non-designated heritage assets. These are, at the 'Bridgwater Tee', Horsey deserted medieval village (DMV) where it extends beyond the limits of the scheduled monument (AR020), and the nearby Crook DMV (AR023); and Lychets and terraces interpreted as a pre-medieval field system (HL063) west of Portbury.
- 5.8.8 Regarding construction and operation within the settings of designated and non-designated heritage assets, the EIA predicts the following:
- Moderate adverse effects in relation to Horsey DMV and Pixie's Mound scheduled monuments; and the Grade I listed Church of St Quiricus and St Julietta, Tickenham.
 - Minor adverse effects in relation to the Grade I listed Church of St Saviour at Puxton; and the Grade I Church of St Mary at Portbury, were route Option A adopted.
 - Minor adverse effects in relation to the Grade II* listed Church of St John the Baptist at Biddisham; the Grade II* listed Church of St John the Evangelist at Kenn; and the Grade II* listed Tickenham Court.
 - Minor adverse effects in relation to 27 Grade II listed buildings.

- Minor adverse effects in relation to Brent Knoll hillfort, Gout House Farm DMV, Nye Farm Moat, and Mere Bank scheduled monuments.
- Minor adverse effects in relation to seven non-designated heritage assets.

Joint Councils

- 5.8.9 Regarding archaeology, the Local Impact Report (LIR) [REP2-111, Table 5A and 5B and REP2-115] raises issues in relation to the need for further site investigations; the approval of method statements and of the WSI generally; the nature and funding of monitoring of potential effects on heritage assets during construction; and the provision and funding of reporting, interpretation, outreach and education. These aspects are considered further below.
- 5.8.10 Regarding the effects of the proposal on settings, the LIR expresses concern in relation to the following heritage assets:
- the Grade II* Church of St John, Biddisham;
 - Kings Weston House, Bristol, Grade I;
 - the Grade I Church of the Holy Cross, Mark;
 - the group of buildings containing the Grade I Church of St Quiricus and St Julietta, Tickenham, and the Grade II* Tickenham Court; and
 - the Grade I Church of St Mary, Portbury.
- 5.8.11 The final version of the Statement of Common Ground (SoCG) between National Grid and the Joint Councils [Doc 8.3.12A] confirms agreement that the method of historic environment assessment is appropriate following revision of the WSI to include the role of the local authorities in approving the detailed method statements [Doc 5.26.4C - final version]; the commitment to outreach; and the incorporation of the South West Archaeological Framework objectives. The Joint Councils agree that subject to the findings of the further investigations to be agreed through the framework of the WSI, the predicted effects, in relation to historic environment receptors, are appropriately assessed.
- 5.8.12 The SoCG confirms that the Joint Councils are content with the principle of continued engagement with regard to mitigation measures emerging from the WSI processes. However, the Service Level Agreement (SLA) within the s106 Agreement [Doc 8.4B, Schedule 11] does not give any confidence that the Applicant would pay the Joint Councils' monitoring costs [Doc 8.3.12A, ID 11.21].
- 5.8.13 It also notes the Joint Councils' view that in lieu of embedded mitigation for the effects of the proposed development on the settings of heritage assets where additional OSPES may not be practicable, contributions from a Community Impact Mitigation fund (CIM) should be used to support wider engagement and interpretation with regard to historic resources [Doc 8.3.12A, ID 11.22].

- 5.8.14 The Joint Councils do not agree that the CEMP and its appendices, including the WSI, should be certified by the Secretary of State under the Development Consent Order (DCO). Instead, they consider that the CEMP should be submitted to the Joint Councils for approval prior to the commencement of any works. Alternatively, having regard to the changed circumstances which might occur in the time elapsing between the DCO and commencement, an update should be submitted to the Joint Councils for approval prior to commencement [REP6-004].
- 5.8.15 The s106 Agreement [Doc 8.4B] includes financial contributions for the benefit of Tickenham Church in the sum of £120,000; Portbury Church in the sum of £8,400 should route Option A be adopted; and Kings Weston House in the sum of £10,000.

Historic England

- 5.8.16 Historic England's relevant representation [RR-134] takes issue with the level of archaeological assessment so far undertaken. Regarding the effect on settings, the following were noted as of concern:
- the Grade I listed Church of St Quiricus and St Julietta, Tickenham;
 - the Grade I St Mary's Church, Portbury, were route Option A adopted;
 - the Grade II* Church of St John, Biddisham (removed from the list of concerns in the full written representation);
 - Kings Weston House, Bristol, Grade I;
 - the Grade I Church of the Holy Cross, Mark (agreed as subject to minimal impact following a subsequent site meeting); and
 - Horsey DMV scheduled monument;
 - Mere Bank scheduled monument (Historic England's full representation noted that the impact would be no greater than that from the current overhead line); and
 - Pixie's Mound scheduled monument.
- 5.8.17 The relevant representation indicates that, in terms of the National Planning Policy Framework (NPPF), the significance of Tickenham Church would be subject to substantial harm. The harm to the other heritage assets would be less than substantial.
- 5.8.18 In its full written representation dated 26 February 2015 [REP2-024], Historic England notes that the number of sites where it has concerns has reduced to three. It now disagrees with the Applicant on the impact of the proposed development on the settings of Tickenham Church, Kings Weston House and Horsey DMV.
- 5.8.19 The final version of the SoCG between National Grid and Historic England [Doc 8.3.15A] confirms agreement that the method of historic environment assessment is appropriate subject to further archaeological investigations to be agreed through the WSI. It also confirms that the description of the baseline environment used for the assessment is appropriate. Regarding assessment of effects:

- It is agreed that the construction of a cable sealing end compound (CSE) between Horsey DMV scheduled monument and Crook non-designated medieval site would have a moderate adverse effect on their settings.
- It is agreed that the assessment of effects in relation to the Church of the Holy Cross, Mark, and St John the Baptist, Biddisham, is accurate.
- It is agreed that, contrary to the ES assessment, there would be a significant adverse residual effect on the setting of Tickenham Church.
- It is agreed that the prediction of effects in relation to St Mary's Church Portbury is accurate.
- It is agreed that the proposals in the s106 Agreement [Doc 8.4B] in relation to Tickenham and Portbury are acceptable.
- There is continued disagreement over the effect on the setting of Kings Weston House. Historic England considers that the proposals included in the s106 Agreement [Doc 8.4B] do not sufficiently off-set the harm to its setting.
- It is agreed that none of the predicted residual effects are equivalent to substantial harm. This differs from Historic England's assessment in its relevant representation that the harm to the significance of Tickenham Church, through impact on its setting, would be substantial.

Parish Councils and others

- 5.8.20 Portbury Parish Council, in its relevant representation [RR-080], considers the impact of the proposed development on St Mary's Church has been given insufficient consideration, particularly as experienced on the approaches to the settlement.
- 5.8.21 In its written representation [REP2-002], Badgworth Parish Council expresses concern over the lack of detail on mitigation of the effects of the proposed development on the pre-medieval settlement at Tarnock (AR075). It comprises excavating in advance of construction. The asset lies within the order limits and is near a works compound. This concern is echoed in a joint written representation from the Parish Councils of Badgworth, Compton Bishop, and Mark [REP2-018].
- 5.8.22 At the historic environment ISH of 21 April 2015, Bridgewater Without Parish Council drew attention to the difficulties of mitigating the effects of the CSEs on the assets associated with Horsey. Seen from the footpath and bridleway running along Puriton Ridge, the proposed line would draw the eye down to the Bridgewater Tee.
- 5.8.23 In her written representation [REP2-067], Mrs Longstaff, Church Warden of St Mary's, Portbury, pointed to harm arising were route Option A adopted. She also contributed to the ISH of 15 June 2015 on route options in the Portbury/Portishead area with regard to effects on St Mary's Church.

S106 agreement

- 5.8.24 The s106 agreement [Doc 8.4B] sets out financial contributions payable by the Applicant for the benefit of Tickenham Church, Portbury Church and Kings Weston House. There are no other s106 payments related to the impact of the proposed development on the historic environment.
- 5.8.25 The Tickenham Church contribution of £120,000 is for the restoration of the west window and the repair of the boundary wall, or other priority works identified in the quinquennial review. The Portbury Church contribution of £8,400, payable only if route Option A is adopted, is intended for repair of the boundary wall, and the Kings Weston House contribution of £10,000 is made towards works identified in the Kings Weston Conservation Management Plan.
- 5.8.26 Whilst the component of the s106 agreement relating to the historic environment complies with the criteria of EN-1 paragraph 4.1.8, in no case does the contribution act as mitigation of any harmful effects brought about by the proposed development. Instead, it can be regarded as compensation for such harm, which might benefit the historic asset in other ways. The Panel places some weight on the historic environment component of the Agreement with respect to Tickenham Church and Portbury Church.
- 5.8.27 The Panel does not consider that a CIM fund should be used to support wider engagement and interpretation with regard to historic resources in lieu of embedded mitigation of effects on the settings of assets. During the Examination, there were opportunities to ascribe financial compensation for these and other purposes to each specific asset subject to impact and these arrangements have been embodied in the s106 agreement.

ARCHAEOLOGY

- 5.8.28 The Panel agrees with the Joint Councils that the WSI is appropriate with regard to the overall mitigation strategy; the various mitigation methods including the reporting and outreach measures proposed; the organisation and approval of method statements, and procedure in the event of identification during the progress of the works of as yet unknown archaeological assets; and the completeness of identification of known archaeological assets and the mitigation measures proposed in relation to these assets, including the physical impact identified above on non-designated assets. It is also content with level of archaeological assessment so far undertaken taken together with that proposed pre-construction. The Panel considers that any threats to archaeological assets during decommissioning would be capable of satisfactory mitigation.
- 5.8.29 The Joint Councils set out their case for reimbursement of their monitoring costs within the SLA in their response to First Question 4.59 [REP2-087]. In Schedule 11 of the s106 agreement,

Requirement 5 (Construction Environmental Management Plan) and Requirement 6 (Approval and implementation of construction mitigation plans) are defined as "Major Requirements". Paragraph 3.2 within the Schedule tells us, with regard to the SLA for Major Requirements, that National Grid shall meet the reasonable costs of the Councils in providing the service within the response time. Since matters relating to the WSI are encompassed by Requirements 5 and 6, the Panel interprets this as meaning that the Joint Councils' necessary monitoring costs in carrying out its duties under the WSI would be met by the Applicant.

- 5.8.30 Regarding approval of CEMP as a whole, the Panel is satisfied that, as far as the WSI is concerned, the present version accords with the Joint Councils' aims, as well as wider archaeological concerns. Moreover, Requirement 5(4) of the draft DCO states that the contents of the CEMP must be implemented as approved unless otherwise agreed with the relevant planning and highway authorities. This provides the opportunity to adapt the CEMP to the changed regulatory and other circumstances which might have occurred in the period elapsing before commencement. It is, therefore, content that the CEMP should be certified by the Secretary of State under the DCO.
- 5.8.31 It is also satisfied that the system of approval of method statements by the relevant planning authority, under Requirement 6, before the commencement of the relevant stage of the authorised development, is appropriate and robust. Changes of circumstances between the DCO and particular work stages, such as changes in good practice, regulatory changes and changes in planning policy and guidance, would be taken into account through approvals under Requirement 6.

SETTINGS

Tickenham Church

- 5.8.32 As noted in the ES Assessment of Effects of Proposed Development on the Settings of Heritage Assets [Doc 5.11.2.5], several assets including Tickenham Church, Tickenham Court and Tickenham Court DMV, form a closely associated group. The assessment notes that the Church has considerable aesthetic value embodied in its formal design, and that setting makes a major contribution to the aesthetic value of the Church. It goes on to note that setting is also an important contributor to the asset's historical value, since the setting encompasses a group of other assets that together illustrate much of the medieval and post-medieval community at Tickenham. We saw the Church from many viewpoints during our USIs.
- 5.8.33 The principal effect of the proposed development on the setting of this group concerns the position of the Church at the foot of Tickenham Ridge, poised in a commanding position above the open, panoramic landscape of Tickenham Marsh to the south west, like a ship approaching from the horizon. The Church, especially the tower, was

clearly intended to form a visual focus in the landscape and can be seen from a wide variety of positions across the Marsh and elsewhere.

- 5.8.34 Although two 132kV lines on the north western edge of Nailsea would be removed, they would be replaced with the 400kV line which would be much closer to the Church and much more prominent, interfering critically in views towards the Church, and in views from the Church and its immediate surroundings towards the landscape. The new line would, therefore, have a dramatically harmful effect on a key element of the setting which contributes in a major way to the significance of the Church. This is clearly illustrated in Photomontages VPD28 and VPD29 [Doc 8.7.3.2, Figs 8.7.3.15 and 8.7.3.16] showing the contrasting present and post-development visual situations.
- 5.8.35 Possible mitigation is limited. During the Examination, the Applicant produced a note on the consideration that was given to undergrounding at Tickenham [Doc 8.13.3.2, Note 2]. Chapters 10 and 11 of the Connections Options Report [Doc 5.2.2.4] deal with the option of an underground connection in Section D (Somerset Levels and Moors North) and Section E (Tickenham Ridge).
- 5.8.36 During consultation, representations were received suggesting that the connection should be placed underground for Section D as a whole and across Tickenham Moor in particular. However, with regard to Tickenham Moor, the decision not to do this was taken because of the harm to landscape and views associated with the CSE compounds which would be necessary at either end of the underground section; and that resulting from the disturbance of archaeological remains. Also, significant harm to ecology in the Tickenham, Nailsea and Kenn Moors SSSI, including the crossing of its extensive network of ditches (the habitat of aquatic invertebrates), and of land supporting the wintering and breeding of birds, bats, otter, water vole, badger, brown hare and fish, would arise from the undergrounding. Avoiding the SSSI would require the underground cables to pass through streets in Yatton and Nailsea, a significant undertaking.
- 5.8.37 In addition, the extra cost of placing the connection underground, compared to the above ground route proposed, is calculated by National Grid as more than £80m. The Panel reluctantly agrees that, in these circumstances, undergrounding would not be justified.
- 5.8.38 The effect of possible OSPES planting, were it to be carried out, would be minor. Indeed the creation of a visual screen between the Church and Tickenham Marsh could compromise the connection with the landscape which is a central part of the asset's setting. Careful selection of pylon colours might assist but from almost all public viewpoints the pylons would be seen partly against the land and partly against the sky, making visual amelioration difficult. The proposed financial contribution set out in the s106 Agreement is welcome, but would do nothing to diminish the harm to the setting.

- 5.8.39 The residual harm, after mitigation, to the significance of Tickenham Church through impact on its setting, would be substantial as defined in paragraph 133 of the NPPF. In terms of the tests set out in EN-1, those elements of the setting that make a positive contribution to, or better reveal the significance of the asset, would not be preserved and the significance of the asset would not be sustained.

Kings Weston House

- 5.8.40 The setting of Kings Weston House, a grand, classically derived, early 18th century house designed by Sir John Vanburgh, was not explored in the EIA, since the Stage 1 effect was regarded as being neutral. The National Heritage listing describes the principal building as located on the western edge of a south-west to north-east ridge and commanding views over the Bristol Channel and the Welsh Hills. It continues by noting that foreground views have changed dramatically in the C20 with the development of the industrial complex at Avonmouth and the housing estate of Lawrence Weston.
- 5.8.41 The building's setting clearly encompasses the formal vista north-westwards from the terrace of Kings Weston House towards the distant hills. There can be no doubt that this aspect of the setting makes an appreciable contribution to the significance of the listed building.
- 5.8.42 The Avonmouth Docks and associated industrial development are clearly visible in the distance within this formal vista. The principal elements are cranes, which attract attention through their height and colouring, being generally picked out in bright orange, conveyors, storage tanks, warehouses and other buildings. Set above these are a number of wind turbines very near the shoreline. The 132kV line to be removed, seen against the background of the land, is barely visible above the belt of trees in the middle ground. The proposed 400kV line would be seen a little further away in the context of the cranes and turbines, against a lighter aerial perspective of water and distant Welsh Hills.
- 5.8.43 Nevertheless, even if the alternative proposal for higher pylons were to be adopted, the line would be so distant and so much part of the existing portside industrial character that the effect would be harmful to only a very limited extent. This is so despite the ES assessed effect of the higher pylons being rated as minor adverse rather than neutral [Doc 5.34.1, para 6.1.5].
- 5.8.44 Any mitigation through tree planting in Avonmouth Village might do a little to soften the scene from Kings Weston House, but little else could be done in mitigation. The financial contribution would be welcome but would not reduce the harm identified.
- 5.8.45 The residual harm would be less than substantial as defined in paragraph 134 of the NPPF. Those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset

would not be entirely preserved. Although the significance of the asset would not be completely sustained, the loss would be minor.

St Mary's Church, Portbury

- 5.8.46 St Mary's is a Norman church with a tower, which was extended over the following centuries and restored in the late 19th century. The interest giving rise to its significance includes its aesthetic value to which, as the ES settings analysis points out [Doc 5.11.2.5], the setting makes a major contribution. It would be adversely affected if route Option A, along the line of the M5 motorway, were adopted.
- 5.8.47 At one time, the setting would have been extensive, running from the higher ground of Conygar Hill and The Mount to the south, towards the lower, flatter ground of Sheepway and the land now occupied by the Royal Portbury Dock to the north. The coming of the M5 motorway in the 1970s created a physical and visual barrier, largely separating the Church and its immediate setting from the wider setting to the north.
- 5.8.48 The immediate setting is quite intimate, screened by foliage which focusses attention on the close surroundings. However there are views from the churchyard westwards over the playing field towards the M5. These views would be severely affected by the proposal, reinforcing the harmful separation caused by the motorway. This is because of the presence of the line and pylons at high level, and the loss of tree canopy beyond the motorway, arising from the works.
- 5.8.49 The exacerbated separation would also be experienced in views from the east, approaching the settlement, where the line and pylons would intrude as an alien element into the backdrop of the Church and its tower, compounding the effects of lighting columns, signage and noise from the motorway junction. The line and pylons would also intrude with similar effect on the backdrop in views north and north eastwards from the High Street and Church Lane.
- 5.8.50 Mitigation through possible OSPES planting is proposed [Doc 5.25.2B and 5.25.3.3B, ID: ME1.18] but this would be of minor effect even if achieved. It would cover a limited width and fall below the height of the line and pylon suspension gear. If it were higher, the effect would be one of further separation from the setting to the north and, therefore, counterproductive. The financial contribution payable through the s106 Agreement would not give rise to any measures which would mitigate the harmful effect on setting.
- 5.8.51 The residual harm would be serious but less than substantial. Those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset would not be preserved. The significance of the asset would not be sustained.
- 5.8.52 Option A would also affect the settings of other heritage assets in Portbury. For instance, the tower of the Grade II listed Portbury Priory (LB106), to the south of the settlement, is in a commanding position, in a wide setting including land beyond the motorway where the line

would run. It would be experienced from the footbridge over the motorway on one side with the high voltage line on the other.

- 5.8.53 In addition, the univallate hillfort scheduled monument on Conygar Hill (SM251), in its elevated position, would have a setting encompassing swathes of the surrounding countryside. The hillfort is on private land and the Panel was not able to visit it, but this lack of public access would not diminish the importance of the proposed development's effect on setting. The effects on these other heritage assets would be slight on their own, but in combination would add weight to conclusions on harm to the significance of St Mary's Church arising from the route Option A.

Horsey Deserted Medieval Village Scheduled Monument

- 5.8.54 Horsey DMV (SM45) comprises both above ground and buried archaeological remains, representing the sites of houses, a chapel, and other village features including streets and lanes, visible as hollow ways. It lies within a wider area of similar archaeological interest, including the contiguous non-designated Crook DMV to the north (AR23).
- 5.8.55 The construction works would have a physical impact on archaeological assets in areas outside the site of the scheduled monument and the Applicant's response to Q2.8.4 [Doc 8.18.1] confirms that the assets have high historic and evidential heritage value. Mitigation measures are agreed in the WSI. These include an additional topographical survey of the earthworks within the order limits and enhanced post excavation analysis and assessment encompassing examination of previous archaeological records.
- 5.8.56 The response to Q2.8.4 also states that the landscape context, the relationship between the assets, including the Grade II listed Horsey Manor Farm (LB662), and the surroundings in which both are experienced, comprise their shared setting and make a positive contribution to their significance. Furthermore, Historic England notes that evidence of the former loop in the course of the River Parrett, which was cut off from the main river in 1677, is an important part of the assets' setting [REP2-024].
- 5.8.57 The ES settings analysis [Doc 5.11.2.5] notes that the two CSE compounds would represent a new and dominant element of the immediate setting and that the new pylons would increase the quantity present of this already prominent and conspicuous infrastructure. Moreover, as can be seen from photomontage VPA3, taken from the public footpath on the Puriton Ridge, the eye would be drawn by the introduction of the proposed 400kV line, where none now exists, down towards the compromised setting of the heritage assets.
- 5.8.58 Mitigation comprises native structure planting - following a nearby natural model at Withy Pool - and earth mounding to screen the CSE

compounds, together with hedgerow gap planting. The significance of the assets would not be sustained but the harm would be less than substantial. In reaching this conclusion, the Panel noted that the visual intrusion of CSE compounds and pylons would be serious, and that some of the elements that make a positive contribution to, or better reveal the significance of, the asset would not be preserved. However, the relationship between the archaeological remains; the former course of the River Parrett; and the Farm buildings, which date from the late 16th century possibly occupying the sites of earlier buildings, would be little affected.

Other Scheduled Monuments

Pixie's Mound

- 5.8.59 Pixie's Mound (SM87) is a Bronze Age burial feature, lying very close to the Hinkley power station complex. The ES settings analysis [Doc 5.11.2.5] tells us that its significance is derived from historic and communal value, to which its setting contributes, and also from evidential value. Historic England notes [REP2-024] that the asset is of a type often associated with water, especially overlooking water filled areas.
- 5.8.60 The landscape has changed considerably over the years, is now dominated by the power station buildings and existing lines, and inland water bodies and marshland are no longer in evidence. The proposed development would involve the removal of some pylons and the installation of others, with slight increase in the quantity of infrastructure and some encroachment closer to the asset. Mitigation comprises tree planting on hedge lines and PRow access and signage improvements.
- 5.8.61 Although there would be some intensification of the harmful intrusion of infrastructure in the short term, the overall character of the setting would be preserved. In the very long term, the decommissioning of the earlier phases of the power station, and the removal of buildings and other infrastructure might benefit the asset's setting, by reducing the intensity of intrusion and reopening visual connection to the sea.
- 5.8.62 The Panel concludes that the significance of the asset would be sustained in the long term and any residual short term harm would be very much less than substantial.

Mere Bank

- 5.8.63 Mere Bank (SM260), a raised medieval linear flood defence, originally several kilometres in length, provided protection from sea and river inundation. Appreciation of its historical function means that the setting, a vast expanse of flat landscape, once wetland, contributes greatly to the asset's significance.
- 5.8.64 However, modern industrial surroundings, the motorway, and existing power lines exert a strong negative influence on the setting's

character. The Panel agrees with Historic England [REP2-024] that the impact of the proposed 400kV line would be no greater than the existing line that would be removed and the setting would be preserved. The significance of the asset would be sustained.

Brent Knoll, Gout Farm, and Nye Farm

- 5.8.65 In the case of Brent Knoll hillfort (SM96), the deserted medieval farmstead south of Gout Farm (SM183), and the moated site at Nye Farm (SM184), the Panel agrees with the assessment in the ES settings analysis [Doc 5.11.2.5]. The magnitude of effect of the proposed development on the settings of the assets would be negligible and they would be preserved overall. The significance of the assets would be sustained.

Other listed buildings

Church of the Holy Cross, Mark

- 5.8.66 The Grade I listed Church of the Holy Cross, Mark (LB47) lies some 1.5km to the east of the proposed 400kV line within an informal square of much smaller scale buildings. Intervisibility between the Church and the power line would be rare and across some distance at ground level, typically as seen in photomontage VPB8. However, the Church tower acts as a landmark within the surrounding countryside and its setting is correspondingly wide. This is demonstrated in the aerial photograph accompanying Mark Parish Council's written representation [REP2-040].
- 5.8.67 Some harm to the significance of the asset through impact on its setting might, therefore, arise from the Church being seen in conjunction with the power line. However, the existing line which would be removed, though less prominent, exercises a similar effect.
- 5.8.68 Overall, any harm would be quite minor. Those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset would be generally preserved. The significance of the asset would be very largely sustained.

Church of St Saviour Puxton

- 5.8.69 The Grade I listed Church of St Saviour, Puxton (LB66), is set in a small churchyard, well screened with mature foliage. No visual connection exists between the churchyard and the existing power line, nor would there be with the proposed line, which would adopt much the same route.
- 5.8.70 Following the footpath south, one can look back towards the Church with its picturesque westward leaning tower. The existing power line, over a kilometre to the west, hardly intrudes into this wider setting and the proposed line would have little greater effect. Driving along Puxton Lane, the Church tower can be glimpsed, but the proposed line would have little or no impact.

- 5.8.71 Overall, harm would be negligible, the setting would be preserved and the significance of the asset would be sustained.

Church of St John, Biddisham

- 5.8.72 The Grade II* listed Church of St John the Baptist, Biddisham (LB263) is relatively small in scale, set back from the road, and the churchyard is fairly well screened. Its low, square tower does not exercise an appreciable influence in the wider landscape.

- 5.8.73 Looking westwards from the entrance to the churchyard, the existing line can be seen, something under a kilometre away. However, the main impression is of a foreground screen of timber posts carrying telephone lines or low voltage power cables. The proposed 400kV line would follow the same route as the existing, a little higher but more distant, and the impact on the setting and hence significance of the asset, would be no greater.

- 5.8.74 Overall, harm would be negligible, the setting would be preserved and the significance of the asset would be sustained.

Church of St John, Kenn

- 5.8.75 From the churchyard of the Grade II* listed Church of St John the Evangelist, Kenn (LB330), the existing power line, a kilometre to the south-east can barely be seen above the treeline. The proposed 400kV line which would replace it follows the same route and would be little more prominent.

- 5.8.76 The pyramidal form of the upper part of the Church's small tower would be visible in some views across the levels. However, it is unlikely that the new line would intrude into this wider setting to any materially harmful extent. Overall, harm would be negligible, the setting would be preserved and the significance of the asset would be sustained.

Wainbridge Farmhouse, The Causeway, Mark

- 5.8.77 The Grade II listed building (LB723) dates from c1800 and represents the principal element in a historic farmyard grouping, associated with post-medieval strip development along The Causeway. The contribution of the setting to the significance of the asset lies mainly in the character of the farmyard and the relationship of the asset to The Causeway.

- 5.8.78 A 132kV power line to the west would be removed and the proposed 400kV line would be constructed a similar distance to the east. The nearest pylon (LD18) would be much the same distance to the north as is the corresponding pylon at present, although the new line, with its larger pylons, would be a little more dominant visually. Because the focus of the setting is towards the farmyard and The Causeway to the south, the harm would not be great, the setting would be preserved and the significance of the asset would be sustained.

- 5.8.79 Moreover, if LD18 were moved further north, it would increase in height to maintain conductor clearance over The Causeway and become the more visually prominent angle pylon to cope with the greater change in direction [Doc 8.18.1, response to Q2.7.12]. The change to an angle pylon, in particular, would give rise to harmful intrusion into the setting, more than counteracting any gains to the setting through northward movement.

Other assets

- 5.8.80 The non-designated archaeological remains of Roman buildings at Tickenham (AR172) would be directly disturbed by the undergrounding of a 132kV line. Mitigation comprising excavation in advance of construction has been agreed in the WSI [Doc 5.26.4C, page 57] and the Panel is content with this outcome.
- 5.8.81 There are a number of conservation areas within 1km of the order limits [Doc 5.11.2.1, Tables 2, 3, 4 and 5] but the EIA does not regard the character or appearance of any as harmed. The Panel agrees.

CONCLUSIONS

- 5.8.82 Policy on the historic environment within EN-1 has been followed by the Applicant. This policy is consistent with the aims of Section 12 of the NPPF, Conserving and enhancing the historic environment, and with the aims of relevant policies of the Joint Councils' development plans.
- 5.8.83 The harm identified by the Panel in relation to heritage and the historic environment will be weighed against the public benefits of the proposed development in the report's overall conclusions. Regarding cumulative impact, the Panel considers that the harm identified would not be materially exacerbated by any developments carried out since the ES was assembled, or by any consented or permitted schemes.

5.9 LANDSCAPE AND VISUAL AND ALTERNATIVES RELEVANT TO LANDSCAPE

INTRODUCTION

- 5.9.1 This section reports landscape and visual matters and alternatives as they are relevant to landscape and visual effects as set out in the National Policy Statements (NPSs). The reporting below on landscape and visual impacts is organised by the sections which the Applicant used in its assessment (Sections A to G following the route in a south to north direction and Section H for the Hinkley entry lines). Reference is made to Sections F and G, but the landscape and visual arguments put forth in connection with the two route options A and B, are set out in Section 5.15 of this report.

POLICY CONTEXT AND BACKGROUND

National Policy Statements

- 5.9.2 Overarching National Policy Statement (NPS) for Energy EN-1 (EN-1) (para 5.9.5) requires the applicant to carry out a landscape and visual assessment and report it in the ES. The assessments are to include effects on landscape components, on landscape character and on views and visual amenity during construction of the project and its operation (EN-1, para 5.9.6). Factors to be taken into account when judging impact on a landscape include existing character of local landscape, its current quality, how highly it is valued and its capacity to accommodate change (EN-1, para 5.9.8).
- 5.9.3 EN-1 accepts that virtually all nationally significant energy infrastructure projects will have effects on the landscape, but that the aim should be to minimise harm to the landscape; having regard to siting, operational and other relevant constraints and providing reasonable mitigation where possible and appropriate (EN-1, para 5.9.8). EN-1 requires the decision-maker to judge if any adverse effect on the landscape would be so damaging as not to be offset by the benefits, including the need (EN-1, para 5.9.15). The extent to which impacts are temporary or reversible should also be taken into account (EN-1, para 5.9.16).
- 5.9.4 The proposed development falls partly inside the nationally designated area of the Mendip Hills Area of Outstanding Natural Beauty (the AONB), for which the decision maker is to give substantial weight to the conservation of natural beauty and landscape (EN-1, para 5.9.9). There is also a duty to have regard to the purposes of such areas for projects outside the boundaries that have impacts within them (EN-1, para 5.9.12), but visibility from a designated area should not of itself be a reason for refusing consent (EN-1, para 5.9.13).
- 5.9.5 Equally, EN-1 advises against refusing consent on the basis of local landscape designation, and to consider whether visual effects on sensitive receptors, such as local residents or visitors, outweigh the benefits of the project (EN-1, para 5.9.14 and 5.9.18). Mitigation measures as a means to reducing the effects of a project such as reduction in scale, appropriate siting or design and landscape schemes are encouraged, while recognising that such measures can result in operational constraint and reduction in function (EN-1, para 5.9.21 to 5.9.23). EN-1 places emphasis on the design, colour and materials of buildings and identifies there may be appropriate locations for offsite planting to mitigate distant views (EN-1, para 5.9.22 to 5.9.23).
- 5.9.6 National Policy Statement for Electricity Networks Infrastructure EN-5 (EN-5) refers specifically to the fact overhead lines and associated infrastructure such as substations and cable sealing end (CSE) compounds can give rise to adverse landscape and visual effects. EN-5 continues that mitigation can be achieved for the most part, but in particularly sensitive locations the potential adverse landscape and

visual effects may make it unacceptable in planning terms (EN-5, para 2.8.2).

- 5.9.7 EN-5 sets out requirements for the applicant's assessment, including guidance provided by the Holford Rules³², the need to consider undergrounding and mitigation including alternatives, support structures and landscape schemes which may also include offsite planting and local planting for screening or softening visual impact for specific receptors (EN-5, para 2.8.4 to 2.8.11).

Others

- 5.9.8 The National Planning Policy Framework (NPPF) establishes that the planning system should contribute to conserving and enhancing the natural environment, which includes planning positively for green infrastructure networks, giving weight to conserving landscape and scenic beauty in designated landscapes and encouraging good design. The Panel has had regard to the policies set out in the NPPF in its consideration of the landscape and visual aspects of the proposed development.
- 5.9.9 There is also the duty to have regard to the purpose of conserving and enhancing the natural beauty of the AONB under s85(1) of the Countryside and Rights of Way Act (2000). The Panel has had regard to the purpose of the AONB and its setting in particular in considering the proposed routing through the AONB and views from the AONB of the overhead line and associated development.
- 5.9.10 The Applicant sets out the local planning policy relevant to landscape matters in the Landscape volume of the ES [Doc 5.6.1, para 6.2.11 to 6.2.20 and 6.3.21]. The Applicant set out the local planning policy relevant to visual matters in the Visual effects volume of the ES [Doc 5.7.1.1, para 7.2.11 to 7.2.19].
- 5.9.11 We also asked for the SoCG between Applicant and Joint Councils to include a table of important and relevant local policies. These are included in that SoCG [Doc 8.3.12, Appendix B]. As they are agreed and included in the SoCG we do not consider it necessary to list them in our report.

ALTERNATIVES

National Policy Statement tests

- 5.9.12 Section 4.4 of EN-1 sets out the requirement to consider alternatives in the ES in relation to the law and policy. However it goes on to say that; *"From a policy perspective this NPS does not contain any general requirement to consider alternatives or to establish whether the*

³² A series of planning guidelines relating the visual amenity of high voltage transmission, an overview of which is set out in EN-5

proposed project represents the best option." (EN-1, para 4.4.1). It is stated that there are specific legislative requirements, notably under the Habitats Directive (which we consider in Chapter 6 of this report). EN-1 does impose a policy requirement to consider alternatives with respect to landscape and visual by referring to section 5.9, para 5.9.9 in nationally designated landscapes (EN-1, para 4.4.2).

- 5.9.13 EN-1 obliges applicants to include in their ES information about the main alternatives they have studied, explaining the reasons for their choice and covering environmental, social and economic effects and where relevant technical and commercial feasibility (para 4.4.2). EN-1 also sets out guiding principles for decision-makers to use in giving weight to alternatives. (EN-1, para 4.4.3)
- 5.9.14 The more specific policy requirements for the consideration of alternatives for the proposed project are set out in EN-5.
- 5.9.15 EN-5 states *"The ES should set out details of how consideration has been given to undergrounding or subsea cables as a way of mitigating such impacts, including, where these have not been adopted on the grounds of additional cost, how the costs of mitigation have been calculated."* (EN-5, para 2.8.4).
- 5.9.16 EN-5 also states that the Holford Rules should be followed in the design of overhead lines, and decision makers should take them into consideration of alternatives and the need for additional mitigation measures (EN-5, para 2.8.5 to 2.5.7). For convenience we set out the Holford Rules (excluding the associated notes) below, as they appear, with Rule numbers, and will refer to them by Rule number throughout this section. We also set out the three Supplementary Notes.

"Rule 1: Avoid altogether, if possible, the major areas of highest amenity value, by so planning the general route of the first line in the first place, even if the total mileage is somewhat increased in consequence."

"Rule 2: Avoid smaller areas of high amenity value, or scientific interests by deviation; provided that this can be done without using too many angle towers, ie the more massive structures which are used when lines change direction."

"Rule 3: Other things being equal, choose the most direct line, with no sharp changes of direction and thus with fewer angle towers."

"Rule 4: Choose tree and hill backgrounds in preference to sky backgrounds wherever possible; and when the line has to cross a ridge, secure this opaque background as long as possible and cross obliquely when a dip in the ridge provides an opportunity. Where it does not, cross directly, preferably between belts of trees."

"Rule 5: Prefer moderately open valleys with woods where the apparent height of towers will be reduced, and views of the line will be broken by trees."

"Rule 6: In country which is flat and sparsely planted, keep the high voltage lines as far as possible independent of smaller lines, converging routes, distribution poles and other masts, wires and cables, so as to avoid a concentration or 'wirescape'."

"Rule 7: Approach urban areas through industrial zones, where they exist; and when pleasant residential and recreational land intervenes between the approach line and the substation, go carefully into the comparative costs of the undergrounding, for lines other than those of the highest voltage."

"Supplementary Notes"

"Residential Areas: Avoid routeing close to residential areas as far as possible on grounds of general amenity."

"Designations of County, District and Local Value: Where possible choose routes which minimise the effect on Special Landscape Areas, areas of Great Landscape Value and other similar designations of County, District or local value."

"Alternative Tower Designs: In addition to adopting appropriate routeing, evaluate where appropriate the use of alternative tower designs now available where these would be justified advantageously visually, and where the extra cost can be justified."

5.9.17 Further tests set out in EN-5 include:

- in the context of EN-1, which sets out the need for electricity lines including overhead lines of 132kV and above (EN-1, para 3.7.10), the need for decision-makers to balance any serious concerns about the potential adverse landscape and visual effects of a proposed line against other relevant factors (EN-5, para 2.8.8);
- consideration of impacts and costs of overhead and underground options in the context of the landscape into which the proposed line would be set (in particular, the impact on residential areas and those of natural beauty or historic importance eg AONBs); the additional costs of undergrounding or subsea cabling and the environmental and archaeological consequences of undergrounding (EN-5, para 2.8.9);
- consideration of mitigation opportunities in addition to the Holford Rules which can include: consideration of network reinforcement options, selection of the most suitable type and design of support structure, and more specific measures such as landscape schemes comprising off-site tree and hedgerow planting for softening and screening (in agreement with relevant landowners) and screening which can comprise localised planting in the immediate vicinity of residential properties and principal viewpoints (EN-5, para 2.8.10 to 2.8.11).

5.9.18 Some of these points are reported in other sections of this chapter of this report, and we refer to these where relevant.

Consideration of the Holford Rules

5.9.19 In this section, we report matters that relate to alternatives and compliance with the Holford Rules as they apply to landscape and visual matters. The general reporting on alternatives is covered in Section 5.14 below.

The Applicant's position

- 5.9.20 The Applicant's position is that the Holford Rules were addressed throughout the optioneering and corridor selection stages (see Section 5.14 of this report on alternatives for more detailed reporting on the route corridor and selection process adopted). The Applicant's route corridors were informed by the Holford Rules, chosen to avoid residential areas as far as possible on the grounds of general amenity and sought to keep high voltage overhead lines away from smaller lines to avoid the creation of 'wirescape'. The corridors were also chosen to avoid areas of highest amenity value, but it was not considered feasible to avoid the Mendip Hills AONB in any reasonably direct link from Bridgwater to Seabank. The studies of route feasibility took account of consultation responses and included a route close and parallel to the M5 motorway, one close to the railway line, one following the coast, one avoiding the AONB; and mixing and matching route corridors [Doc 5.2.1].
- 5.9.21 The application of the Holford Rules resulted in three overhead line routes (one with two alternatives) and a single underground cable route. The overhead route was subdivided into study areas (which became the proposed development Sections) and each of the overhead routes was assessed against the others using a range of environment, and socio-economic criteria, compliance with the Holford Rules, cost and professional judgement. Then the preferred route was assessed against the underground cables route. Following consultations, changes were made in some sections, again testing against the Holford Rules [Doc 5.2.1 and Doc 7.2, sections 7.10 to 7.13].
- 5.9.22 The Applicant also applied the Holford Rules as part of a suite of environmental criteria on a section by section basis to appraise the suitability of T-pylons or lattice pylons to particular landscapes [Doc 7.2, Section 7.14 and Doc 5.2.2.6, Appendix 2K]. The Applicant used both the Holford Rules and the Horlock Rules³³ to appraise alternative sites for the Sandford substation and the three CSE compounds [Doc 7.2, Section 5.4 and 7.16 to 7.20].
- 5.9.23 During questioning at the Landscape and Visual including arboricultural matters ISH on 22 and 23 (am) April 2015 (hereafter referred to as the Landscape ISH), the Applicant set out and confirmed it had considered compliance with the Holford Rules together with

³³ National Grid's approach to substation siting and design (2009)

other technical and environmental factors at each stage of refining the routing process [EV-059 to EV-064 and Doc 8.13.3.1, para 5.1 to 5.2].

Representations by others

- 5.9.24 The Joint Councils were not concerned generally about the applicability of compliance with the Holford Rules, but stated that in their view the first part of Rule 4 regarding backgrounding does not benefit blending with the landscape in the same way when using the more solid T-pylon as it does with the lattice pylon. The Applicant concurred that it does not benefit as much from backgrounding, but considers it is still applicable. We asked NE's opinion, who stated that there was no reason for the Rules not to apply, adding that Rules 1 and 2 were in its opinion probably the most relevant [EV-061].
- 5.9.25 Dr Pratt also raised concerns about the "*untried T shaped pylons*" [RR-021] and at the Landscape ISH pointed out that T-pylons are different in character from lattice pylons, for which the Rules were written. He also questioned whether the Holford Rules had been taken into account in consideration of alternative technologies, such as Gas Insulated Lines (GIL). In response to this latter point, the Applicant referred us to the detailed appraisal of the options and reminded us that the Holford Rules had been applied at each stage of assessment. This is covered in more detail in Section 5.14 below.
- 5.9.26 Dr Pratt also raised in particular what he felt was non-compliance with Rule 3, regarding choosing inconspicuous locations for cable sealing end (CSE) compounds. This point had been raised in the WR from the Joint Parish Councils of Compton Bishop, Badgworth and Mark [REP2-018], wherein the compliance with Rules 1, 2 and 4 is challenged. Badgworth Parish Council's WR also stated that the proposed development would fail to meet Rule 1 in terms of avoidance of areas such as AONBs and drew our attention to the photomontages representing views from the AONB [REP2-002]. Badgworth Parish Council also challenged compliance with Rule 6, because the Applicant's justification relates to removal of the 132kV route thereby reducing wirescape but also relies on the benefits of the taller (than 132kV pylons) T-pylon.
- 5.9.27 Badgworth Parish Council also made representation at the ISH, remarking that the guidance associated with Rule 1 which refers to avoiding AONBs had not been met; that the CSE compound, River Axe crossing and the emergence of the T-pylons which are taller and more solid than the existing 132kV pylons do not avoid the AONB's setting [EV-061 and REP4-001].
- 5.9.28 We asked the Applicant to explain how the Holford Rules had been employed in selecting the location for the South of the Mendip Hills CSE compound. The Applicant explained in terms of the location of this CSE, that it had considered Rule 3, the only one that makes specific reference to CSEs and had considered compliance by selecting the route that kept the overhead line as straight as possible and that

utilised the lowest form of gantry. The Applicant also described compliance with Holford Rules, which set out similar criteria as the Holford Rules. We heard reasons for compliance with:

- Rule 2 (avoid high amenity areas such as AONBs) and Rule 3 (protect as far as possible areas of local amenity value) - the CSE compound is over 1km from the AONB boundary;
- Rule 4 (take advantage of screening by landform and existing features) - the Hams Lane Road bridge over the M5 and the motorway would help to screen the compound; and
- Rule 5 (minimise visual, noise and other environmental effects) - the compound is as far as practicable from residential properties.

5.9.29 Bridgwater Without Parish Council questioned how the line over the Polden Ridge could be mitigated and whether the Bridgwater Tee at Horsey Levels with its CSE compound meets the Holford Rules [EV-059 to EV-064].

5.9.30 In response to these points and others about preferences for undergrounding for parts of or all of the route, the Applicant again referred us to where the Holford Rules had been considered during all stages of routing; namely for the strategic options, the preferred connections and detailed routing for each section of the route. In response to a suggestion from Nailsea Against Pylons, that 'costs' such as biodiversity and health had not been considered, the Applicant assured us that each stage had been appraised against all criteria (landscape, visual, heritage, ecology, socio-economic and local amenity) [EV-059 to EV-064].

5.9.31 Portbury Parish Council raised points regarding the Applicant's use of the Holford Rules in coming to its stated preference for route Option A, emphasising that Rule 3 on direct lines is caveated by "*other things being equal*". We deal with this in more detail in Section 5.15 of this report, which considers the route Options A and B.

The Panel's reasoning and conclusions

Routing

5.9.32 Representations had been made regarding the impact on Cadbury Camp Lane (near the top of Tickenham Ridge, in Section E) [EV-001 and EV-003]. We queried how the proposed oversailing at Cadbury Camp Lane would accord more with the Holford Rules than an option which avoided oversailing the road. The Applicant explained the appraisal that had been undertaken in this area, concluded that any route which did not oversail Cadbury Camp Lane would need to follow the route of the existing 132kV lines proposed for removal. Persuading reasons were presented why following the existing lines would be less compliant with Holford Rules 3, 4 and 5 and Supplementary Note 1 [EV-059 to EV-062 and Doc 8.13.3.1, para 5.3 to 5.4]. Following this explanation, the Panel is satisfied the Rules had been used appropriately in the routing selection, so we addressed the need for

mitigation, and improved compliance with Rule 5 through more tree retention, which we report below.

- 5.9.33 In terms of compliance with Rule 2, we had serious concerns in connection with the routing as it would affect the group of buildings containing the Grade I Church of St Quiricus and St Julietta, Tickenham, and the Grade II* Tickenham Court. We asked for additional information on this, which is reported earlier in Section 5.8 on heritage and historic environment.
- 5.9.34 Generally the Applicant has demonstrated to the Panel's satisfaction that alternative routes were explored and considered for compliance with Holford Rules as part of the various stages of the routing process. This is explained in further detail in Section 5.14 of this report. Areas which gave us concern for landscape and visual reasons or heritage reasons are described in the relevant sections below and in Section 5.8.
- 5.9.35 Our consideration of compliance with Holford Rules in the parts of Sections E, F and G where the route Options A and B are considered is reported in more detail in Section 5.15 of this report.

The AONB setting and substation and CSE compounds

- 5.9.36 We shared the concerns of IPs who had raised the matter of the impact the proposed infrastructure would have on the setting of the AONB. We were not persuaded by the Applicant's description at the Landscape ISH of the South of the Mendip Hills CSE compound's compliance with the Horlock Rules. We agree with the findings of the Applicant's consideration of alternative sites for the CSE compound; namely that the proposed site would be the least environmentally constrained of those considered. But we felt the impacts on the setting of the AONB were understated; and hence compliance with Holford Rule 1 and EN-5 was in question. This is based on viewing the site from a number of viewpoints on unaccompanied site inspections (USIs), driving up and down the M5 motorway and also the accompanied site inspection (ASI) to the site, from where it was clear the site would be visible from high points all round [EV-027, EV-159 and EV-166].
- 5.9.37 However we recognise the landscape and visual benefit of undergrounding through the AONB requires a CSE compound somewhere to the south; and the arguments presented by the Applicant regarding the location are accepted. This drew us to explore the potential for different or more mitigation, which we describe below under our reporting of Section C of the proposed route and in Section 5.5 of this report on Good Design. The Panel is satisfied that the mitigation secured through the updated Design Approach document and embedded landscape planting, as we report below, would sufficiently alleviate what were, initially, serious concerns about the potential adverse landscape and visual effects of the CSE compound in this location.

5.9.38 We consider it appropriate for the other CSE compounds, cable bridges and the substation to also be subject to the Design Approach document because, even though not as conspicuous as the South of the Mendip Hills CSE compound, they would still be visible from locally valued locations, such as the Polden Ridge (Rule 2). The Sandford substation, would be visible from the AONB, albeit from more distant views (eg photomontage location VPC13 [Doc 5.18.1]).

Pylon type

5.9.39 The Applicant sets out its compliance assessment with the EN-5, para 2.8.10 regarding the selection of the most suitable type and design of support structure, by referring to the pylon design options report [Doc 5.2.2.6], justifying the T-pylon along the majority of the route because:

- it would minimise visual effects as it is lower than other supports which could be used for a 400kV line; and
- it would use the approximate route of an existing line for the majority of the route [Doc 5.7.1.1, Table 7.4].

The pylon type has been considered on a Section by Section basis and explanation given for the change from T-pylon to lattice pylon in Section G, which we consider further in connection with route Options A and B reported in Section 5.15.

5.9.40 The Panel is satisfied with the thoroughness of the appraisal for recommending pylon type. The area where we had concerns and disagreed with the Applicant's initial proposals is with the colour of the T-pylons. We report further on IPs' opinions about the pylon design and details of the T-pylon later in this section and on the colour in Section 5.5 on good design.

Further tests under EN-5

5.9.41 The Panel has had due regard for the serious concerns expressed by IPs about the potential significance of adverse effects the proposed overhead line would have on the landscape and views. These are reported more fully below.

5.9.42 The Panel's examination and reporting of impacts and costs of overhead and underground options in the context of the landscape into which the proposed line would be set and the additional costs of undergrounding or subsea cabling are reported in Section 5.14 of this report. We consider the environmental and archaeological consequences of undergrounding have been given proportionate consideration by the Applicant in the appraisals of the routing at each stage.

5.9.43 The Panel has considered the Applicant's application and updated mitigation proposals in addition to the Holford Rules, and given some weight to the benefits the off-site planting and enhancement scheme (OSPES) would provide, which the Applicant has offered, subject to

landowner agreement for softening and enhancing the effects of the proposed development. This is reported in more detail below.

Overall conclusions on alternatives as they affect landscape and visual matters

- 5.9.44 The Panel finds that the Applicant has been diligent about considering a range of routing options and sites for the various elements of the proposed project in relation to landscape and visual matters. The work was carried out over a number of years and the level of investigative work exploring the options has been proportionate and in accordance with policy expectations. Areas where we had concerns regarding the seriousness of potential landscape and visual effects have been addressed through mitigation, which we now consider appropriate; and which is described in more detail below.

LANDSCAPE AND VISUAL ASSESSMENT METHODOLOGY

Landscape methodology

The Applicant's case

- 5.9.45 The Applicant's ES includes a volume on landscape, which sets out the five-stage assessment it has undertaken, which it states is in accordance with Guidelines for Landscape and Visual Impact Assessment 3³⁴ (GLVIA3) [Doc 5.6.1, para 6.3.6], illustrated by figures [Doc 5.6.2]. The ES states that the method, which relied on GLVIA2 for the EIA scoping study has been reviewed for compliance with GLVIA3 and has been agreed through consultation with the Landscape and Views Thematic Group. In response to our Q9.2, the Applicant explained this group comprised; NE, the AONB Unit, English Heritage (now Historic England), Forest of Avon Trust and the six councils which form the Joint Councils; and that it had "*agreed the method for landscape and visual assessment*" [Doc 8.1.2, response to Q9.2].
- 5.9.46 The method comprises [Doc 5.6.1, para 6.3.7 to 6.3.68]:
- (a) **Scope:** use of a 3km study area boundary, measured from the limit of deviation (LoD), except for Churchill substation and the CSE platform pylon at Nailsea where a study area of 1km is used. This was fixed following consideration of zone of theoretical visual influence mapping and field assessment.
 - (b) **Establishing the landscape baseline:** desk review of relevant guidance and policy, supplemented with site assessment of landscape character, description of landscape baseline and evaluation of landscape value, which the Applicant records as of local value, unless in the AONB, where value is recorded as of

³⁴ Landscape Institute and Institute of Environmental Management and Assessment (2013), Guidelines for Landscape and Visual Impact Assessment, Third Edition

national level. The Applicant further states "*Where the landscape is recognised as having higher value, but no greater than of local value, this is identified.*" [Doc 5.6.1, para 6.3.33].

- (c) **Predicting and describing the landscape effects:** two steps, identifying the components of the landscape that would be affected by the proposed development and identifying interactions between landscape receptors and different components of the development at all its stages eg direct, indirect, cumulative, short, medium, long term, permanent, temporary, positive or negative.
- (d) **Assessing the significance of the landscape effects:** involves an assessment of a landscape's sensitivity (which is based on the landscape's susceptibility to change combined with the value), recorded as high medium or low (criteria set out in Table 6.7); when combined with an assessment of the magnitude of effect (which is derived from an assessment of the nature of the effect (adverse or beneficial, duration, reversibility, size or scale and geographic extent, direct or indirect), recorded as high, moderate, low or negligible (criteria set out in Table 6.8).
- (e) **Judging the overall significance of landscape effects:** combination of all of the above to allow a final judgement on significance, recorded as major adverse, moderate adverse, minor adverse, neutral, minor beneficial, moderate beneficial and major beneficial (criteria set out in Table 6.9).

5.9.47 The assessment is undertaken for different stages of development, assuming reasonable worst case scenarios. This includes construction stage effects, effects during operation (in the short and medium term; at opening and to year 15), and residual landscape effects after year 15 when the Applicant states the 'guaranteed mitigation planting' would have established and during decommissioning. The methodology also ensures consideration is given to the inter-relationships with other effects of the project such as biodiversity and cumulative assessment [Doc 5.6.1, para 6.3.67 and 6.3.68]. These points are the same for the visual methodology described below.

5.9.48 Consideration is given in the ES to the effects of climate change on landscape character in the context of changes predicted for the southwest. It is stated that the proposed development would affect landscape character adversely, for which mitigation at the site-specific infrastructure is proposed in the form of planting. The specification for the new plant material would be in accordance with guidelines that would ensure that mitigation planting has the greatest resilience to the potential effects of climate change [Doc 5.6.1, para 6.5.411 to 6.5.419].

The case made by other Interested Parties

The Joint Councils

5.9.49 The points made by the Joint Councils in the SoCG with the Applicant are also covered, in the main; sometimes in more general terms, in

their LIR. The Joint Councils point out in their LIR that there is lack of clarity regarding which effects are significant in EIA terms in the Applicant's landscape and visual impact assessment (LVIA) [REP2-111, ref 6.2].

- 5.9.50 In response to our Q9.1 on this topic, the Applicant explained how it had assessed significance, referring us back to its methodology and to GLVIA3 which suggests that the term "*significant in EIA terms*" should not be used and does not form part of the EIA Regulations [Doc 8.1.2, response to Q9.1]. The Applicant explained that "*effects of moderate and major significance would be those effects anticipated to be of likely significance to be included in an ES*", and for completeness other less significant effects are also reported. We explored this further at the Landscape ISH on 22 and 23 April 2015. The Applicant reiterated points made in its response to Q9.1 and the Joint Councils confirmed they were content with the approach as set out in response to that question [EV-059 to EV-062].
- 5.9.51 During the Examination, the Joint Councils expressed surprise that the landscape character assessment had been carried out at the broad scale of sections. They said they had no objection to the route being divided into sections but they considered taking a Section as a single landscape receptor has the effect of averaging out and missing out areas of high value, citing Puriton Ridge and Brent Knoll as examples. They considered locally distinctive areas should have been assessed as separate character areas [EV-059 to EV-062 and REP4-005, point 6].
- 5.9.52 The Applicant disagreed, it considers the sections were agreed with the Joint Councils and each section has "*sufficient similar characteristics to make it an appropriate unit in which to make and report on assessments.*" [Doc 8.13.3.1, para 2.17]. The disagreement continued in response to our second round questions. The Applicant acknowledged that there are areas which command a higher value than other immediate areas, but none that reached a tipping point into a higher category [Doc 8.18.1, response to Q2.9.2]. The Joint Councils reiterated their view that the use of the Sections has led to an over-simplistic approach leading to under-assessment and they cited specific examples in Sections A, B and E. They argued that if a finer grained approach had been used, it is likely that more significant local effects would have been identified [REP5-012].
- 5.9.53 In the SoCG, updated SoCG and LIR, the Joint Councils set out that in their view the Applicant had under-assessed the significance of effect in Sections C and G. They cited the example in Section C (the AONB) where landscape receptors which would have high sensitivity and experience effects of moderate adverse magnitude in the Applicant's approach would experience a moderate adverse significance of effect, whereas the Joint Councils consider this should be major adverse significance of effect. They stated that the Applicant's approach unduly moderates the significance of the predicted effects, with the moderate category being much broader than the major category. The Applicant stated it is satisfied with the appropriateness of its assessment [Doc

8.3.12A, ID 6.1, 6.6, 6.7] and does not agree that the criteria for major adverse effect apply in this case.

5.9.54 Additionally the Applicant did not agree that it is appropriate to use "a rigidly deterministic matrix", which is how it viewed the Joint Councils' suggestion; instead it argues "assessment requires interpretation through the application of professional judgement within an objective framework." This matter was not resolved between parties [Doc 8.3.12A, ID 6.1].

5.9.55 The updated SoCG between the Applicant and the Joint Councils continued to itemise disagreement over assessment of significance of effects in the landscape assessment, which were further used as justification for a Community Impact Mitigation (CIM) fund [REP7-067].

The Panel's reasoning and conclusions on landscape methodology

Methodology or professional judgement?

5.9.56 It seems to us that the majority of the differences we heard in evidence were differences in professional judgement between the way in which the Applicant has applied its methodology rather than fundamental differences with the methodology itself. The Applicant made this point at the Landscape ISH, which was not contested by other parties [EV-059]. However there are a number of areas of disagreement with the application of the methodology, which we now report upon.

5.9.57 The mechanism for agreement of the methodology by the Landscape and Views Thematic Group lacks clarity to us. Their role was not explained in the ES and in response to our Q9.2, the Applicant told us the Thematic Group discussed and agreed methodology, but the Joint Councils told us it did not, as the terms of reference of the thematic group made it clear it was not a decision making group. As stated above with regard to the AONB, the Applicant and NE did not agree the outcome of the assessment.

5.9.58 There was also frustration mentioned on the part of some parish councils regarding what they saw as lack of inclusion by the Applicant of important landscape (and visual) considerations they had raised through consultations which did not appear in the final assessment. The parish councils stated they were excluded from the Landscape and Views Thematic Group [EV-059 - EV064]. The Applicant presented evidence of consultations; but this did not compensate for what was reported by parish councils as being omissions from assessments.

5.9.59 In their opinions, the assessments would have been better informed if more soundly based on local knowledge. There remained frustrations at having had no involvement in the landscape aspects of the strategic optioneering. In fact there were some lengthy submissions, such as that from Compton Bishop Parish Council, regarding their strong

feeling of poor practice and lack of engagement over a number of years, on a number of issues including landscape and visual matters [REP7-008].

Significance

- 5.9.60 The Joint Councils indicated they were content with the Applicant's response at the Landscape ISH, which confirmed that assessments of moderate or major are those likely to be deemed significant in the ES. We therefore have no further points to make on this subject.

Use of sections for landscape character assessment

- 5.9.61 The disagreement between the Applicant and the Joint Councils is twofold. Firstly; there was disagreement as to whether the Sections had been agreed as the units for landscape character assessment by the Landscape and Views Thematic Group. We do not consider this matter further, as neither party has provided conclusive evidence and it is a fact that the sections have been used for this purpose in the ES.
- 5.9.62 Secondly, in terms of the appropriateness of the sections as units for landscape character assessment, it seems both parties agree there needs to be some method of creating suitable divisions for landscape character assessment for a project that is geographically as extensive as the proposed development would be. However we agree with the Joint Councils that a fine-grained approach might have led to placing greater significance on locally valued landscapes. This could have been achieved by use of a greater number of sectional divisions, but at the risk of becoming cumbersome for reporting. It could equally have been achieved by more consideration being given to locally valued and important elements within a broader landscape character area. The Applicant considers it has done this. For the most part, we think the Applicant was right to select reasonably wide-reaching units for the overall assessment. However, we disagree with the Applicant's approach and assessment in its blanket assessment of the value of the landscape as 'local' outside the AONB.

Value of the landscape

- 5.9.63 The Applicant considers it has given weight to the value of local landscapes in its detailed assessment of sections. It has identified areas of greater than local value, but found that even the highest areas of local value would not reach a tipping point necessitating a category between local and national. The Applicant has no such category. The Applicant stated that its understanding is that the Joint Councils do not claim in their published landscape character assessments or in their submissions to the Examination that a value greater than local should have been applied to these locally distinctive sites such as Brent Knoll [Doc 8.18.1, response to Q2.9.2]. However we did hear at the Landscape ISH that the Joint Councils had concerns about value which had been raised prior to the application's submission, which had not been addressed [EV-059].

- 5.9.64 We are told on a number of occasions by the Applicant that GLVIA3 is guidance not prescription [Doc 8.27.10]. We think in this situation, especially having read and listened to the local representatives on parish councils, that there could have been a better way of giving weight to locally distinctive landscapes, such as having more categories within the local value. We agree with the Joint Councils that the Applicant's approach has the likelihood of moderating the outcome of the landscape character assessment.

Residual landscape effects

- 5.9.65 In response to Q9.8 in which we asked about residual landscape effects, and the different degrees of moderate adverse effect, the Applicant explained "*the significance of effect represents a continuous scale from no effect to a major effect*", and justifies this from guidance in GLVIA3 [Doc 8.1.2, response 9.8.3]. This being the case, we would have expected more variation in final descriptions of effects; to reflect where on the continuum the particular adverse effect occurs rather than three possible categories (excluding neutral), only two of which (minor adverse and moderate adverse) occur.

Conclusions

- 5.9.66 Following lengthy questioning on landscape (and visual) methodology in first round questions, second round questions and the Landscape ISH, it was clear that professional disagreements would prevail through the Examination, as indeed they would on visual matters. Our approach therefore was to focus on areas that we and IPs had raised as needing extra or different mitigation or enhancement. We asked the Applicant whether there were areas that merited further consideration in terms of landscape mitigation or enhancement and received a response; the details of which are considered under the relevant section reporting below [Doc 8.18.1, response to Q2.9.2(b)]. The Applicant's responses were mainly in relation to enhancement via OSPES rather than mitigation. We report on OSPES later in this section.

Visual methodology

The Applicant's case

- 5.9.67 The Applicant's ES includes a volume on visual effects, which sets out the five-stage assessment it has undertaken, following the same steps as for the landscape assessment described above [Doc 5.7.1.1, para 7.3.3 to 7.3.82]. These are:
- (a) **Scope:** as for landscape.
 - (b) **Establishing the visual baseline:** ZVTI mapping and visual survey work to establish the basis for defining the area from which the overhead line is visible, site assessment, selection of parameters for viewpoints using ZVTI, Thematic Group discussion and field assessment. Field assessments undertaken for all receptors within 1km of LoD, representative views between 1km

and 3km, valued views over 3km, views from long distance published routes, assessment of removal of 132kV lines and undergrounding and assessment of proposed substations and CSE compounds.

- (c) **Predicting and describing visual effects:** identification of effects considering nature of the view including filtering, angle, backgrounding etc, proportion of view affected, distance from receptor, value of view, degree of change from baseline.
- (d) **Assessing the significance of visual effects:** involves an assessment of a receptor's sensitivity (which is based on susceptibility to change combined with the value), recorded as high medium or low (criteria set out in Table 7.6); when combined with an assessment of the magnitude of effect (the effect's duration, reversibility, size or scale and geographic extent, backgrounding, nature of view direct or indirect), recorded as high, moderate, low or negligible (criteria set out in Table 7.7).
- (e) **Judging the overall significance of visual effects:** combination of all of the above to allow a final judgement on significance, including adverse or beneficial, recorded as major moderate minor or negligible (criteria set out in Table 7.8).

5.9.68 Climate change effects are considered by the Applicant in the ES. When considered against predicted changes to landscape and views in the southwest, it is not predicted that the overall assessment, which concludes adverse visual effects, would change as a result of climate change [Doc 5.7.1.2, para 7.5.859 to 7.5.866].

Photomontages

5.9.69 A number of IPs, such as Compton Bishop Parish Council [REP2-016] and Badgworth Parish Council [REP2-002] stated that the photomontages are misleading and/or do not show a specific viewpoint that is considered important locally. The Applicant referred us to the methodology and explained that photomontages are representative, but that the assessment was undertaken independently of the photomontages [Doc 8.5, para 1.2.16]. This point was also made at the Landscape ISH on 22 April 2015 [EV-059 to EV-062], when the Applicant was requested to explain the role of photomontages in its methodology. The Applicant also explained in response to our first round questions that it is a misconception "*that if there is no photomontage, there cannot be a reported assessment for a receptor*" [Doc 8.1.2 response to Q9.23].

5.9.70 There were also representations in writing and at hearings, when some IPs felt that the photomontages were in some way incorrect. We are satisfied that the Applicant's responses in these cases (which we have not detailed here) demonstrated the accuracy of the photomontages.

5.9.71 The photomontages submitted with the application had not all taken account of vegetation to be removed. We asked for clarification of this

in our first round questions. The Applicant referred us to the Arboricultural Impact Assessment (AIA), [Doc 5.21.1A] which sets out which trees are proposed for removal and which could be affected. The Applicant also advised us that following SoCG discussions with the Joint Councils, further work had been undertaken to clarify tree removal within a photomontage view and additional information and annotated photomontages were submitted at Deadline 2 [Doc 8.2.3 to 8.2.24] and updated photomontages at Deadline 3 [Doc 8.7.4.1 to 8.7.4.4].

- 5.9.72 We asked the Applicant to provide a number of additional photomontages, which were submitted at Deadline 3 [Doc 8.7.1, 8.7.2, and Docs 8.7.3, Figures 8.7.3.23 to 8.7.3.32]. Two of these were in response to a request from the Avonside Campaign to Protect Rural England (CPRE), the precise locations of which were agreed between the Applicant and the Avonside CPRE. In response to our request for some views from private land to be illustrated by photomontage, the Applicant referred us to the GLVIA3 guidance which does state that public viewpoints should be considered, with private viewpoints only sometimes considered after consultation with the decision maker. In the cases of Droveway Farm, where the substation is proposed to be located and Elm Tree Park, on which we had received representations, we felt the request was justified. The Applicant was able to gain the relevant access from the land owners [Doc 8.1.2, response to Q9.24 and Q9.27]. The Applicant also submitted a new photomontage of Hallen Marsh following a matter raised during SoCG discussions with the Joint Councils [Doc 8.7.3.7, Figure 8.7.3.33] and new photomontages that relate to the Wessex Water re-alignment [Doc 8.7.4.3 and Doc 8.7.4.4].

The case made by other Interested Parties

The Joint Councils

- 5.9.73 The Joint Councils agreed with the method of visual assessment and its application in most areas. There is sustained disagreement (which it appears has been subject to dispute also during pre-application discussions) over the way the visual effects have been assessed in situations where there are high sensitive receptors experiencing a moderate adverse magnitude of effect. The Joint Councils argue this logically should result in a major adverse effect; that the method underestimates the significance of effects; and moderate, and lower categories are much broader than the major category [Doc 8.3.12A, ID 7.1].
- 5.9.74 The Applicant explained it has not used a symmetrical matrix to combine judgements. It has applied professional judgement within an objective framework and this accords with industry practice and guidelines both in GLVIA3 and from the Institute of Environmental Management and Assessment.

- 5.9.75 The Joint Councils pointed out that only one visual receptor is predicted to experience a major adverse effect (Droveyway Farm). This is a point we had also sought clarification upon in Q9.24 and which was confirmed by the Applicant. In fact the Applicant advised us at the Portbury/ Portishead ISH on 22 May 2015 and confirmed in the SoCG with the Joint Councils that this was an over-assessment; and is now assessed as moderate adverse [Doc 8.3.12A, ID 7.1].
- 5.9.76 At the Portbury/ Portishead ISH, the Applicant explained its general approach for visual assessment of overhead lines is based on the primary visual characteristics of an overhead line being conductors suspended between supports. The Applicant argued that whilst these are visible they rarely obscure existing components of views, when compared for example, with a large building that might completely alter what is visible in a view [Doc 8.3,12A, ID 7.1 and Doc 8.13.11, para 4.3].
- 5.9.77 The Joint Councils' differences with the Applicant over the visual assessment are then also set out for specific locations section by section in the SoCG [Doc 8.3.12A, ID 7.5 to 7.12]. We cover these points in the Section by Section reporting below. The Joint Councils also disagreed with the application of the methodology to the assessment of effects on long distance footpaths and cycleways, published footpaths, and regional transport routes. [Doc 8.3.12A, ID 7.13].

Parish Councils

- 5.9.78 A number of parish councils questioned the way the Applicant has applied the Holford Rules. This has been covered above. They also suggested that the significance of visual effects on certain properties had been under-assessed.

Avonside CPRE

- 5.9.79 In its RR, Avonside CPRE suggested that visual impact could cover a corridor 5 miles either side of the proposed line [RR-146]. We asked other parties views on this and the Joint Councils expressed some concern over the lack of a formally defined study area, and indicated that topics such as landscape and visual might require more extensive study areas (up to 10kms) because of the solid nature and visibility of the T-pylon [REP2-087]. The Applicant pointed out that the SoCG confirmed agreement on study areas and a 10km interaction zone for cumulative effects [Doc 8.9, Q9.7 comment on response].

Others

- 5.9.80 A number of IPs make reference to the National Grid Visual Impact Provision Scheme, whereby £500million has been allocated by Ofgem to reduce the impact of existing overhead lines in National Parks and AONBs. The Applicant explained in response to Mark Parish Council's WR that this funding is specifically targeted at the existing overhead network and does not apply to new connection projects because visual

impact is considered as part of the planning process; and it is only for nationally designated landscapes; and in the case of this project undergrounding is already proposed for the AONB [Doc 8.5, para 1.1.8 to 1.1.11].

The Panel's reasoning and conclusions on visual methodology

- 5.9.81 The Applicant's visual assessment in its ES is very detailed and thorough, assessing visual impact on all receptors within 1km of the proposed development in a systematic way. The ES states that during consultation with the Landscape and Views Thematic Group it was agreed that private views from residential properties should be considered [Doc 5.7.1.1, para 7.3.47]. The drawings recording receptor type and significance of effect for each receptor during construction and during operation are clear and useful [Doc 5.7.3.1 and 5.7.3.13, Figures 7.30 and 7.31], as are the tables which set out the effects for each receptor [Doc 5.7.2.1 and 5.7.2.2].
- 5.9.82 On occasion the effects are predicted for groups of houses, rather than individually and we consider this is acceptable in terms of good practice as explained in the Applicant's Note on aggregation of receptors for visual assessment [Doc 8.27.9]. It is also helpful that the text of the ES is well illustrated with inserts from the aforementioned drawings and some of the photographs and photomontages. The ES is also well supported by a large number of photographs of views in all the different sections [Doc 5.7.3.3 to 5.7.3.11].
- 5.9.83 However the application of the methodology lacks transparency in places; and it became less clear after some of the Applicant's responses to our questions. As stated above with regards to landscape assessment, we decided the best approach was to focus on specific areas that might require additional mitigation or enhancement rather than exploring areas of disagreement between the Applicant and particularly the Joint Councils in more detail. We thought some progress had been made in this regard at the Landscape ISH, when the Joint Councils acknowledged there needed to be some flexibility in what planting would be delivered, rather than debating differences [REP4-005].
- 5.9.84 For completeness, we report on the areas of disagreement below because they were raised during the Examination and in some cases are used as further justification for the Joint Councils' request for a CIM fund [REP7-067].

Suggestion of under-assessment

- 5.9.85 Like the Joint Councils, we also had concerns about under-assessment of significance of visual effects. This arose from a similar point made earlier with regard to landscape methodology and the way the Applicant has used its assessment of value of a view in the overall assessment. We consider this has a depreciating effect on the overall assessment of significance because there is no differentiation between

the way value of views is assessed apart from those in the AONB and on national trails and cycleways, which are ascribed with national value; and published walks, the M5 and railways which are ascribed with regional value. All others are assessed as having local value [Doc 8.1.2, response to Q9.3].

- 5.9.86 The methodology states that locally important views were identified through discussions with the Landscape and Views Thematic Group and Community Forums. However, no weight has been given to the value of any of those views other than those in the AONB or those falling in the regional categories mentioned above.
- 5.9.87 This point is raised by a number of parish councils in connection with their locales. The Applicant's response to our Q2.9.12, also on this topic, seems to be saying that more weight has been given to public than to private viewpoints [Doc 8.18.1]. However, all residential properties in the AONB have been ascribed national value. In response to Q2.9.12, the Joint Councils agree that more weight should be given to public views. They do not consider it appropriate that views from individual or groups of private dwellings should be judged to be of national value. They state residential views should be assessed objectively, taking into account their particular context and sensitivity to change [REP5-012].
- 5.9.88 The Panel agrees with the Joint Councils. If residential receptors are assessed in detail, then the bespoke approach should allow consideration of the value of views in an open and transparent way, according to context. The conclusion might then vary according to a range of factors, not just being dependent on whether a residential receptor is located within or outside the AONB.
- 5.9.89 We asked the Applicant to reconsider a number of its assessments in our second round questions in light of the major adverse assessment at Droveaway Farm (Sandford substation site). Many of the receptors were ones which had been identified by the Joint Councils in the SoCG with the Applicant [Doc 8.3.12] and some by parish councils. In response to Q2.9.8 [Doc 8.18.1, responses 2.9.8.1 and 2.9.8.13 to 2.8.9.19], the Applicant firstly stated that, based on more recent photomontage evidence it now considered it had over-assessed the significance of visual effects during operation at Droveaway Farm, stating it should be moderate adverse not major.
- 5.9.90 The Applicant responded to our question regarding assessments at other locations by saying that during operation, it does not consider any additional mitigation is required for land it would acquire. Moreover, it has not identified any landscape and visual effects it considers would be so harmful that the proposed development would be unacceptable.
- 5.9.91 However the Applicant does concede that softening the scheme through voluntary agreements, as set out in EN-5 would be beneficial and has pursued additional planting proposals in a number of

locations. The Panel's opinion is that the softening and enhancement and some of this additional planting is necessary to make the proposed development acceptable in planning terms. The Panel's opinion on the specific proposals is contained in the Section descriptions below.

Use of intermediate categories for assessment of effects

5.9.92 We asked the Applicant why there was some limited use of intermediate categories of assessment in Sections F and H. The Applicant explained it tried to avoid the use of anything other than the categories of effect defined in its methodology. But it had used intermediate categories where there was uncertainty about the impacts on the receptors or if impacts varied within a group of receptors and where it was not appropriate to the level of detail to assess each receptor. The Applicant drew our attention to the fact that the intermediate categories were between negligible or minor adverse and were therefore not material differences [EV-135 and Doc 8.13.11, para 3.2]. There was also a moderate/minor adverse category which was the assessment outcome for two particular stretches of the M5 motorway.

5.9.93 The Panel is of the opinion that more categories would have been useful and might have resolved some of the differences with the Joint Councils and could have been used to pinpoint areas where enhancement needed to be prioritised or mitigation was needed.

Guidance update to GLVIA3

5.9.94 It was apparent that the earlier work, such as the Connection Options Report and the EIA scoping report, has been undertaken using GLVIA2. The LVIA in the ES has been undertaken using GLVIA3, which was published in April 2013. We asked the Applicant to set out a note explaining the changes between approaches particularly with regards sensitivity of receptors [Doc 8.27.10]. The Applicant's explanation of the way the GLVIA3 guidance on sensitivity of receptors has been used, and the inclusion of the value of a view in the assessment, reinforces our opinion that the attribution of local value to the majority of views assessed has had a depressing effect on their overall evaluation.

Extent of study area boundary

5.9.95 Various USIs took place in the area proposed for the development where lattice pylons could be viewed from 3km and more. Also, the Panel took part in an ASI and USIs to Eakring where we viewed the test T-pylons (which are more closely spaced than they would be in the proposed development) from various distances. We are satisfied that the Applicant has used a suitable study area for both landscape and visual assessment. The Applicant also explained that it had used a 10km zone of interaction for identifying cumulative effects [Doc 8.9, response to Joint Councils' response to Q9.7].

Conclusions on methodology and way forward for further examination

- 5.9.96 The Applicant is clear that GLVIA3 is written from a position of guidance not prescription. We accept this point which means it gives those undertaking assessments flexibility to adopt a suitable methodology for a specific project. The guidance sets out an intricate process which involves integrating a number of steps. By its nature this relies on professional judgement at different stages. This is a function of the subject matter and in our view an apt approach. However it does mean that others' judgements may differ. We explored those differences and concerns we had, from a methodological point of view, in first and second round questions and at the Landscape and Portbury/ Portishead ISHs.
- 5.9.97 We heard from NE that it agreed the methodology for the AONB, even though it did not agree the findings of the assessment in that area. The Panel is content that the Applicant's methodology complies with EN-1; and that it is the application of the methodology which is at issue.
- 5.9.98 In our opinion, both landscape and visual assessments have reached conclusions to some assessments which represent an under-assessment of the significance of effects. We agree with the Joint Councils' point of view that the moderate category is much wider than others. However we also listened to the Applicant's explanation of what would constitute a visual effect of major adverse significance, such as views where for example site infrastructure filled a large amount of the view during operation for the long term.
- 5.9.99 It would have been helpful if the specific overhead line-related description given at the Portbury/ Portishead ISH had been used throughout, in place of the rather generic explanations of typical criteria given in the ES (Table 7.8). The Panel accepts, from the explanation given at the ISH, it is unlikely that significant effects of major significance would arise other than from views very close to substations or CSEs. This is because the methodology requires a high magnitude of effect before an assessment of major significance can arise. We disagree with the Applicant's statement at the Landscape ISH that the process of ascribing degrees of significance is transparent. We and other IPs did not find it easy to follow.
- 5.9.100 In the Panel's opinion, these shortcomings give even more reason to have considered sub-divisions within the moderate category. The Applicant has stated, as reported above, that the assessment of effects is on a continuum. We consider that more assessment categories within that continuum would have been helpful for targeting site-specific mitigation or enhancement. However the Applicant has proposed mitigation for some landscape and visual effects of moderate significance.

- 5.9.101 We agree with the Joint Councils that the way the sections are used in the landscape assessment has led to an underestimation in the assessment. We also think the way the value of a view has been assessed, without reference to context other than location in or out of the AONB has downgraded the assessment of the significance of effects. The Panel considers the amount of resource involved in the assessment of all residential properties (individually or appropriately grouped) is undermined by applying the same value to all views, except in the AONB and by then being reported overall in quite broad sections. The section by section summaries of the receptors of visual effects of greatest significance in Section 7.10 of the visual assessment are useful, but lack any overall analysis of what if anything could be done to temper remaining adverse effects.
- 5.9.102 It was apparent that agreement on professional judgement between the Applicant and the Joint Councils would not be reached. Therefore our focus to move examination of matters forward was on locations where we and IPs felt there would be benefits to additional enhancement and/or mitigation and exploring ways that modifications and improvements to the initial application proposals could be achieved. The Applicant agreed that softening through voluntary agreements could be beneficial. Relating this to EN-5, we saw a clear distinction between:
- areas which would benefit from softening through "*landscape schemes*" (as described in EN-5), for which it is recognised landowner agreement is necessary; and
 - locations which would benefit from "*screening*" comprising localised planting in the vicinity of residential properties or important views.
- 5.9.103 The Joint Councils accepted the Applicant's point that if a location is identified as necessary for mitigation, it potentially becomes a ransom strip [EV-059 to EV-062]. Indeed the Joint Councils acknowledged that academic discussion about enhancement or mitigation would not help the Panel [REP4-005]. We wanted to find a way of prioritising some enhancements as more important than others and we progressed this by requesting further work in some specific locations, which we report Section by Section and later under the subtitle 'Mitigation and Enhancement'.
- 5.9.104 In the main, we accept the Applicant's argument that none of the additional landscape and visual effects identified "*are so adverse that it indicates the Proposed Development is unacceptable from a landscape or visual perspective.*" [Doc 8.6.1, ref 6.3]. We accept this point, having given weight to the contribution to softening and enhancement the quantum of OSPES planting would make, which is compliant with the specific mitigation measures to which EN-5, para 2.8.11 refers. We also give weight to the replacement planting, which we consider to be necessary to make the proposed development acceptable in planning terms.

- 5.9.105 The exception is the impact of the South of the Mendip Hills CSE compound on the landscape and views. We do not think the proposals in the application meet the policy requirements in landscape and visual terms of EN-1 or EN-5. Our further exploration on this matter is described below under the reporting of Section C of the route because of its relationship to the setting of the AONB; despite the CSE compound being located in Section B.

LANDSCAPE AND VISUAL EFFECTS OF THE APPLICATION

Introduction

- 5.9.106 In the order of 60 RRs made reference to the effects of the proposed development on landscape and views, including comments on the visual impact of the 400kV overhead line and pylons and other associated infrastructure such as substations and CSE compounds. Landscape and visual impact comprised a large proportion of the points heard at the OFHs and continued to be a topic with more evidence presented in WRs and at ISHs. We report on a section by section basis below, except for the Portbury/ Portishead area which is reported separately in Section 5.15 of this report.

Reporting by section

- 5.9.107 The reporting below follows the Sections set out in the ES, which covers landscape assessment [Doc 5.6.1] and assessment of visual effects [Doc 5.7.1.1 and 5.7.1.2 and Doc 5.7.2.1 and 5.7.2.2, appendices 7A to 7I]. The Section lines and viewpoints for verified photomontage locations are set out [Doc 5.18.1]. The ES assessment of visual effects [Doc 5.7.1.1 and 5.7.1.2] helpfully includes extracts from drawings which illustrate the results of the assessment of the significance of visual effects during construction and operation on a receptor by receptor basis [Doc 5.7.3.12 and 5.7.3.13 and 5.7.3.14A, Figures 7.37 to 7.40]. The embedded landscape mitigation proposed is shown [Doc 5.7.3.14A, Figures 7.32 to 7.36].
- 5.9.108 Our reporting follows a structure which briefly describes the Section extent and the proposed works, then the ES findings in terms of significance of effects. The descriptions are taken from the Applicant's documents. However, USIs were undertaken widely over the proposed route alignment area supplemented by ASIs particularly to arrange access for the Panel to view from private land [EV-166 and EV-027].
- 5.9.109 The case made by IPs is then described followed by our reasoning and conclusions. In this latter part, we refer to the 'pinch-points' identified by the Joint Councils and the areas where there is *"greater adverse landscape effect within the moderate category"* as described by the Applicant, as these are areas on which specific attention focussed at the Landscape ISH and through the Examination.

Section A: Puriton Ridge

- 5.9.110 Section A extends north across the Horsey Level over Puriton Ridge to Woolavington Road. The landscape character is of flat, low lying farmland divided by rhynes³⁵ and hedgerows rising to Puriton Ridge, a distinctive wooded backdrop and skyline. The views are expansive and long distance north and south from Polden Ridge (Viewpoints south: VPA3, VPA7 and north: VPA5, VPA8 [Doc 5.18.1]). The ridge forms a characteristic feature in views from the Levels particularly from the south, with a more gradual slope northwards towards Woolavington. Steel lattice pylons are visible in the landscape.
- 5.9.111 The proposed works would include modifications at Bridgwater substation, Bridgwater Tee CSE compounds, 400kV overhead line on T-pylons across Horsey Level and Puriton Ridge, undergrounding 400kV line and removal of 132kV overhead line.

The Environmental Statement and Applicant's findings

- 5.9.112 The Section A Levels landscape is assessed as having local value, with Puriton Ridge assessed as an important and valued landscape feature (but with no more than local value) [Doc 5.6.1, para 6.4.173 to 6.4.182]. The significance of effects on the landscape during construction is predicted as minor adverse for the 132kV line removal and Bridgwater substation modifications and moderate adverse for proposed overhead 400kV lines, the 400kV undergrounding and the Bridgwater Tee CSE compounds [Doc 5.6.1, para 6.5.50]. The significance of residual operational effects on landscape character from the proposed overhead line is assessed as moderate adverse. The significance of residual effects from the Bridgwater Tee CSE compound, including the proposed embedded landscape mitigation is assessed as minor adverse on opening and minor adverse to neutral at year 15 [Doc 5.6.1, para 6.8.10 to 6.8.12].
- 5.9.113 The value of the views is assessed as having local value, with the local distinctiveness of the Levels and Puriton Ridge acknowledged. Views from long distant trails and national cycle routes are assessed as national value [Doc 5.7.1.1, para 7.4.9 to 7.4.19]. The ES states that Puriton Ridge would play a role as backdrop in terms of Holford Rule 4.
- 5.9.114 The significance of construction effects on views is assessed as minor adverse or negligible for most receptor views, except where construction operations would be visible in a large part of the view, short-term, leading to moderate adverse significance [Doc 5.7.1.1, para 7.5.38 to 7.5.43]. The significance of effects on views during operation is assessed as minor adverse or negligible for the majority of public and private receptors on completion and in the medium term. Impacts to views for receptors closest to the proposed development are assessed as of moderate adverse significance and for those where

³⁵ field drains

views of the 132kV line would be removed, with more distant views of the proposed T-pylon 400kV route being assessed as of minor beneficial significance. Views from the PRoWs where they pass under the proposed 400kV line (A1.F4, A1.F7, A1.F8 [Doc 5.7.1.1, Inset 7.44]), are assessed as experiencing a greater adverse magnitude of effect, but remaining as moderate adverse. A summary of the visual effects of greatest significance is provided [Doc 5.7.1.2, Table 7.12].

The case made by other Interested Parties

The Joint Councils

- 5.9.115 The Joint Councils disagree with the assessment of moderate adverse significance of effect for receptors walking on the Polden Ridge (Puriton Ridge, part of Polden Hills), which offers panoramic views north and south over the Levels, stating the significance of adverse visual effects should be major and additional mitigation is necessary. The Applicant disagrees and considers the assessment is robust [Doc 8.3.12A, ID 7.1, ID 7.5]. Puriton Ridge is a pinch-point as set out by the Joint Councils and also an area where greater adverse magnitude of effect on views would be experienced as defined by the Applicant.
- 5.9.116 The Joint Councils' LIR made proposals for additional planting [REP2-112, Appendix B, Figure 1]. The Applicant's final response is set out in the updated SoCG, where it states which additional planting it considers reasonable and has included in the updated OSPES [Doc 5.25.1B and associated Appendices and Figures] together with reasons for not including other planting requested. Cllr Fraser spoke at the OFH in Mark on 17 March 2015 about Sedgemoor District Council's concerns regarding the landscape and visual impact of the proposals and the inadequacy of the planting proposals for mitigation. Cllr Fraser cited locations for which she had particular concerns which cover Sections A, B and C [REP3-019].

Parish Councils.

- 5.9.117 Bridgwater Without Parish Council mentioned concern about visual impact in its written representation [REP2-009] and made further specific comments at the Landscape ISH and the Mitigation and Enhancement ISH [EV-065 to EV-066]. The Parish Council noted that the typical landscape is one of drains and rhyes with wet areas and hedgerows. It was felt that restoration and improvement of rhyes would be more important to this landscape than additional tree planting.

The Panel's reasoning and conclusions

Puriton Ridge

- 5.9.118 Puriton Ridge is a location where Applicant and Joint Councils agree that the effect would be harmful at a recognised pinch-point. In our opinion there is no doubt that views of the proposed development both towards Puriton Ridge and from the Ridge in two directions would be

significant. As shown by Photomontages VPA3 and VPA8 [Doc 5.18.1, Figure 18.1.1], there is little that can be achieved by planting to screen the 400kV line and T-pylons over the Ridge and the CSE compounds would be visible in distant high level views, where planting would not be effective for screening. Footpaths A1.F4, A1.F7 and A1.F8 have expansive views; and views of the overhead line and T-pylons would be experienced as the line crosses the Levels and the Ridge.

OSPES Planting

- 5.9.119 We undertook another USI along footpath A1.F7 on 18 June 2015 to help us consider the proposals for additional planting made by the Joint Councils. The Applicant has agreed to planting of 12 additional hedgerow trees. The Applicant does not consider any other of the Joint Councils' proposals to be necessary. We agree with the Applicant that the small blocks of woodland proposed by the Joint Councils are not in keeping with the large woodland blocks in this area and that the hedge planting suggested is not necessary. The Panel does not consider the changes are therefore required to the OSPES planting in Section A. However we do consider the OSPES as proposed by the Applicant to be relevant and necessary in planning terms.
- 5.9.120 As the Applicant and Joint Councils deal with the southerly part of Section B in their Section A comments in the SoCG [Doc 8.3.12A, ID 6.15], we do likewise. We agree with the Joint Councils' proposal, that pollarded willows along the Causeway leading north from Woolavington would be an appropriate enhancement to this route to and from the settlement and would help filter views westwards. We do not accept the Applicant's reasoning that receptors would experience visual effects of no more than minor adverse significance so there is no need to soften views or enhance landscape character.
- 5.9.121 Moreover, we do not accept the Applicant's argument that field boundary vegetation would intervene in views. The existing 132kV lattice pylons are visible above this vegetation and those pylons are lower and further away from the road than the proposed development. We recognise that no OSPES planting locations are guaranteed, but we consider this to be one place where the Applicant should make every effort to provide planting of the type suggested by the Joint Councils.

OSPES Landscapes of distinction

- 5.9.122 The OSPES in the s106 agreement contains an element for landscapes of distinction but does not detail the way in which allocation of the distinctive landscapes funds would be agreed locally [Doc 8.4B, Schedule 9, Part C]. The description in the ES mentions funds could be used for the management of rhynes and ditches amongst other landscape assets, which contribute to local landscape character [Doc 5.25.1B, para 7.4.1].

- 5.9.123 We consider the points made by Bridgwater Without Parish Council regarding the importance of the rhynes to the Levels landscape should be borne in mind in the local authority's allocation of funds within this section available from the OSPES distinctive landscapes part of the s106 agreement funding to specific projects. There would be benefit in garnering opinions from nearby parish councils, but we do not consider further action is required by the Secretary of State in this regard; a point relevant to all sections of the proposed development.

Conclusions for Section A

- 5.9.124 The Panel considers the landscape and visual assessment has fulfilled the requirements set out in EN-1. The need for the alignment to pass over the distinctive Polden Ridge would result in impacts on landscape and views. The Applicant has identified these and as far as possible, we consider the Holford Rules, as required by EN-5, have been applied. High levels views of the Bridgwater Tee CSE compounds would be visible from Puriton Ridge (eg VPA3 and VPA7).
- 5.9.125 For this reason we consider the Design Approach document, which we describe in more detail under Section C, is important in ensuring mitigation of the harm caused by this element of the infrastructure in Section A. It meets the mitigation policy in EN-5. In reaching our conclusions on this Section, we have given weight to the additional measures provided by the OSPES planting and landscapes of distinction, secured via the s106 agreement, which we consider are in line with EN-5, para 2.8.11.

Section B: Somerset Levels and Moors South

- 5.9.126 Section B covers a large part of the southern part of the Somerset Levels and Moors, from Woolavington Road to the Mendip Hills. It is a large section. It includes the key settlements of Woolavington (northern part), Puriton, East Huntspill, Mark and surrounding outlier properties, Vole, Rooks Bridge, Tarnock, Biddisham and Edingworth as well as individual and small groups of properties. The landscape character is expansive, flat, low lying farmland divided by rhynes with mature hedgerows, especially along field boundaries and drains. Settlements are linear along roads, with dispersed farms. The views are open across the Levels, with some filtering by hedges across to Brent Knoll to the west and in places to Glastonbury Tor (19kms south east). Backgrounding to views is afforded to the south by the Polden Hills (of which Puriton Ridge is part) and to the north by the Mendip Hills. Many views include steel lattice pylons.
- 5.9.127 The proposed works would include the overhead line on T-pylons across the Levels, connection to the existing west/ east 400kV overhead line at the Huntspill Split, a CSE compound south of the Mendip Hills, removal of 132kV overhead line, undergrounding of 400kV cables in the northern part and a cable bridge or potential HDD crossing of the River Axe.

The Environmental Statement and Applicant's findings

- 5.9.128 Section B's landscape is assessed as having local value, with the northern part of the section having greater value due to its contribution to the setting of the AONB. However, the landscape overall is assessed as having no more than local value [Doc 5.6.1, para 6.4.183 to 6.4.190 and 6.4.290].
- 5.9.129 The significance of the effects during construction on landscape character is assessed overall as moderate adverse, including works associated with the CSE compound construction and installation of underground cables and the cable bridge option. There would be localised adverse effects (moderate reducing to minor or neutral over distance) from removal of the existing 132kV route and minor adverse or neutral significance resulting from hedge and tree removal [Doc 5.6.1, para 6.5.79 to 6.5.95].
- 5.9.130 The significance of effect on landscape in Section B overall during operation on completion and after 15 years is assessed as moderate adverse. The residual significance of the effect on the landscape of the CSE compound is assessed as minor adverse, taking account of the embedded landscape mitigation that it is stated would provide screening. Likewise the significance on the landscape of the cable bridge option over the River Axe is assessed as moderate to minor, becoming minor adverse with the maturing of the embedded landscape mitigation [Doc 5.6.1, para 6.8.13 to 6.8.17].
- 5.9.131 The majority of views in Section B are assessed as having local value, but the local distinctiveness of the flat Levels rising to Puriton Ridge in the south and the Mendip Hills in the north is recognised. Views from the long distance cycleway are assessed as being of national value [Doc 5.7.1.1, para 7.4.20 to 7.4.34].
- 5.9.132 The significance of construction effects on views is assessed as minor adverse or negligible for most receptor views in the 3km study area and for all beyond 3kms. This is because the assessment finds there would be low alteration to views, a small proportion of panoramic views being affected, in a barely perceptible way, and for short periods of time. The significance of construction effects on views is assessed as moderate adverse for some receptors close to construction operations. For these, construction operations would be seen in close proximity across a large proportion of the view, with some visual receptors directly adjacent to construction operations. It is acknowledged that long distance views from elevated landform such as Brent Knoll would experience adverse effects, but they would reduce with increasing distance and/or screening from vegetation.
- 5.9.133 The significance of visual effects during operation is assessed as minor adverse or negligible for most receptors. Receptors near the CSE compound and potential cable bridge crossing are assessed as experiencing moderate adverse significance of effect. Other receptors close to the 400kV line such as Cripps farm, Yardwall Road, Mark

Causeway, Northwick, Vole, Tarnock and Biddisham Lane are predicted to experience the greatest significance of visual effects. A summary of the visual effects of greatest significance is provided [Doc 5.7.1.2, Table 7.13].

The case made by other Interested Parties

Joint Councils

- 5.9.134 The Joint Councils disagree with the description of the visual effects reflecting their concern about the application of the method of assessment causing underassessment of the magnitude of change of effect [Doc 8.3.12A, ID 7.1, ID 7.6]. The Joint Councils identify the village of Mark as a pinch-point and list a number of receptors where they consider the significance of effect should be major. These are Court Farm (B1.H51), and roads through and around Mark; Mark Causeway (B1.R13, Yardwall Road (B1.R12) and Butt Lake Road (B1.R11), footpath B1.F12 and further south, Cripps Farm (B1.M7 and B1.H34) [Doc 5.7.3.1, Figure 7.2]. The Applicant noted the difference of professional judgement between itself and the Joint Councils [Doc 8.3.12A, ID 7.6].
- 5.9.135 The Joint Councils' LIR shows proposals for orchard tree planting at the property called Ashtrees in Mark [REP2-112, Appendix B, Figure 2]. The Joint Councils later explained this was an example of the sort of project that could be delivered through a CIM fund and not a firm proposal [REP5-027]. Other of the Joint Councils' suggestions for extra native tree planting near Mark Causeway and in Tarnock were agreed by the Applicant and included in the revised OSPES [Doc 8.3.12A, ID 6.15 and Doc 5.25.1B]. The Applicant did not agree with the need for additional pollarded willow planting along Biddisham Lane and Badgworth Parish Council agreed planting in this position would be inappropriate [EV-059 to EV-062].

Mark Parish Council

- 5.9.136 Mark Parish Council made points relating to the landscape and visual effects of the proposed development in its RR [RR-001], WR [REP2-040] and at the OFH in Mark on 17 March 2015 [REP3-024]. The Parish Council considered the Applicant had failed to take account of the full visual impact during construction and operation; and that it is unrealistic to suggest that pylons can be concealed across a flat landscape like the Moors and Levels, and that the pylons would have a detrimental effect on the street scene. The Parish Council noted that the change to the alignment in the parish, south of Mark would benefit the properties in Southwick Road, to the disadvantage of those in Yardwall, which would look directly at the overhead line, and to the two properties between which the alignment would pass; Court Farm and Wainbridge Farm. These properties were pointed out to us during the ASI on 17 April 2015, when we also visited the property Ashtrees.

- 5.9.137 In response to our Q2.9.8, Mark Parish Council stated that it considers a number of properties in Mark should be assessed as having major adverse significance of visual effects because there would be introduction of totally uncharacteristic elements into the view [REP5-015]. The Applicant stated the assessment has been carried out in accordance with GLVIA3 [Doc 8.5, para 1.1.3].
- 5.9.138 The Parish Council was keen to know the proposals for Ashtrees, which has been purchased by the Applicant and stands where Pylon LD17 would be located. The Parish Council presented evidence at the Landscape ISH and suggesting that tree planting on the Ashtrees site would benefit the village, compensating for tree loss elsewhere in Mark [REP4-010]. The matter of planting at Ashtrees was also discussed at the DCO ISH on 17 June 2015, when the Applicant was requested to reconsider the tree planting on land it owns at Ashtrees. The Applicant has submitted a revised scheme for Ashtrees, with an additional 46 trees to be planted. The Applicant explained that no further planting could be accommodated without reducing the future market potential of the land which it plans to sell [Doc 8.39.6].

Badgworth Parish Council

- 5.9.139 Badgworth Parish Council disputes the Applicant's landscape assessment in its RR and considers the visual impact has not been addressed in certain key areas in the parish. These are views from Biddisham Lane to the 400kV overhead line, and to the CSE compound and the River Axe crossing, views from properties in Tarnock and particularly the close proximity of T-pylon LD32 to residential receptors, receptors in Badgworth, particularly the more elevated areas, travellers on the M5 and visitors enjoying the AONB [REP2-002].
- 5.9.140 We asked the Applicant to consider the possible movement of T-pylon LD32, which is described in Section 5.7 of this report. The case has been made on visual grounds in part. Badgworth Parish Council does not support a move of T-pylon LD32 away from Tarnock Cottage as it considers any movement in the options presented by the Applicant [Doc 8.13.3.2, note 3] would result in an increase in height of this and possibly other pylons, which would exacerbate the need for mitigation.

Ms Fisher and Mr Shepherd

- 5.9.141 Ms Fisher and Mr Shepherd comment on the impact the proposed development would have to the village of Tarnock, where they live, but also on the wider Levels landscape. They have also challenged the Applicant's case for an overhead line throughout the Examination. They have made relevant representations [RR-018 and RR-017], written representations [REP2-063], given evidence orally at the open floor hearing (OFH) at Mark on 17 March 2015 [REP3-042] and in lieu of attendance at the Landscape ISH [EV-057], and they also made a final submission [REP7-019].

- 5.9.142 They consider the effects are under-assessed and point out inaccuracies in the ES. Mr Shepherd joined the ASI to Eakring on 8 April 2015 to view the test T-pylons [EV-024] and subsequently made the point that the visual impact would be very different in the flat Levels landscape from the more rolling Nottingham countryside [EV-057]. Ms Fisher and Mr Shepherd also consistently query why Pylon LD32 cannot be moved further away from their property. They allowed ASI participants access to their land in Tarnock on 15 April 2015 so we and other IPs could view the proximity of the proposed LD32 to their property and garden.

Compton Bishop Parish Council

- 5.9.143 Compton Bishop Parish Council stated the views from the M5 provide a positive entry for the many visitors supporting the local holiday and leisure industries with the wide panoramic view of the Levels and Brent Knoll. (Comments regarding the visibility of the CSE compound from the AONB are covered in our Section C reporting below.)

Other Interested Parties

- 5.9.144 Tessa Munt, who was MP for Wells, made the point that the Levels are the largest lowland grazing marsh system in Britain. Many parts are treeless with fields separated by hedgerows or bounded by rhynes, and the distinctive and unique relationship of the whole landscape of hills, knolls and levels is evident from local vantage points. She also stated *"For road travellers from the north, the area is the 'gateway' to Somerset as you emerge from the Gap to a visually striking rural landscape with only ancient church towers breaking the skyline."* [REP2-049]. (We assume this refers to the Loxton Gap).
- 5.9.145 James Heappey, who was a prospective parliamentary candidate for Wells, objected on the grounds of visual amenity and the devastation he considers the project would have on the landscape. He stated in his RR *"As people enter Somerset on the M5, they will be greeted by this highly visible pylon line scarring the Levels and destroying the view to and from Brent Knoll."* [RR-022]. He also made representations on these points at the OFH in Mark [EV-036].

The Panel's reasoning and conclusions

OSPES Planting

- 5.9.146 The Panel agrees with the Applicant's position regarding the additional OSPES planting requested by the Joint Councils. Most is agreed and that which is not, was deemed inappropriate by the relevant Parish Council. The Panel considers the OSPES planting proposed for Section B would be necessary and relevant to make the proposed development acceptable in planning terms.

Ashtrees

- 5.9.147 The application shows trees to be felled in the vicinity of the property to allow for the overhead line and some gap planting in hedges at Ashtrees. The drawing submitted in response to actions from the DCO ISH on 17 June 2015, included a small patch of native woodland structure planting and 60 native trees. The Applicant stated that on disposal of this property it would covenant retaining the planting in perpetuity [Doc 8.39.6]. This is the first time the Applicant's intention to sell the land and the stated need to sell to recover costs had been mentioned. Mark Parish Council's aspiration was for more than peripheral edge planting.
- 5.9.148 Bearing in mind the Applicant's intention to dispose of the site, we consider it important to secure the enhancement planting proposed for the Ashtrees land. We therefore propose the recommended DCO Requirement 10(2) should secure the planting and commitments in Doc 8.39.6. This includes maintenance for five years and the planting to be retained thereafter. We also recommend that this should be an area the relevant local authority considers for advance planting³⁶. Since the land is owned by the Applicant, there should be no difficulty.

Mark Causeway and LD18

- 5.9.149 At the Heritage and Historic Environment ISH on 21 April 2015, Mark Parish Council raised the question as to whether consideration could be given to the movement of T-pylon LD18 because of its proximity to grade 2 listed Wainbridge Farm and Court Farm and because of the adverse effect on the street scene. The Parish Council asked if LD18 could be moved further north [REP4-010 and EV-053 to EV-056]. In response to Q2.7.12 on this point, the Applicant explained the consequences of moving LD18 north would result in the pylon needing to be changed to a more visually prominent angle pylon to maintain the same lateral alignment across Mark Causeway, or the pylon would have to be located further east and closer to properties east of the alignment. It would also require an increase in pylon height [Doc 8.18.1, response to Q2.7.12]. The Applicant did not state if this would result in an increase over the upper LoD, but we assume not as otherwise it would not have been assessed in the LVIA.
- 5.9.150 The increase in height may be acceptable, but we agree with the Applicant's conclusion that LD18 is appropriately located where proposed, on visual grounds. This is principally because the more visually prominent angle pylon would add to the adverse effect on the street scene to which the Parish Council referred (as can be seen from VPB29). From our observations at Eakring on ASI and USIs, we found

³⁶ "advance planting" means the installation and maintenance of embedded landscape or replacement planting as soon as practicable after the Order has been granted, or according to timescales set out, to achieve screening for construction activities and/or to expedite its function for mitigation and enhancement in sensitive areas

the angle pylon more visually conspicuous. This matter is also reported in Section 5.8 of this report in relation to historic and heritage matters.

Tarnock and LD32

- 5.9.151 The question of the location of T-pylon LD32 was raised at RR stage and referred to elsewhere by the landowners of the adjacent property (Ms Fisher and Mr Shepherd) and Badgworth Parish Council based on the effects on living conditions, including visual impact. We asked the Applicant to explain the implications of moving LD32 to increase the distance from the Fisher/Shepherd property. The Applicant set out a number of scenarios in a note [Doc 8.13.3.2, note 3].
- 5.9.152 Our consideration of the matter is reported in Section 5.7 of this report on Health, Well-being and EMFs. There we explain the reasons for our recommendation to the Secretary of State to move Pylon LD32 northwards. In terms of visual impact, we are satisfied that this would reduce effects on visual receptors from the Fisher/Shepherd land and would minimise any increased visual effects for other receptors in Tarnock and Rooksbridge (as stated by the Applicant) [Doc 8.13.3.2, note 3]. As the proposed increases in height are within the LoD, these effects have been assessed and are represented in the photomontages. We have recommended the necessary changes in the DCO.

Badgworth

- 5.9.153 We disagree with the Parish Council's suggestions about the highly visible nature of long distant views, especially from higher ground in Badgworth. Two USIs incorporated visits to Badgworth and we consider the Applicant's assessment to be accurate for these visual receptors.

The M5 and gateway to Somerset

- 5.9.154 We heard from the Applicant at the Landscape ISH that the Landscape and Views Thematic Group had been insistent that the users of the M5 were a sensitive group of receptors. The Applicant explained at the ISH "*that those travelling on roads are not generally of high sensitivity but was pushed to consider the group as particularly sensitive*" ..., and "*that the sensitivity of the M5 users was taken on board as it was made particularly strongly, despite this not being the norm.*" [Doc 8.13.3.1, para 2.18 and 2.19 and EV-059 to EV-062]. The method for the visual assessment specifies the susceptibility to change for motorists and passengers on main roads as low to medium [Doc 5.7.1.1, Table 7.5].
- 5.9.155 The Applicant's response to Q9.4 and Q12.3 [Doc 8.1.2] explains that although the assessment tables [Doc 5.7.2.2, Appendix 7I] show susceptibility to change as low; this is in error, since it has been assessed as medium. When combined with the value of the view (regional because it is the M5), the assessment for the receptor

sensitivity is medium (medium susceptibility to change and regional value) [Doc 5.7.1.1, Table 7.6]. The Applicant's assessment of receptor sensitivity along the entire length of the M5 is medium.

- 5.9.156 This is not what the Joint Councils consider was requested by the Landscape and Views Thematic Group. They state that it was not the value and subsequent sensitivity of the entire length of the M5 that concerned them, but three specific areas, namely:
- where views open out over the Gordano Valley;
 - the Sedgemoor levels south of the Mendip Hills, presenting a gateway to south west Sedgemoor for visitors; and
 - through the Mendips Hills AONB [REP4-005, point 6].
- 5.9.157 The Applicant's assessment of the stretch of the M5 in the northern part of Section B (Ref B2.S2.3 [Doc 5.7.2.2, Appendix 7I]) assigns medium susceptibility to change (shown as low, but updated in the ES consolidated errata [Doc 5.30 B.1]) and regional value of view, resulting in medium sensitivity. We do not think this accords with the Joint Councils' report of the intention of the Landscape and Views Thematic Group. The resultant significance of effect that M5 users would experience on this particular stretch of the M5 is assessed as minor adverse during construction and minor to moderate adverse during operation in the short term and minor adverse in the long term [Doc 5.7.1.2, para 7.5.794 and 7.5.814 and Doc 5.7.3.13, Figure 7.31, drawing 7.31.15]. The Joint Councils disagree with the application of the assessment method for regional transport routes [Doc 8.3.12A, ID 7.13].
- 5.9.158 The Panel also considers that the significance of effects has been under-assessed on views from the part of the M5 which falls in Section B. The fact that the Applicant's inclusion of higher receptor sensitivity for the M5 users (presumably by assigning regional significance to views from the M5) still results in medium significance of visual effects is a clear example of the depressing influence of the way value has been used in the assessment. We therefore share concerns raised by IPs regarding the impact the CSE, (even with embedded landscape mitigation) would have on views from the motorway. For this reason, and because of our opinion stated later under reporting of route Section C that the Applicant's assessment downplays the effects of views from the AONB, we addressed the matter of additional mitigation for adverse views of the CSE compound. These are reported under Section C of the route below.

Conclusions for Section B

- 5.9.159 The Panel considers the landscape and visual assessment fulfils the requirements set out in EN-1, although we do not agree with the outcome of the assessment for users of the M5. The need for the alignment to pass over the Levels makes backgrounding impossible, hence the need to consider Holford Rules 2 and 3 in particular. The Applicant has weighed the respective requirements of these rules. As a

result, south of Mark the overhead line would take a less direct route, veering away from the existing 132kV overhead line in order to minimise proximity to residential properties. It would still run relatively close to properties in Mark and cross Mark Causeway. As far as possible, we consider the Holford Rules, as required by EN-5, have been applied appropriately.

- 5.9.160 We consider Mark has been correctly identified as a pinch-point and give weight to the Applicant's agreement to additional OSPES planting and to its commitment to replacement planting as close as possible to that lost at Ashtrees. We think more could be done at Ashtrees, particularly in terms of advance planting and securing the planting. In Tarnock, we think the opportunity to move T-pylon LD-32 is justified in planning terms on visual and amenity grounds in line with EN-5. At Cripps Farm, we consider efforts should be made to include advance planting and to ensure that the planting in the location west of the caravan site is delivered.
- 5.9.161 The Panel considers views from the M5 and elsewhere contribute to the need to adopt the principles of the Design Approach document for the CSE compound in the northern part of Section B, which we describe in more detail under Section C, because of its relationship with the AONB. This is essential to ensure mitigation of the adverse effects of this element of the infrastructure meets mitigation policy set out in EN-5.

Section C: The Mendip Hills AONB

- 5.9.162 Section C covers the western part of the Mendip Hills AONB and the broad low lying valley of the Lox Yeo River, north to Towerhead Road through the settlement of Sandford. The valley is surrounded by higher ground of the Mendip Hills, including Crook Peak to the south (a prominent feature in the landscape and backdrop to the Levels to the south which is characterised by open high ground and rocky outcrops), Loxton Hill to the west and the wooded Banwell Hill and Sandford Hill to the north. Fields are enclosed by hedges; and trees tend to follow the valleys.
- 5.9.163 Settlements such as Loxton and Christon are concentrated on the edges of the valley and the larger settlements of Winscombe and Sandford are concentrated along roads and at junctions outside the AONB designation. There are expansive views from the summits of the hills to the Bristol Channel, Polden Hills and beyond and Brent Knoll and down onto the Lox Yeo valley. Long distance views northwards from the north of the Mendip Hills take in the northern Levels and Moors (Section D), all the way to Tickenham Ridge and Clevedon. Loxton Gap (between Loxton Hill and Crook Peak) allows long distant views south along the M5 and north along the valley. Many views from Section C include the lattice pylons of the 132kV route.
- 5.9.164 The proposed works would comprise the removal of the 132kV route through the AONB and installation of the 400kV route underground.

However we also address the CSE compound and works area here because of its visibility from within the AONB.

The Environmental Statement and Applicant's findings

- 5.9.165 The landscape in Section C is stated to be a designated landscape with national value [Doc 5.6.1, para 6.4.198 to 6.4.201].
- 5.9.166 The overall significance of the direct and indirect effects during construction on the landscape in Section C is assessed as moderate adverse. The significance of the effects during operation on landscape character is assessed overall as moderate beneficial because of the absence of the 132kV overhead line. Localised landscape effects are assessed as having minor adverse significance along the undergrounding route due to limited tree removal and the presence of link box pillars. Indirect landscape effects from proposed development in Section B affecting the setting of the landscape in Section C are assessed as minor adverse to neutral, reducing over time from lower parts as the embedded landscape mitigation at the cable bridge crossing and the CSE compound become established. The assessment acknowledges that indirect effects would remain as minor adverse in places because the 400kV overhead line and the upper parts of the CSE compound would remain in views from the designated landscape. [Doc 5.6.1, para 6.8.18 to 6.8.20].
- 5.9.167 Views from within the AONB are assessed as having national value due to the AONB designation. Views from the West Mendip Way and Strawberry Line long distance routes and national cycle routes also have national value. The overall significance of the effects during construction on the views would be moderate adverse or minor adverse. Where views are close in of cable installation and a large proportion of the view would be affected, the effect would be moderate adverse, but where views are filtered, oblique or more distant the effect would be minor adverse. Where views are heavily filtered the significance of effect is predicted to be minor adverse or negligible [Doc 5.7.1.1, para 7.5.161 to 7.5.163].
- 5.9.168 During operation, the significance of the effects on the views overall would be moderate to minor beneficial. The removal of the 132kV overhead line would result in moderate beneficial significance of effect on views and there would be no moderate adverse effects. Minor adverse effects would arise from hedgerow removal, from views of the CSE compound or Sandford substation and for views from Crook Peak and footpaths and properties on Loxton Hill, where views of the proposed development would be a small proportion of a panoramic view, which would have had the 132kV overhead line removed. A summary of the visual effects of greatest significance is provided [Doc 5.7.1.2, Table 7.14].

The case made by other Interested Parties

The Joint Councils

- 5.9.169 The Joint Councils sustain their disagreement with the Applicant's assessment of overall moderate beneficial effect on landscape during operation stage for the proposed development in Section C. The Joint Councils argue against a method that balances a single moderate beneficial operational effect with four minor adverse effects to result in overall moderate beneficial effect. They suggest neutral or minor beneficial. The Applicant acknowledges that there would be adverse effects of minor significance, which would reduce the overall moderate beneficial effect but does not consider these constitute a tipping point from its overall assessment outcome [Doc 8.3.12A, ID 6.6]. The Joint Councils also disagree with the visual assessment, as they consider the application of the methodology to be flawed leading to under-assessment as reported earlier [Doc 8.3.12A, ID 7.1 and 7.7].

The Mendip Hills AONB Partnership

- 5.9.170 The AONB Partnership in its SoCG with the Applicant agrees the method of landscape assessment is appropriate but did not agree with the assessment of the impact on the AONB. The AONB Partnership considers a realistic assessment of effects to be "*minor adverse or at best neutral*" [Doc 8.3.16, section 2 and RR-062]. The Applicant disagreed with the weight the AONB Partnership thinks is appropriate for elements that would have an adverse effect on the AONB landscape (CSE compound, link box pillars, cable bridges and tree loss) as it considers the benefits of removal of the 132kV line and undergrounding outweigh the short-term minor adverse effects such as the underground cable swathe and link box pillars. Disagreement on these points between these parties remains at the end of the Examination.

Natural England

- 5.9.171 Natural England (NE) responded to our Q9.6, which highlighted the disagreement between the AONB Partnership and the Applicant regarding the assessment methodology for the operational landscape effects in the AONB. NE stated that it had informed the Applicant it felt an overall assessment for the operational phase should be neutral effect; however the Applicant had chosen not to revisit or alter the assessment [REP2-043, response to Q9.6]. NE did not pursue this matter further because it supported the outcome of undergrounding as proposed in the application [Doc 8.3.1B, ID 6.6], but did restate its opinion at the Landscape ISH [EV-063 to EV-064].

Parish Councils

- 5.9.172 Whilst mindful of the benefit of undergrounding through the Mendip Hills, Badgworth Parish Council felt the Applicant has not addressed the impact of the nearby infrastructure in relation to the AONB and its setting. Also, that the screening would not adequately mitigate the

infrastructure's impact on the AONB and its setting [EV-059 to EV-062 and REP4-001]. The Parish Council also drew our attention to photomontage VPB19 which depicts the CSE compound from ground level at year 15, remarking that the compound is still visible, the planting is inadequate and "*this adverse view will be exaggerated looking down from the AONB*" [REP4-001]. The Applicant's response acknowledged that after 15 years, the planting would screen only the lower parts of the CSE, with the tops of gantries, sealing ends and terminal pylons still being visible.

- 5.9.173 Badgworth Council also stated that the proposals would fail to meet Holford Rule 1 which refers to adverse landscape and visual impacts close to sensitive locations which may make development unacceptable in planning terms. It mentioned the combined impact of a CSE compound, a cable bridge over the River Axe and the emergence of the T-pylons in this context and in relation to EN-5 [REP4-001].
- 5.9.174 Compton Bishop Parish Council also expressed concerns in its WR and at the Landscape ISH about the negative impact, on landscape and views, of the CSE compound, cable bridge and gantry together with a line of T-pylons and cables on the local and wider landscape of the Somerset Levels. It noted that the visual impact, both at ground level and also from the vantage points of Crook Peak/ Wavering Down, Loxton Hill and Brent Knoll, would be significant [REP2-016 and EV-059 to EV-062]. The Parish Council considers the CSE would "*have a large accumulation of disparate sized and shaped structures with heavy cabling joining a swathe of T pylons and cables.*"
- 5.9.175 Compton Bishop Parish Council referred us to specifics in the Holford Rules, which it felt had not been met by the proposals, namely: Rule 3 which suggests that CSE compounds should be located in inconspicuous areas; Rule 4 which suggests that sky backgrounds should be avoided; Rule 5 which suggests minimising the exposure of towers on skylines and safeguarding visual links with the surrounding landscape; and Rule 7 which suggests that routes should minimise the effect on areas of designated county, district or local value [REP2-016].
- 5.9.176 Compton Bishop Parish Council pointed to comments in the Applicant's assessment. These state that mitigation planting is not proposed to minimise identified visual effects from the 400kV overhead line and also that gantries at the CSE compound would be visible above trees for receptors such as B1.H145 (on Kennel Lane [Doc 5.7.1.1, inset 7.64]).

Others

- 5.9.177 In their argument for alternatives Ms Fisher and Mr Shepherd's opinion of the impact of undergrounding in Section C was: "*We have now reached a situation where we have a "half baked" proposal where most of this route is to be by overhead pylons, with a small section*

underground through the Mendip Hills. Ironically, by undergrounding only this section there will be monstrous ugly concrete compounds at each end that will themselves be ugly blots on the landscape, clearly visible from the very areas that we (and they claim) are trying to protect." [REP2-063]. And in their submission in lieu of attending the Landscape ISH they stated *"It seems absurdly ironic that to have the benefit of a small section of underground cables through the Mendip Hills, only to satisfy the rule of 'not through an AONB', we must have both t-pylons and a large industrial CSE compound in such a visually sensitive location. The view is a significant part of why it [is] an AONB in the first place."* [EV-057]. We include these to show the strength of feeling locally about the proposed CSE compound. We have reported on alternatives above.

- 5.9.178 Cllr Fraser, of Sedgemoor District Council, commenting at the Landscape ISH in her own capacity because of purdah in the lead up to the election, noted how helpful she had found the ASIs (both on the route alignment and to Eakring to view the test T-pylons). She realised the CSE compound south of the Mendips was much larger than she had anticipated and emphasised the need for significant screening here and at the pinch-points. She also advocated advance planting; *"substantial, but appropriate, screening is absolutely imperative in the areas of the sealing-end compound and also the lay-down area, especially if it is possible to establish this so that it can take effect during the construction phase."* [REP4-011 and EV-063].

The Panel's reasoning and conclusions

Landscape and views associated with the AONB

- 5.9.179 The ASI on 21 April 2015 to the site of the proposed South of the Mendips CSE compound was informative in helping us appreciate the extent of the compound and construction works area. It helps us appreciate the visibility of the site from surrounding viewpoints, such as Crook Peak, which we also visited [EV-166].
- 5.9.180 The Panel finds the Applicant's dismissal, in its SoCG with the Mendip Hills AONB Partnership, of the importance of the impact of the CSE compound, in particular, on the landscape of a designated landscape, to be contrary to the policy guidance in EN-1 and EN-5 [Doc 8.3.16, section 2]. We asked the AONB Partnership to elaborate on its suggested initiatives to redress adverse construction stage impacts, for which it sought funds via a s106 agreement, but received no reply. As no further detail was submitted and no s106 agreement or unilateral undertaking in favour of the AONB Partnership was offered up by the Applicant, we do not comment specifically on this request, but describe below further actions that we consider necessary to help to offset the impact on the setting of the AONB.
- 5.9.181 We give weight to NE's views as the SNCB, reinforced by views from the AONB Partnership and the Joint Councils which think the landscape assessment downplays the adverse effects and/or gives too much

weight to the benefits of removal of the 132kV line. It is also our view that the landscape and visual assessments relating to the AONB have underestimated the significance of residual effects. This is in part a function of the points made earlier on general methodology and the way that value has been incorporated into the assessment. This would apply particularly to receptors in Section B (outside the AONB, but in its setting). We also agree with the IPs who suggested that the Section C assessment has over-emphasised the benefits from the 132kV line removal, leading to an overall moderate beneficial significance of effect, which parties argue should be minor beneficial or neutral.

- 5.9.182 As described earlier, we feel the assessment lacks clarity because of the way residential receptors have been assessed. However as the outcome of assessments in Section C to recommend undergrounding was that desired by parties (if a full alternative was not justified), we decided further interrogation on points of detail of methodology was not going to be fruitful.
- 5.9.183 We found the Parish Councils' local knowledge of their areas combined with the extent to which they had absorbed the Applicant's ES documents gives credence to their site-specific observations, which suggested that the mitigation proposed was inadequate. We heard views and could see from photomontages that planting alone would be ineffective in screening this large compound both during construction and during operation. For this reason, at the Landscape ISH, we raised questions regarding additional mitigation for the CSE compound.
- 5.9.184 The landscape and visual impact of the CSE compound even after mitigation, caused us to question whether the proposed development would meet the requirements of EN-1 and EN-5 in terms of good design and landscape and visual impact. As stated above this was compounded by our opinion that the assessment of views from the M5 downplays the significance of effects. Furthermore, we found the justification that the Hams Lane bridge over the motorway would screen the CSE compound to be spurious.
- 5.9.185 We also noted that the Joint Councils said they would find details of the South of the Mendips CSE compound a difficult matter to control post-consent (Q9.39). We therefore decided to explore the need for more control in the DCO over matters such as massing, edging, screening, orientation, materials, colour and the potential for advance planting [EV-049].

Mitigation

- 5.9.186 We asked the Applicant if it could present a more holistic design approach for all structures including permanent buildings, bridges, fences and enclosure. We recognised that this should be framed in a way that did not compromise the Applicant's requirement for some flexibility because the dimensions and type of kit was yet to be determined, but would give the Joint Councils design parameters

against which details could be assessed later. In this way we felt good design could be encouraged in accordance with NPS policy.

- 5.9.187 Whilst expressing concern about the tension between required flexibility and the constraints of such an approach, the Applicant agreed to consider our request and report back [EV-063 to EV-064]. A Design Approach document was submitted, commented upon and is secured in the DCO. This is reported in Section 5.5 of this report. The criteria in the Design Approach document give us comfort that the LPA would have the tools to finalise design matters in a way that would ensure the NPS good design and landscape and visual requirements are likely to be met in the setting of the AONB and elsewhere across the scheme.
- 5.9.188 We also asked the Applicant to give consideration to advance planting, both for achieving better screening for construction stage activities and to assist with more rapid screening of the infrastructure through the proposed embedded mitigation planting and OSPES planting. We also asked for consideration to be given to the use of temporary planting for construction stage screening [EV-063 to EV-064]. It seemed to us, after the ASI to the South of the Mendip Hills CSE compound site, that potential exists around the edges and on the boundary slopes of the M5 to install planting early on. This need not give rise to any conflict with the use of land for works areas, which are better suited to flat ground.
- 5.9.189 The Applicant has included amendments to the wording of Requirements 9 and 11 on which the Joint Councils have commented. The Applicant also provided updated drawings of embedded landscape mitigation with advance planting proposals incorporated [Doc 8.18.2.1, Appendix 2.9.27.1]. In their Deadline 7 submission on the DCO, the Joint Councils propose additional wording for Requirement 11, to ensure that advance planting is undertaken in specific locations as early as possible after consent is granted. This is reported below under 'advance planting'.

OSPES

- 5.9.190 The Panel gives weight to the OSPES planting proposed for this Section, in particular the planting proposed for the area adjacent to the undergrounding along the valley visible from the Loxton Gap and Crook Peak.

Conclusions for Section C

- 5.9.191 The Panel considers the landscape and visual assessment has fulfilled the requirements set out in EN-1, although we do not agree with the outcome of the assessment in places. The Panel does not agree that the proposed development as it was submitted would have met the requirements of either EN-1 or EN-5 because they both give weight to landscape and visual effects in nationally designated landscapes. EN-1 requires the decision-maker to have regard to the statutory purposes

of nationally designated landscapes and to give substantial weight to the conservation of the natural beauty of the landscape and countryside. This duty also applies for projects located outside nationally designated areas, if the impacts are felt within them.

- 5.9.192 The Panel agrees that Applicant's proposal for undergrounding through the AONB would meet the NPS tests, but we consider the infrastructure visible from the AONB did not. The Panel considers the additional commitments now secured in the DCO for the design approach would give the local authority sufficient control to ensure that the good design, and landscape and visual policy matters set out in the NPSs could be met. We do not consider the design approach hampers the flexibility the developer requires in finalising design details. We consider this approach to be necessary for the South of the Mendips CSE compound and the possible River Axe bridge crossing.

Section D: Somerset Levels and Moors North

- 5.9.193 Section D comprises the low lying Levels and Moors between Sandford on the edge of the Mendip Hills in the south and Tickenham Ridge in the north. Beyond Sandford there are orchards and the landscape character is a low lying Moors landscape with sinuous rhynes in the south between Puxton and Kenn and a regular, geometric field pattern further north across Kenn and Nailsea Moors. Settlements are located in the central part including Yatton, North End, Hewish and Congresbury and in the north the town of Nailsea and the linear development along Tickenham Road including Tickenham and Stone-edge Batch. The landform rises towards Tickenham Ridge. There are open views across the levels with different degrees of filtering by vegetation. Both the Mendip Hills and Tickenham Ridge provide landscape backdrop to views from this section. The majority of views within Section D contain lattice pylons from a number of existing 132kV overhead lines.
- 5.9.194 The proposed works would comprise underground 400kV cables, bridge crossing at Tower Brook and semi-permanent access road, Sandford substation and connections to 132kV route, overhead line on T-pylons, removal of one 132kV route and undergrounding of another and works at Churchill substation.

The Environmental Statement and Applicant's findings

- 5.9.195 The Moors landscape in Section D is assessed as having local value, with the southern part having greater value due to its contribution to the setting of the AONB, but the landscape is assessed as having no greater value than local. The contribution to the value of the landscape from the historical interest such as Tickenham Church is mentioned for the northern section [Doc 5.6.1, para 6.4.208 to 6.4.216].

- 5.9.196 Overall the significance of landscape effects during construction is assessed as moderate adverse. These effects would be experienced where working areas were clustered such as at the substation and where receptors are close to construction activity. Elsewhere significance would decrease with distance to minor adverse and neutral [Doc 5.6.1, para 6.5.195 to 6.5.214].
- 5.9.197 The significance of the residual effects on landscape character during operation arising from the overhead line is assessed as moderate adverse. The significance of landscape residual effects at the Sandford substation is moderate adverse on installation and minor adverse after 15 years as the embedded mitigation matures. Tower Brook cable bridge crossing would result in moderate adverse significance of effect on landscape on completion, reducing to minor adverse as replacement tree and hedge planting establishes in the short and medium term. The significance of effect on the installation of underground cables would be minor adverse initially reducing to neutral as the landscape reinstates [Doc 5.6.1, para 6.8.21 to 6.8.26].
- 5.9.198 The majority of the views in Section D are assessed as having local value, with the combination of the flat levels landscape and views to Tickenham Ridge and the Mendip Hills having local distinctiveness. Views from the Nailsea Round, (which include views to Tickenham Church) have regional value because it is a published way-marked route. National value is attributed to the Strawberry Line long distance trail and national cycle routes [Doc 5.7.1.1, para 7.4.54 to 7.5.83].
- 5.9.199 The significance of the effects on views during construction is assessed as minor adverse or negligible on most receptor views because there would be little alteration to existing views and a moderate or low proportion of the view affected for a short time. Moderate adverse effects are predicted for some properties closest to construction operations, with the greatest effect at Droveaway Farm which is close to the construction compound and substation site.
- 5.9.200 The significance of the effects on views during operation is assessed as minor adverse or negligible for most receptors. In some places a moderate or minor beneficial effects are predicted where 132kV lines are removed and the proposed overhead line is farther away. In the ES a major adverse significance of effect was predicted at Droveaway Farm, immediately adjacent to the Sandford substation, for the short and medium term; but this was later found by the Applicant to have been over-assessed after production of a photomontage for this view (Photomontage VPD31 [Doc 8.7.3.5]) [Doc 8.3.11]. Moderate adverse significance of effects are also assessed for a number of properties across Section D between Sandford and Stone-edge Batch [Doc 5.7.1.2, para 7.5.245 to 7.5.263]. A summary of the visual effects of greatest significance is provided [Doc 5.7.1.2, Table 7.15].

The case made by other Interested Parties

Joint Councils

- 5.9.201 The Joint Councils disagree with the description of the visual effects reflecting their concern about the application of the method of assessment causing underassessment of the magnitude of change of effect [Doc 8.3.12A, ID 7.1, ID 7.8]. The Applicant considered these points only apply to the assessment of long distance footpaths and cycle routes. The Applicant is content with the assessment as it stands [Doc 8.3.12A, ID 7.8].
- 5.9.202 The Joint Councils' LIR made suggestions for additional native tree planting making the point that there were listed buildings, residential receptors and a number of published footpaths all predicted to experience significant adverse visual effects [REP2-112, Appendix B, para 4.12 to 4.14 and Figure 4]. The Applicant agreed to the additional 126 trees, pointing out that in some places tree planting shown was on the Tickenham, Nailsea and Kenn Moors SSSI boundaries, so the locations would need to be decided with care in consultation with NE [Doc 8.3.12A, ID 6.15]. This point was also made by local landowner and wildlife group Yatton and Congresbury Wildlife Action group (YACWAG) [REP4-012].

Wraxall and Failand Parish Council

- 5.9.203 Wraxall and Failand Parish Council considers that the visual changes from the overhead line and T-pylons across the flat Moors and Levels and up the Tickenham Ridge would affect views substantially, that trees would not mitigate views and that they could also alter the landscape character [REP2-075]. The Parish Council highlighted the impact of CSE compounds which are required to effect a change from overhead to underground sections of power line. The Applicant referred to the ES findings, which it said does not propose that pylons would be screened by trees, agreeing this would be out of context, but that some planting is proposed to enhance and soften effects on views, which would be detailed with local character and ecology in mind [Doc 8.5, para 1.8.14 to 1.8.16].

Nailsea Town Council

- 5.9.204 Nailsea Town Council was keen to ensure that should the proposed development go ahead the 132kV lines through Nailsea would be removed. At the OFH in Nailsea, the Town Council expressed the affection the local community has for the surrounding landscape and in particular for The Drove (published circular footpath route, D1.F46 and D1.F47) over which the proposed T-pylons would pass and for the important landscape character of The Causeway which leads to Tickenham Church [EV-037].

Nailsea Against Pylons

- 5.9.205 At the Landscape ISH, Nailsea Against Pylons welcomed the beneficial effect of the removal of the 132kV lines in Nailsea, but queried the alignment of the proposed 400kV line across the flat landscape and mentioned particularly the impact where the overhead line would cross North Drove, a popular circular walk from the town's edge. It was questioned whether the line could deviate to avoid North Drove [EV-059 to EV-062]. Nailsea Town Council had also mentioned the importance locally of this walk at the OFH in Nailsea on 18 March 2015 [EV-037].

The Panel's reasoning and conclusions

OSPES Planting

- 5.9.206 The Panel gives weight to the proposed OSPES planting, particularly in the area west of North End and between Nailsea and the proposed overhead line, where appropriate in habitat terms. We are content that the additional OSPES planting the Applicant has agreed to include would assist in enhancing the landscape character of this Moors and Levels landscape. We agree with the Applicant's point regarding the potential siting of trees close to the boundary of the SSSI, which comprises the rhynes across the area. We are satisfied the necessary conditions in this regard would be secured in the Biodiversity Mitigation Strategy (BMS) [Doc 5.26.3C]. As this landscape is one for which enhancement could also be achieved through interventions associated with the rhynes, the use of the s106 contribution for landscapes of distinction, as described for Section A, would also be of relevance here and could address points made by YACWAG [Doc 8.4B, Schedule 9, Part C].

Sandford substation, the semi-permanent access track and Tower Brook cable bridge

- 5.9.207 We visited the site for the substation at Sandford as part of an ASI on 21 April 2015. This was helpful in appreciating the area of land required for the substation and the works compound and for understanding the visibility of the site from surroundings. During USIs visits were also made to VPD1 looking down on the proposed substation site, VPC13 (above Sandford), VPD20 south of the site and VPD2 northwest of the site (Photomontage viewpoints [Doc 5.18.1]).
- 5.9.208 Our overall impression is of a site that is reasonably well concealed through natural features in some directions, but we also noted that the proposed substation would be present in some long distant views from the viewpoints inspected and from footpath D1.F1. The size of the substation and the initial flexibility of design of features gave us concern. Hence our request as described for the CSE compounds for a Design Approach document which could be used for agreeing details. This is described in Section 5.5 of this report.

- 5.9.209 The Applicant has proposed embedded landscape mitigation and OSPES planting for the substation, some of which would be subject to early completion for reasons associated with the re-provisioning of flyways for bats from Special Areas of Conservation (SACs). We agree the mitigation proposed would assist in screening and blending the large infrastructure with its surroundings, as part of a holistic design approach as set out in the Design Approach document; and that an orchard is appropriate to reflect existing landscape character, providing ongoing maintenance is delivered (which is reported upon later in this section of our report).
- 5.9.210 We were also concerned (as were others) at the extent of the compound areas, their visibility and effect on the landscape and views in particular from footpath D1.F1, the location of which was pointed out to us from the site during the ASI. We asked the Applicant for further justification for the size and need for tree and hedge removal on boundaries of construction compounds. This was provided with plans showing that more hedgerows could be retained than shown on the trees removal plans [Doc 8.13.3.2, note 4 compared with Doc 4.7.5 sheet 1 of 14]. This arrangement is now secured in the recommended DCO and the updated tree removal plans refer to the detailed plans for hedge retention [Doc 4.7.5C, sheet 1 of 14]. We consider this is particularly important for views from footpath D1.F1, together with the nearby OSPES planting for additional hedge gap planting. Any potential for advance planting on this western edge should be taken.
- 5.9.211 The Tower Brook cable bridge option (if constructed) is assessed in views from adjacent houses [Doc 5.7.2.1, Appendix 7D] during operation. Its presence is assessed as not affecting the overall beneficial effect arising from the removal of the overhead line. We agree with this assessment. The semi-permanent access from the south which passes over the 400kV undergrounded route is shown on visual assessment drawings during construction but not during operation. As the track's surface is to be grasscrete we do not consider its presence would affect the Applicant's assessment, the significance of which for views from D1.F1 is moderate adverse during construction and during short and long term operation [Doc 5.7.2.1, Appendix 7D].

Issues regarding Moorland Park and T-pylon LD51

- 5.9.212 Impact on views from Moorland Park was not explicitly raised by IPs in their representations regarding the effects of the proposed development. However, it was mentioned at the Landscape ISH in connection with both construction and operation and at the DCO ISH on 16 June 2015. After our ASI on 16 April 2015, when the landowner of Moorland Park allowed us to inspect the site and surroundings, we asked the Applicant to reconsider the OSPES planting proposals it had initially proposed in light of the proximity of the haul road, as well as the potential for moving T-pylon LD51 eastwards. Our recommendation regarding locating LD51 in the eastern extent of the LoD is explained in the health and well-being Section 5.7 of this

report. The construction aspects are reported in Section 5.3 on construction traffic.

- 5.9.213 In response to our further request at the DCO ISH on 16 June 2015, where we continued to express concern about construction impacts, the Applicant set out a note relating to a menu of mitigation measures [Doc 8.38.2.2, (D1.H58)] and specific proposals for Moorland Park [Doc 8.43.2]. We consider the planting now proposed as OSPES and the Applicant's commitment to establishing this as advanced planting go some way to softening the impact during construction. This planting would not be guaranteed because it forms part of the OSPES, but we note that progress has been made and the Applicant had arranged a meeting for the planting on the eastern edge of Moorland Park, in the update on landowner agreements [Doc 8.20.1.2A].
- 5.9.214 The Applicant reported that further planting, as requested by North Somerset Council immediately west of the haul road, would not be possible because that landowner does not want planting on his land [Doc 8.43]. We are not satisfied that the commitment to advance planting of OSPES planting on the eastern boundary (of Moorland Park) is secured sufficiently to address our concerns regarding alleviating adverse visual effects during construction and operation. We consider the adverse effects in this location to fall into the screening category in EN-5. Therefore in order to satisfy ourselves that landscape proposals would be fit for purpose, but without them taking on the status of embedded mitigation, we have included this site in Requirement 43 which sets out the need for a site specific mitigation scheme to be agreed with the relevant LPA.

Nailsea and Nailsea Moor

- 5.9.215 We agree that the removal of the 132kV lines in Nailsea would bring beneficial landscape and visual effects for some receptors, particularly those on the northwest edge of Nailsea. We share the concern of IPs regarding the visual impact of the 400kV overhead line across Nailsea Moor and the impact on the setting of the Church of St Quiricus and Julietta. At our request the Applicant prepared a note on the implications of undergrounding across Nailsea Moor [Doc 8.13.3.2, note 2]. The Applicant classified the surrounding landscape as of local value (ie not nationally designated).
- 5.9.216 This is another case in point where we (and local opinion) would put more weight than the Applicant has attributed to the value of the landscape. The significance of effect on landscape character during operation is predicted to be moderate adverse, which would be avoided by undergrounding. However the findings of the review showed that adverse effects on ecology and archaeology, increased costs of undergrounding and the visual and landscape effects of the necessary CSE compounds would not be justified in policy terms. We agree with the Applicant's findings. As this is an area largely unsuitable for tree planting, we place weight on the enhancement that

the landscapes of distinction element of the OSPES could bring to these Moors landscapes.

Conclusions for Section D

- 5.9.217 The Panel considers the landscape and visual assessment has fulfilled the requirements set out in EN-1, although we do not agree with the outcome of the assessment in places. The need for the alignment to pass over the distinctive Moors landscape would result in impacts on landscape and views. The Applicant has identified these and as far as possible, we consider the Holford Rules, as required by EN-5, have been applied. The proposed 400kV overhead line would run along a similar alignment to the existing 132kV line. The alignment would depart from the existing one on Nailsea Moor, crossing The Drove.
- 5.9.218 High level, but distant views of the Sandford substation compounds would be visible from the AONB (VPC13). For this reason the Panel considers the Design Approach document, which we described in more detail under Section C, is an important tool to help ensure that the impact of the substation in Section D would meet the requirements for mitigation in EN-5. We also think a mitigation plan for visual, as well as other effects during construction, is necessary for Moorland Park and similarly we consider Pylon LD51 should be fixed as far east as possible within the LoD.
- 5.9.219 We have given some weight to the additional measures that could be achieved from both the OSPES planting and the landscapes of distinction, which are secured via the s106 agreement, in reaching our conclusions on this Section.

Section E: Tickenham Ridge

- 5.9.220 Section E encompasses all of Tickenham Ridge, from Tickenham Road in the south to the M5, which forms the northern boundary of the Section. The over-riding landscape character is the elevated wooded landform of the Tickenham Ridge, a strong landscape feature, which provides a distinctive backdrop to the Moors in the south and Clapton Moor to the north. In the south the landscape is enclosed in part with woodland belts including Ancient woodland on higher ground to the north and across to the northern slopes of Tickenham Ridge. On the northern slope there are scattered farms and village settlements such as Portbury on lower ground near the M5. Tickenham Ridge divides views in the section. From the south of the Ridge views are towards the southern slopes of the Ridge and across the Section D Levels and Moors and to the north of the Ridge views extend out over Clapton Moor to Portishead, Portbury Wharf Nature Reserve, Portbury Docks, Avonmouth and to the Bristol Channel and the Welsh hills in the distance. From the top of the Ridge, such as Cadbury Camp scheduled monument, views extend down the valley to the south. Views from Portbury are largely obscured by landform, buildings and trees adjacent to the M5.

- 5.9.221 The proposed works would comprise 400kV overhead line on T-pylons, removal of one 132kV line and undergrounding of another.

The Environmental Statement and Applicant's findings

- 5.9.222 The Tickenham Ridge landscape in Section E is assessed as having local value. There is no mention in the ES assessment of areas in this section which have greater than local landscape value [Doc 5.6.1, para 6.4.217 to 6.4.225], but Nailsea Moor and Tickenham Ridge are identified as areas where there is greater adverse landscape effect within the moderate category [Doc 8.1.2, response to Q9.8(b)].
- 5.9.223 The significance of the effects on landscape character during construction is assessed as moderate adverse when close to construction activity and minor adverse elsewhere. There would be an indirect effect no greater than minor adverse on Section D and Section F resulting from the construction activity on both north and south slopes of Tickenham Ridge [Doc 5.6.1, para 6.5.252 to 6.5.264]. The significance of residual landscape effects during operation in Section E resulting from the overhead line is moderate adverse. The replacement planting would not result in a reduction of the significance of the effect on this section [Doc 5.6.1, para 6.8.27 to 6.8.30].
- 5.9.224 The majority of the views in Section E are assessed as having local value, with local distinctiveness being recognised from the relationship between Tickenham Ridge and the Levels and Moors landscapes in Section D (Nailsea Moor) and Section F (Clapton Moor). National value is attributed to views from the Gordano Round long distant route and national cycle routes. Regional value is attributed to a number of visitor attractions including National Trust properties and Noah's Ark Farm.
- 5.9.225 The significance of the effects on views during construction is assessed as short term moderate adverse or minor adverse. Receptors experiencing greatest significance are predicted to be where the construction operations are in close proximity to properties and occupy a large extent of the view. Locations mentioned where visual effects of greatest significance would be experienced include Stone-edge Batch, southern slopes of Tickenham Ridge, the junction of Cadbury Camp Lane, Whitehouse Lane and Cuckoo Lane, northern slopes of Tickenham Ridge near Caswell Hill and Prior's Wood and the north and east of Portbury village if Option A (as it passes through Section F) is adopted. However, both Options A and B are assessed as minor adverse significance. This is explored in more detail in Section 5.15 of this report. Temporary moderate adverse significance is predicted for users of some short sections of roads and footpaths which overlook construction works, but mainly the significance of effect would be minor adverse or negligible [Doc 5.7.1.2, para 7.5.294 to 7.5.328].
- 5.9.226 The significance of the effects on views during operation is assessed as short term moderate adverse or minor adverse. The locations cited

for greatest significance of effects during construction are also those cited during operation. For operation, Portbury properties closest to the overhead line are assessed as having moderate adverse significance of effects for Option A and minor adverse for Option B. Where views from properties contain a moderate proportion of the view affected by the new overhead 400kV line, the magnitude of effect is assessed as moderate adverse, even with the removal of the two 132kV routes from those views. A summary of the visual effects of greatest significance is provided [Doc 5.7.1.2, Table 7.16].

The case made by other Interested Parties

- 5.9.227 We are not reporting points concerning the matter of route options, as they relate to Section E in this section of the report. That discussion is reported in Section 5.15 of this report.

Joint Councils

- 5.9.228 The Joint Councils disagreed with the description of visual effects for receptors in Section E, which relates to their earlier comments about the assessment outcome of moderate adverse magnitude of effect in high sensitivity views, which they consider has been under-assessed. The Applicant is content with its assessment [Doc 8.3.12A, ID 7.9]. Tickenham and Nailsea is one of the Joint Councils' pinch-points

Wraxall and Failand Parish Council

- 5.9.229 Wraxall and Failand Parish Council expressed concern about the route of the overhead lines over Tickenham Ridge before descending again towards Portishead to Avonmouth. The Parish Council was also concerned about the construction impacts over eight years including visual changes and views for the community [REP2-074]. This was in the context of proposed alternatives to the overhead line, which we have reported on above and in Section 5.14.

Cadbury Camp Lane

- 5.9.230 Mr John Miles, Chairman of the Cadbury Camp Water Co Ltd and Mr Alistair Cole, resident of Cadbury Camp Lane property Spindlewood sent letters in lieu of attending the PM [EV-003 and EV-001]. Both also attended the evening OFH in Nailsea on 18 March 2015 [EV-038]. Amongst other points, they both raised the visual impact from properties along Cadbury Camp Lane; and Spindlewood in particular. Mr Cole's note in lieu of attending the PM [EV-001] enclosed a photograph of the view from the rear of his property down the valley, which was helpful as views from Cadbury Camp Lane (which the Panel walked along during a USI) are screened by vegetation, houses and property boundary fences. At the OFH, Mr Miles talked about a number of impacts, including landscape and visual, on the properties and 100 residents of Cadbury Camp Lane. He particularly mentioned the impact of the pylons up through the valley which would be taller than the existing 132kV lattice pylons and the visual impact of the T-pylon at the eastern end of Cadbury Camp Lane. Mr Cole talked about how the

taller pylons and thicker wires would take away the views of Crook Peak currently experienced from his property (E1.H28).

The Panel's reasoning and conclusions

Description of effects

- 5.9.231 We are in agreement with those parties which identified the relationship between the flat Moor landscape and the valley through which the current two 132kV overhead lines run, passing Mogg's Wood and Chummock Wood to Tickenham Ridge as distinctive. During one USI, the Panel walked up footpath E1.F5 and down E1.F4 experiencing this for ourselves. We also viewed Nailsea Moor and the setting of Tickenham Church from a number of viewpoints [EV-166]. The Applicant has identified both Nailsea Moor and Tickenham Ridge as areas where there is greater adverse landscape effect within the moderate category.

Cadbury Camp Lane, including Spindlewood

- 5.9.232 The ES specifically mentions two properties on Cadbury Camp Lane which would be close to underground 132kV cable works and 400kV overhead lines including the haul road and temporary scaffolding which would have construction compounds and HDD works nearby. From the drawings and assessment, Spindlewood (E1.H28) is one of the properties for which a moderate adverse significance of effect is predicted for views during construction and operation. All other properties along the southern side of Cadbury Camp Lane (E1.H29 and E1.H30) from where receptors are assessed to have views, are predicted to experience minor adverse significance of effects during construction and moderate adverse significance of effects during operation [Doc 5.7.1.2, Inset 7.145 and Doc 5.7.3.11 and Doc 5.7.3.13, Figure 7.28.16 and Figure 7.30.15].
- 5.9.233 The descriptions of the magnitude of effects during operation for the properties represented by E1.H29 and E1.H30 acknowledge that the solid central arm and cross column and greater height of the T-pylons would reduce the amount of backgrounding and in places the pylons would be visible above the trees of Mogg's Wood. The removal of the two 132kV overhead lines from view is mentioned, but any beneficial aspects of this are not emphasised in the descriptions [Doc 5.7.1.2, para 7.5.338 and Doc 5.7.2.2, Appendix 7E]. We think there is some benefit in visual terms from the removal of the two overhead lines on lattice towers. We agree with the Applicant's assessment of the significance on view during operation on these properties along the southern side of Cadbury Camp lane being moderate adverse. There is no additional planting which could deliver screening and OPSES are not proposed in this area.
- 5.9.234 Following a request for the Applicant to consider the detailed mitigation around Spindlewood, the Applicant found it was possible to retain more trees than originally shown [Doc 4.7.6B, sheet 2 of 4 and

Doc 4.7.6C, sheet 2 of 4, which relates to Doc 8.21.4]. However it is clear that there are still trees that would potentially be affected in the 'may be removed' category as well as those which would be removed to the property's southeast and also to the northeast. This raises matters to which the local planning authority must pay particular attention when considering the Tree and Hedgerow Protection Strategy that must be approved by the relevant planning authority under Requirements 6 and 12. The local authority should review the working arrangements in this area carefully and ensure the proposals for trees to be retained in this area maximise the number to be retained, with the use, if necessary, of additional measures to maximise and aid retention. Accordingly and because of other effects, we have included this area as a site for which a detailed mitigation plan must be submitted to the local planning authority for approval before works commence. This is included in Requirement 43 of the recommended DCO.

- 5.9.235 We agree with the Applicant's assessment of significance of visual effects for the residential receptor Spindlewood as moderate adverse during both construction and operation [Doc 5.7.2.2, Appendix 7E].

Conclusions for Section E

- 5.9.236 The Panel considers the landscape and visual assessment has fulfilled the requirements set out in EN-1. The need for the alignment to pass up and over the distinctive Tickenham Ridge would result in impacts on landscape and views. The Applicant has identified these and as far as possible, we consider the Holford Rules, as required by EN-5, have been applied. We were persuaded by the Applicant's response to our request for justification of route in this area (specifically relating to Tickenham Church) that the alternative of closer alignment to the existing route, would be less compliant with the Holford Rules and therefore EN-5.
- 5.9.237 The Panel has satisfied itself that more detailed consideration of a mitigation plan before commencement in the vicinity of Spindlewood would contribute to compliance with the landscape and visual matters set out for decision-makers to consider in EN-1 and EN-5.
- 5.9.238 The woodland habitat in this area is important and we consider its preservation and enhancement would be key in an area where the residual significance of landscape effects is moderate adverse. We therefore give weight to the woodland management element of the OSPES, which the local authorities have flexibility to use in locations of need in accordance with the woodland management activities set out. This includes ancient woodland [Doc 5.25.1B, Section 7.4].

Section F: Portishead

- 5.9.239 Section F extends north from the M5 to the estuary, including the settlement of Portishead. The boundary with Section G (which comprises Avonmouth and includes Royal Portbury Dock on the south

of the River Avon) runs along The Drove out to the estuary. The landscape character comprises flat, low lying land across Clapton Moor and the Gordano Valley, falling to lower lying land north of the M5, which is built on embankment. Farmland and pasture predominate in the south and west of the section. Portbury Wharf Nature Reserve, with mature trees and hedgerows is located centrally with the settlements of Portishead and Portbury Wharf and the Portishead substation forming a built edge to the northwest. The eastern edge is characterised with large car depots and storage areas.

- 5.9.240 The proposed works would comprise 400kV overhead line on T-pylons and lattice pylons, removal of one 132kV line and undergrounding of another and modifications at Portishead substation. (Works and location vary according to which route option is recommended).

The Environmental Statement and Applicant's findings

- 5.9.241 Section F is considered in more detail in Section 5.15 of this report in connection with the Option A and B route alignments.

Section G: Avonmouth

- 5.9.242 Section G comprises the Royal Portbury Dock south of the River Avon, and the industry, port, residential areas and the flat rural Hallen Marsh east of the River Severn Estuary and north as far as Seabank substation. The landscape character is dominated by industry and dock development, with cranes, buildings and hardstanding. Settlements include the village of Avonmouth, set between industrial buildings and other urban areas of Shirehampton and Lawrence West, east of the M5. Vegetation softens the industrial character in places such as along the disused railway line and defining the field boundaries of Hallen Marsh, which is more remote from the industry and rural in character.

- 5.9.243 South of the River Avon the proposed works comprise a 400kV overhead line on lattice pylons, removal of a 132kV overhead line and underground cable works. (Works and location vary according to which route option is recommended). At the river crossing and north of the River Avon the works comprise 400kV overhead line on lattice pylons, removal of 132kV line towards Avonmouth substation, undergrounding of a 132kV line, removal of line entries and modifications at Seabank substation.

The Environmental Statement and Applicant's findings

- 5.9.244 The ES findings for the part of Section G in the Royal Portbury Dock area, which varies according to which route option is taken is reported in Section 5.15 of this report.
- 5.9.245 The landscape in Section G is assessed as having local value. The ES mentions the national value attributed to the heritage of the Royal Portbury Dock and Avonmouth and the wider landscape of the Severn Estuary [Doc 5.6.1, para 6.4.237 to 6.4.246].

- 5.9.246 The significance of the residual effects on landscape during construction are assessed as minor adverse in relation to tree loss, minor adverse in relation to installing 132kV underground cables and other construction activity adjacent to works, reducing to neutral with distance, and minor adverse in the Avonmouth area [Doc 5.6.1, para 6.5.326 to 6.5.352]. The significance of the residual effects from the proposed 400kV overhead line on the landscape during operation would generally have a minor adverse significance, with effects being neutral in the wider Severn and Avon Vales. The effect would be greater although remaining minor adverse significance close to the residential areas in Avonmouth and would be greatest; minor to moderate adverse, where the proposed overhead line crosses farmland in the north [Doc 5.6.1, para 6.5.361 to 6.5.371].
- 5.9.247 The significance of the residual effects on views for the area north of the River Avon, where there is only one alignment is predicted as moderate adverse for receptors close to construction works, such as at Packgate Road and Lawrence Weston Road, Moorhouse Lane near Hallen and across Hallen Marsh. Construction of the overhead 400kV line and removal of the 132kV line near Avonmouth village would be visible to a large number of receptors over buildings and trees. This is assessed as minor adverse significance of effect on views because construction works would occupy a moderate or low proportion of the view [Doc 5.7.1.2, para 7.5.462 to 7.5.470].
- 5.9.248 The significance of the residual effects on views for the area north of the River Avon during operation is assessed as moderate adverse where the proposed overhead 400kV line would be visible in a moderate proportion of views. For some receptors the existing 132kV overhead lines would be removed from views. This is assessed as minor beneficial for some receptors, but for most receptors the 132kV routes would be removed and the new 400kV route would be added to views. Depending on the proportion of view affected this is assessed as resulting in moderate adverse or minor adverse significance effect on views [Doc 5.7.1.2, para 7.5.484 to 7.5.490]. A summary of the visual effects of greatest significance is provided [Doc 5.7.1.2, Table 7.20 and 7.21].
- 5.9.249 Following a request from the Bristol Port Company (BPC), the Applicant was asked to consider the effects of increasing the height of lattice pylons LD109 to LD113 in the port area north of the River Avon to achieve the requested ground clearances within Bristol Port. This would result in increases in height of between 3m and 15m above what is currently proposed in the DCO and therefore assessed in the ES. The Applicant's assessment of the proposal in landscape and visual terms concluded that the overall increase in height and base size is not considered great enough to result in a variation to the magnitude or significance of effects on landscape character and views as the increase is not sufficient to tip the balance into the next category [Doc 5.34.1, Section 2]. The effects on trees to be removed or may be affected with the possible increased pylon height is also provided [Doc 4.7.14].

The case made by other Interested Parties

Joint Councils

- 5.9.250 The Joint Councils maintained their disagreement with the Applicant's assessment of landscape character in Hallen Marsh. They consider that the uninterrupted nature of the landscape where perceptions of surrounding buildings are diminished and distant should lead to an assessment of sensitivity to change as medium not low. The Applicant disagrees and maintains the criteria for low sensitivity to change apply to this site [Doc 8.3.12A, ID 6.3]. The Joint Councils consider the significance of effect on landscape character should be moderate adverse not minor to moderate adverse. The Applicant maintains its assessment is correct [Doc 8.3.12A, ID 6.8].
- 5.9.251 The Applicant pointed out that it has undertaken a review of the Joint Councils' LIR request in this area and has recognised that further softening may be appropriate and has reached agreement with Bristol City Council and South Gloucestershire District Council regarding additional OSPES items [Doc 8.3.12A, ID 6.8]. These are at Ableton Lane, North of Hallen Marsh, Avonmouth Village and St Anthony's Park.
- 5.9.252 In the case of the tree planting in Avonmouth Village, this has been secured by way of the s106 agreement between the Applicant and the Joint Councils as an agreed commuted sum to be paid to Bristol City Council to cover the implementation and maintenance of street trees in Avonmouth village for 15 years. In addition, the Applicant working with Bristol City Council, would consult and deliver the 'Gardens in Avonmouth Village scheme', whereby households would be consulted and if they wanted trees planted in their gardens which would achieve additional screening, these would be provided by the Applicant [Doc 8.4B, Schedule 8].
- 5.9.253 The Applicant submitted further proposals for St Anthony's Park, which would increase the area of OSPES planting in the vicinity [Doc 8.43 and Doc 8.43.1], but the Joint Councils still had concerns about the deliverability of these proposals at the end of the Examination [REP8-005]. The areas of concern relating to landscape and views are a request for Requirement 10 to refer to blocks of planting, replacement of vegetation that 'could be affected', and securing advance planting (all points we report on under our general discussion of replacement planting below).
- 5.9.254 The Applicant has agreed to replacement hedgerow planting for trees lost along the M49 and Ableton Lane, additional OSPES in this area comprising additional trees and 300m of additional hedge gap planting along Minor's Lane [Doc 8.3.12A, ID 6.8]. The Joint Councils acknowledged this, but still consider the effect on local landscape character has been under-assessed.

The Panel's reasoning and conclusions

Increase in height of Pylons LD109 to LD113

- 5.9.255 The Panel agrees with the findings of the Applicant's assessment of the landscape and visual effects of the proposal to increase the heights of Pylons LD109 to LD113. It concludes that there would be no change to the significance of effects as assessed in the application ES.

Avonmouth Village

- 5.9.256 We heard descriptions at the Landscape ISH from the Joint Councils regarding the views of the proposed 400kV pylons in Avonmouth Village. Officers had visited Avonmouth village and photographed views from there of the crane which the BPC had erected to represent the position of Pylon LD110 during the ASI to the Port on 17 April 2015 [EV-059 to EV-064]. The Joint Councils subsequently submitted indicative photographs which they argued justified the need for a secured scheme in this area as mitigation, rather than OSPES planting, where the locations cannot be guaranteed. There was also discussion at the Landscape ISH about ways that additional planting could be secured in gardens to soften the impact of the pylons in this residential area further [REP4-005, item 12 and Appendix with photographs]. The s106 agreement has included for both delivery of additional street tree planting and maintenance through payment of a commuted sum and an agreed mechanism for consulting and planting in gardens as appropriate.

- 5.9.257 We are satisfied the Avonmouth Village street trees and gardens scheme as set out in the s106 agreement would provide appropriate mitigation for the visual effects which result from the proposed 400kV pylons visible from Avonmouth Village. We have given weight to the sum secured which would deliver street trees in Avonmouth Village. This comprises 132 extra heavy standard trees and 15 years' maintenance. We have also given some weight to the commitment to consult the households in the Gardens in Avonmouth Village scheme because we consider this pays attention to householders whose living conditions would be adversely affected.

St Anthony's Park

- 5.9.258 We consider the Joint Councils' concerns about securing the more detailed content of Doc 8.43.1 are well made. The most recent plan of trees and hedges to be removed or affected [Doc 4.7.11C (Option A) or Doc 4.7.13C (Option B)] has not been updated to make reference to this enhanced mitigation plan. The securing of the plan is also referred to in the construction access and haul routes Section 5.3 of this report. This is another site for which we have recommended the requirement that a mitigation plan must be approved by the relevant planning authority before works commence. This is secured through Requirement 43 in the recommended DCO.

Ableton Lane, North of Hallen Marsh

- 5.9.259 We consider the additional commitments in terms of replacement planting and OSPES planting would contribute to further enhancement in the area. Although the Joint Councils continued to disagree over the outcome of the Applicant's assessment, they do acknowledge the contribution the added commitments would make. We are content the Applicant's commitment to replacement and OSPES planting, whilst not guaranteed in terms of precise location, would make a worthwhile contribution to landscape enhancement and its function would and should be maximised for screening purposes when the detailed plans for replacement planting come forward for approval by the local planning authority. The Panel has given weight to the OSPES planting.

Section H: Hinkley Line Entries

- 5.9.260 Section H is the area surrounding the existing Hinkley power station. The landscape character is of a remote coastline with coastal marsh dominated by views of the Hinkley power station. Low lying fields of mixed farmland are divided by wet rhynes. South of the line entries the landscape comprises Wick Moor and North Moor; arable farmland and pasture on land rising to the south. The site for the line entries is flat low lying, wet pasture defined by mature hedgerows with occasional trees. Tree and hedgerow cover varies along watercourses, being denser closer to Wick and more open where water courses run northeast across open marshland.
- 5.9.261 The proposed works would comprise the Hinkley line entries.

The Environmental Statement and Applicant's findings

- 5.9.262 The landscape in Section H is assessed as having local value. There is no mention in the ES assessment of areas in this section which have greater than local value [Doc 5.6.1, para 6.4.247 to 6.4.256].
- 5.9.263 The significance of the residual effects on landscape during construction is assessed as minor adverse [Doc 5.6.1, Table 6.32]. The significance of the residual effects on landscape during operation is assessed as minor adverse to neutral [Doc 5.6.1, para 6.8.37]. The significance of effect during construction on views is assessed as no greater than minor adverse overall with temporary moderate adverse effects experienced by some walkers on footpaths along Wick Moor Drove and south of Wick Moor [Doc 5.7.1.2, para 7.5.500 to 7.5.515]. The significance of effect during operation on views is assessed as minor adverse with walkers on footpath H1.F3 and the seat viewpoint at Pixie's Mound experiencing moderate adverse effects [Doc 5.7.1.2, para 7.5.516 to 7.5.535]. A summary of the visual effects of greatest significance is provided [Doc 5.7.1.2, Table 7.22].

The case made by other Interested Parties

The Joint Councils

- 5.9.264 The Joint Councils LIR Report proposals for additional OSPES planting identified a need for a doubling of tree numbers to mitigate views and additional planting to take account of cumulative effects [REP2-112, Appendix B]. Further justification was made in the updated SoCG, arguing the need for users of roads, footpaths and for the setting of Pixie's Mound. The Applicant has consistently refuted the need for this additional planting. This is reiterated in the updated SoCG, where the Applicant states that it does not consider the additional native tree and woodland structure planting requested at Wick Moor is necessary or reasonable, that the visual assessment typically predicts minor adverse or negligible significance and that the Applicant's proposals are considered appropriate [Doc 8.3.12A, ID 6.21]. The Joint Councils disagree with the Applicant's assessment in Section H, considering that some receptors round Wick have been under-assessed. The Applicant confirms it has taken account of comments made on the draft ES and is content with the assessment as it stands [Doc 8.3.12A, ID 7.12].

The Panel's reasoning and conclusions

Additional planting at Wick Moor

- 5.9.265 As this matter was unresolved towards the end of the Examination, a further USI was undertaken on 18 June 2015 to view the area again [EV-166]. We found the area to have few receptors from where the line entries would be visible, other than the footpaths identified. We agree with the Applicant's assessment in terms of significance of effect. Many views are seen in the context of the existing Hinkley Point Power Station and overhead lines and are distant, albeit panoramic, views. Our findings on Pixie's Mound (Section 5.8 of this report) do not lead us to consider mitigation for its setting is necessary. For these reasons we agree with the Applicant's reasoning and consider the Secretary of State does not need to consider a mechanism for securing additional OSPES planting in this area. We have however given weight to the OSPES planting which would be delivered in this area.

Conclusions for Section H

- 5.9.266 The Panel considers the landscape and visual assessment has fulfilled the requirements set out in EN-1. The Panel considers the enhancement as proposed by the Applicant is a reasonable and proportionate response to the effects assessed, and therefore in line with the landscape and visual matters decision-makers need to consider under EN-1 and EN-5.

Decommissioning

- 5.9.267 The Applicant's ES predicts the significance of effects on landscape and visual matters during and following decommissioning, in the event that this should take place, on a section by section basis. During decommissioning temporary adverse effects similar to those during construction, but for a shorter duration are predicted. Typically these would result in moderate adverse effects in limited areas, reducing over distance to minor and negligible. Following decommissioning of the 400kV overhead line, site-specific infrastructure and the underground cables the effects are predicted to result in beneficial landscape and visual effects, ranging from moderate beneficial through minor/moderate, minor to neutral.
- 5.9.268 The Panel is content that the Applicant has given consideration to, and predicted the effects that decommissioning would have on both landscape character and views. The Panel is satisfied that Requirement 34, which requires a written scheme of decommissioning to be submitted for approval by the relevant local planning authority at least six months prior to any decommissioning works would provide sufficient control over any impacts arising from the decommissioning works.

REPLACEMENT AND REINSTATEMENT PLANTING

Terminology for planting types

- 5.9.269 For clarity we set out the terminology used in this report to define the different operational landscape proposals put forward by the Applicant.
- embedded landscape mitigation (new planting associated with site infrastructure; referred to as 'guaranteed' by the Applicant);
 - replacement planting in-situ (replacement planting in the same location from where vegetation has been removed, also 'guaranteed' by the Applicant);
 - replacement planting ex-situ (replacement planting not in the same location as where vegetation has been removed, but as close as feasible; not 'guaranteed' by the Applicant; and
 - OSPES (off-site planting for enhancement and softening, not guaranteed by the Applicant. OSPES also includes contributions to landscapes of distinction, woodland management and long distance trails and public rights of way which we cover below).

The Arboricultural Impact Assessment

- 5.9.270 The Arboricultural Impact Assessment (AIA) was submitted with the Application [Doc 5.21.1, supported by tree survey appendices Doc 5.21.2 and Figures Doc 5.21.3.1 to 5.21.3.3]. The AIA presented detail on the distribution and value of trees that would be directly impacted by the proposed development. It reported the surveying and mapping of approximately 990ha including 3,552 individual trees, 334 groups of trees and 1,400 sections of hedgerow. It also reported a desktop exercise to identify trees, woodland or hedgerow subject to

statutory and non-statutory designations. The combined results were used to aid detailed line design to avoid or minimise effects on significant habitats, landscape features and important individual trees.

- 5.9.271 The AIA set out that 581 trees, 7.66ha of trees recorded as groups (of which 1.31ha or the equivalent of 1.21km has been identified as out-grown hedge) and 16.95km of hedgerow would need to be removed to facilitate the construction of Option A. A further 279 trees have been identified as needing pruning based on current dimensions and/or estimated growth over the next ten years.
- 5.9.272 The proposed 400kV overhead line is the component which would have the greatest impact in terms of tree removal and tree pruning and the principal requirement for hedgerow removal is associated with the creation of bell mouths and their associated visibility splays. In addition 356 trees, 7.29ha of trees recorded as groups and just over 15.5km of hedgerow may be affected. This would generally be in addition to those for removal or pruning. The AIA stated that these numbers represent 'a worst case scenario' and it is likely that in practice the majority would be retained. The assessment is made on the basis of the Option A route (and construction options) but also considers the impact of the potential for movement of components within the LoD. We report the differences between Option A and Option B in Section 5.15 below.
- 5.9.273 The AIA is supported by the Trees and Hedges to be Removed or Affected Plans, which are organised by section [Doc 4.7.1 to Doc 4.7.9], with subsequent updates [Doc 4.7.3C, Doc 4.7.4B, Doc 4.7.5C, Doc 4.7.6C, Doc 4.7.10, Doc 4.7.11C, Doc 4.7.12, Doc 4.7.13C]. Doc 4.7.7 and Doc 4.7.8 are superseded after the inclusion of different plans for Options A and B. The effects on trees to be removed, or may be affected, with the possible increased pylon height in Bristol Port area is also added [Doc 4.7.14].
- 5.9.274 The AIA sets out the process by which measures would be put in place to ensure that the proposed development would not necessitate unnecessary tree removal or pruning, and would not give rise to a reduction in the quality, condition or safety of remaining trees. It sets out the Applicant's commitment to plant four trees for each tree lost using extra heavy standards, planted on or near to the tree of loss.
- 5.9.275 Updates to the AIA were provided at Deadline 7 to include matters that had arisen during the Examination. It is important these most recent versions are used, as they include trees now shown for retention, which were previously shown for removal or possible removal.

Felling and lopping of trees

- 5.9.276 At the first DCO ISH on 14 April 2015 the Joint Councils raised concerns regarding the wide-ranging provision for felling and lopping trees and the potential highway safety issues that might arise through

the exercise of Article 42 [EV-045 to EV-048]. Following further discussion at the DCO ISH on 16 June 2015, the Applicant submitted a 'Note on powers relating to the felling and lopping of trees' [Doc 8.38.4]. This confirmed that Article 42 would permit felling or lopping of trees along access routes, but only if they were near to the authorised development. The power would also apply outside the Order limits but only where it was necessary to do so in accordance with the tests of necessity and reasonableness. The Applicant suggests that the circumstances where this power would apply are likely to be limited and no change is required.

- 5.9.277 The Joint Councils suggest the introduction of a new Article 42(5) which would require the consent of the highway authority to fell or lop a tree within or overhanging the extent of the public highway. The Applicant reiterated its position in relation to Article 42 at Deadline 8 [REP8-012]. The Panel considers that such an amendment is justified in the interests of highway safety. The recommended DCO has been amended to reflect this, which is a highways matter, but reported here as well because of the relation to the AIA.

Trees subject to tree preservation orders

- 5.9.278 Article 43 would allow trees listed in Schedule 14 (Trees subject to tree preservation order) to be lopped or felled. The Applicant's response to Q4.36 indicated that without such power, it is possible that it would not be able to construct or operate the electricity line within its construction timetable. The Joint Councils have raised concerns that this power should only apply to those trees identified in Schedule 14. We have had regard to the Planning Inspectorate Advice Note 15, paragraph 24.2, on this topic. This states that: *"This power should not however be used as a precautionary measure and should, generally, only be applied to trees which are subject to TPOs, or otherwise protected by virtue of being situated in a conservation area, prior to the making of the DCO"*. At the DCO ISH on 16 June 2015, the Applicant drew attention to the word *"generally"* and submitted that it was clear that the advice that the power should only apply to trees covered by tree preservation orders (TPOs) was subject to exceptions.
- 5.9.279 Whilst the Panel has had regard to the long linear nature of the project, we do not consider that it would be appropriate to extend the scope of the model provision in this way. We consider it necessary for proper consideration to be given at the relevant time to the particular characteristics of any such protected tree. The recommended DCO has been amended to reflect this.

Replacement and reinstatement planting

The Applicant's case

- 5.9.280 Following questions at the Landscape ISH, the Applicant set out the numbers for replacement planting. These figures are not disputed by any IPs and are stated as agreed in the SoCG with the Joint Councils

[Doc 8.3.12A, ID 6.18]. The agreed figures for replacement comprise 581 trees (14 replaced in-situ, 2,310 trees ex-situ, making a four-to-one replacement ratio) and 7.66ha tree groups (0.14ha replaced in-situ and 7.52ha ex-situ). The trees would be extra heavy standards. This is confirmed as in addition to the site-specific embedded mitigation and the OSPES planting [Doc 8.13.3.2, note 6].

- 5.9.281 Replacement planting is secured through DCO Requirements 10 and 11 and delivered through Schedule 7 of the s106 agreement, to which we give weight. The Applicant stated it is not applying for rights under the DCO to undertake replacement planting in new locations because it considers they would not be necessary to make the proposed development acceptable [Doc 8.3.12A, ID 6.18].
- 5.9.282 Reinstatement planting and management refers to reinstated hedgerows and establishment of areas of seeding and water course banks. The Applicant's CEMP includes a section on reinstatement on completion of land, soils, trees, hedgerows and water courses. As a precursor, condition surveys would be carried out on all land affected by the works [Doc 5.26.1C, Section 2.13]. This satisfied earlier concerns expressed by the Joint Councils [Doc 8.3.12A, ID 6.9]. Reinstatement is also covered by Requirement 15 of the final draft DCO.

The case made by Interested Parties

- 5.9.283 The Joint Councils agreed the s106 commitments for replacement planting is the correct mechanism, but remain concerned because the locations for the replacement planting would not be guaranteed [Doc 8.3.12A, ID 6.18]. This concern is expressed by others such as Badgworth Parish Council [REP2-002]. The Joint Councils considered replacement tree planting to be essential mitigation and therefore it would need to be guaranteed. They refer to PA2008 and DCLG guidance which suggest that landscape mitigation may be an appropriate basis for compulsory acquisition powers. The Applicant's case was that it is not applying for rights under the DCO to undertake planting in new locations other than replacement planting within the Order limits because it considers it is not necessary to make the proposed development acceptable and would be unreasonable for landowners [Doc 8.3.12A ID 6.18].
- 5.9.284 The Joint Councils were concerned about the absence of one plan showing all aspects of planting (embedded landscape mitigation, replacement in-situ, replacement ex-situ and OSPES) and about inconsistencies between drawings. This was raised by the Joint Councils in the Landscape ISH and repeated in a Deadline 7 submission [REP7-010, Section 1.4.4, point 3]. The Applicant provided a response, which indicates that off-site planting (replacement ex-situ and OSPES) cannot be plotted on plan until such time as landowner agreements are in place. In this note, the Applicant referred to the obligation under Requirement 10 to submit information on

replacement planting including locations to the relevant local planning authority before commencement of any stage of the works [Doc 8.48].

- 5.9.285 The Joint Councils were also concerned that the drawings currently show replacement of blocks of woodland and/or scrub with linear planting which they believe would not achieve adequate mitigation for replacement. They also stated this would cause difficulties for themselves when undertaking their post-consent discharge functions [REP7-010, Section 1.4.4]. The Joint Councils make their point regarding the need to make reference to 'blocks' of new planting in Requirement 10 [REP8-005].

The Panel's reasoning and conclusions

- 5.9.286 We were surprised by the Applicant's belated approach to landowners regarding the possibility of planting on private land. This process only commenced during the Examination. By request, updates were provided to the Examination, but the Applicant was unable to give much certainty over areas where planting could take place. Activity in terms of contacting landowners and arranging meetings gained some momentum after the Landscape ISH. We were given a final update at Deadline 7 of the position at 6 July 2015 of numbers of landowners contacted (256), those expressing interest (144), meetings arranged (116) and meetings held (102), planting plans prepared (49) and legal agreements signed (one) [Doc 8.20.1.1B]. Plans showing locations of the different stages had been submitted at Deadline 6 [Doc 8.20.1.2A]. An update to this series of plans, referred to in Doc 8.20.1.1B was not submitted to the Examination.
- 5.9.287 In our opinion this process of landowner engagement should have started much sooner, particularly in locations which had been identified as pinch-points by the Joint Councils and where the Applicant had assessed significance of greater landscape and/or visual effect within the moderate category. We consider this is a weak point in providing some certainty over delivery of the replacement planting close to locations of vegetation removal. We do partially accept the Applicant's argument over ex-situ replacement planting outside the Order limits because the AIA clearly states that the tree removal should be minimised; so until the tree removal numbers and locations for the 'may be affected' vegetation have been settled, the Applicant is not in a position to confirm replacements in full. However we think discussions could have commenced much sooner for the known 2,310 replacement trees and 7.52ha tree groups to be planted ex-situ, in locations as close as possible to known trees to be removed. This would have been particularly helpful where landowners who do not want planting on their land were identified early; to inform discussions with other nearby landowners.
- 5.9.288 We consider replacement planting is necessary to make the proposed development acceptable in planning terms and relevant to the necessary tree removal, but we accept the flexibility in location which the Applicant requires to deliver in the manner it has set out [Doc

8.6.2, Appendix D]. The Panel is content that the necessary controls are in place to deliver this planting in the most appropriate locations as far as possible through Requirements 6, 10, 11 and 12 which secure the Tree and Hedgerow Protection Strategy and its approval and a scheme for planting groups of trees, woodlands and hedgerows. The responsibility would rest with the relevant local planning authorities to satisfy themselves that the schemes are fit for purpose. However we agree with the point, confirmed by the Applicant, that defining the Tree and Hedgerow Protection Strategy in the DCO should be incorporated [REP8-012]. Therefore we include the wording as suggested by the Applicant in the Requirements' definitions in the recommended DCO.

- 5.9.289 We understand fully the Joint Councils' desire to see all planting proposed for each specific geographical location on one plan, using the same annotations. However we do not consider that it is needed at this stage as part of the DCO. We agree with the Applicant that it would be premature, as the Applicant does not yet have accurate information on the trees that 'may be affected' and has not amassed all the information relating to landowner agreements for OSPES and ex-situ replacement planting. We do however consider it is important that the Joint Councils have the wherewithal to require block planting for replacing blocks of woodland or scrub removed. Therefore we have made the requested addition to Requirement 10(1).
- 5.9.290 We are content that the approval processes set out in the DCO through Requirement 10 would achieve a satisfactory outcome. However, in light of the Joint Councils' concerns over the drawings, we urge the Applicant and Joint Councils to work together to agree the appropriate format(s) for these drawings before submission. We also consider approval of these plans would require professional input and would be time-consuming because of their detailed nature. This is allowed for in the Service Level Agreement, with Requirement 10 being set as a 'major requirement' [Doc 8.4B].
- 5.9.291 We have given weight to the replacement planting secured in Schedule 7 of the s106 agreement, which we consider is necessary to make the proposed development acceptable in planning terms. We think it is directly related to the proposed development, fairly and reasonably related in kind and scale, enforceable and reasonable in all other respects. It is not as precise as the Joint Councils would have wished, because it does not as yet specify locations. However we consider the commitment to plant as close as possible to location of tree removal and the mechanisms for agreeing the tree removal and tree replacement with the relevant local authorities give sufficient precision for it to be weighed in the balance and to comply with EN-1, para 4.1.8.

Conclusions on replacement and reinstatement planting

- 5.9.292 The Panel is satisfied that the Applicant's proposals for replacement and reinstatement planting are adequately secured, with some minor

additions included by us in the recommended DCO. The four-to-one replacement tree planting would contribute to enhancement and softening as well as replacement and is accordingly in line with EN-1 and EN-5.

MITIGATION AND ENHANCEMENT

Introduction

5.9.293 This section on mitigation and enhancement reports:

- the sustained difference of opinion between the Applicant and the Joint Councils over what needs to be mitigated and what is enhancement;
- embedded mitigation for landscape and visual effects, which includes use of T-pylons and landscape planting, including advance planting;
- enhancement which includes OSPES planting, OSPES landscapes of distinction, OSPES woodland management; and
- the Panel's conclusions and reliance on mitigation and enhancement.

Differences of opinion on mitigation and enhancement

5.9.294 Differences of opinion between the Applicant and the Joint Councils as to what planting would be mitigation and what would be enhancement were not resolved by the end of the Examination. The Joint Councils' arguments set out above under methodology for the LVIA lead the Joint Councils to the view that there are unmitigated effects of major adverse significance.

The Applicant's case

5.9.295 The Applicant is clear that the application for the proposed development, as submitted, has planting proposals which comprise embedded mitigation which would alleviate the adverse visual and landscape effects; the locations of which are guaranteed. It also includes OSPES planting, the locations of which are not guaranteed. (see below under sub-heading OSPES Planting). The Applicant stated at the Landscape ISH that areas where off-site planting is proposed could further reduce effects [Doc 8.13.3.1, para 9.12]. The Applicant also argued that mitigation is not only achieved through planting. We address the other elements the Applicant offers as embedded mitigation in the sections below.

The Joint Councils

5.9.296 The Joint Councils' starting position in its LIR was that the OSPES and replacement planting is essential mitigation and not enhancement; and therefore it must be secured [REP2-112, Appendix B, Section 2]. This is also set out in the SoCG [Doc 8.3.12, ID 6.18.1 and 16.8.2]. The Joint Councils considered these plantings to be essential to offset

adverse landscape and visual effects and therefore require them to be guaranteed.

- 5.9.297 We felt progress was made at the Landscape ISH. The Joint Councils' summary of case made orally [REP4-005] included the following statement: *"National Grid and the Joint Councils could continue to engage in an academic discussion about whether OSPES is EN-5 softening or necessary mitigation but that would not necessarily be helpful to the Panel. The Joint Councils accept that given National Grid has no control over the land, the scheme can only be delivered via landowner Agreement. It remains the Joint Councils' position that OSPES is necessary mitigation but they accept that there inevitably needs to be a degree of flexibility in what planting is delivered in the context of needing to agree arrangements with third party land owners. The S106 agreement would, at the very least, provide assurance that all reasonable endeavours would be undertaken to secure this mitigation, and where difficulties arise, variations to the OSPES plans could be agreed with the Local Planning Authority(ies), providing any such variations meet the objectives of the scheme i.e. to provide screening/mitigation for the significant landscape/visual effects of the scheme."*
- 5.9.298 During the course of the Examination, the Applicant went some way to include further OSPES planting as we have described in the relevant Section descriptions above. There remain differences of opinion over the additional OSPES planting proposed by the Joint Councils and refuted by the Applicant. We have given our opinion on each of those above.
- 5.9.299 By the time of the updated SoCG, the ID 6.18 referring to mitigation has moved from red to buff colour (indicating less disagreement) [Doc 8.3.12A, ID 6.18]. The Joint Councils acknowledged that the s106 agreement, now signed, contains commitments to replacement planting and this should provide the necessary mitigation. However the SoCG states that the Joint Councils remain of the view that this replacement planting is essential mitigation for adverse landscape and visual effects and therefore needs its locations to be guaranteed, referring to PA2008 s122(2)(b) and DCLG guidance regarding landscape mitigation being a possible basis for compulsory acquisition.

Panel's reasoning

- 5.9.300 We stated earlier that whilst we disagree with some parts of the Applicant's landscape and visual assessment, we agree with those elements of the proposed development to which embedded landscape mitigation has been applied. We therefore agree with the Applicant's fundamental premise that rights do not need to be sought for locations for ex-situ replacement planting or OSPES planting as the absence of either of these planting types in a precise location would not result in adverse effects so significant to constitute a reason for refusal. However we do give weight to the existence of a quantum of planting, which would be appropriately located.

- 5.9.301 The Applicant requested that the Panel have regard to the OSPES enhancements, which it considers have a reasonable chance of delivery [Doc 5.6.1, para 6.7.2 and Doc 5.7.1.2, para 7.7.2], which we have done. We have also, as described above, identified through the course of the Examination locations where we consider EN-5 screening, rather than off-site landscape schemes would be important. These locations are generally predicted to experience other construction stage effects and have been the subject of mitigation plans submitted by the Applicant [Doc 8.38.2.1]. These locations are listed in the recommended DCO as locations where a bespoke mitigation plan would be required to be submitted for approval to the local planning authority prior to commencement of works in that area.
- 5.9.302 We acknowledge that the guidance points to landscape mitigation as an example of where land might be required to facilitate or be incidental to the proposed development. However, we do not consider this applies, other than for the site-specific infrastructure. We find the Joint Councils' position in the updated SoCG does not reflect the more pragmatic position it had taken at the Landscape ISH, which we found more helpful and more realistic.

Embedded mitigation

- 5.9.303 The Applicant's embedded mitigation for effects on landscape and visual during operation is stated to comprise a combination of factors and design iterations. It is argued that landscape and visual aspects have been considered at each stage and been built into the design and the site-specific landscape planting proposals [Doc 8.1.2 response to Q9.9].
- 5.9.304 The embedded mitigation for landscape and visual effects which would be built into the scheme comprises [Doc 5.6.1, para 6.7.8 and Doc 5.7.1.2, para 7.7.8]:
- careful routing of the line, having regard to the Holford Rules;
 - removal of the F route and the G route (existing 132kV lines);
 - partial removal of other 132kV lines;
 - undergrounding through the Mendip Hills AONB; and
 - careful siting of new site-specific infrastructure such as CSE compounds and substations having regard to the Horlock Rules.

This is also set out in the Design and Access Statement [Doc 7.2, Section 5 and Section 7.2]. The Applicant also relies on the use of T-pylons in its embedded mitigation.

Use of T-pylons

- 5.9.305 EN-5, para 2.8.10 states that selection of the most suitable type and design of support structure is an opportunity for mitigating potential adverse landscape and visual impacts. The Applicant sets out its reliance on the design of the T-pylon for mitigation because it is shorter than the 400kV lattice pylons and would therefore be visible from fewer places [Doc 5.2.2.6].

- 5.9.306 We asked if IPs were content with reliance on the design of the new T-pylon as part of its embedded mitigation [PD-007, Q9.28]. The Joint Councils raised concerns about deliverability and whether unforeseen adverse effects might arise, making the case for a CIM fund and also about colour [REP2-087]. The Applicant pointed out that reliance on the T-pylon design is not the only form of mitigation [Doc 8.9, response to Joint Councils' response to Q9.28].
- 5.9.307 In response to Q9.28, NE stated that it agrees the T-pylon has the potential to reduce adverse visual impacts, but that this would vary from one landscape character area and setting to another. It also stated *"Allowance should be made for the impact of the new and unfamiliar T-pylon on human receptors. People are used to the traditional lattice pylon and to a certain extent this may diminish their sensitivity to them. There may be a period of adjustment during which the novelty of the T-pylon detracts from their potential to reduce visual impacts."* [REP2-043].
- 5.9.308 Compton Bishop Parish Council stated *"Although shorter, many people consider the solid poles and cables 'bunched' closer will create a larger visual mass."* [REP2-016]. Badgworth Parish Council considered T-pylons have a greater density at the top of the structure than the lattice pylon and the stringing of wires being closer together has a concentrated effect in views. The Parish Council also stated *"the visual impact of the more solid monopole taller structures will not diminish over the same distance as the present smaller lattice structures."* [REP2-002]
- 5.9.309 Tessa Munt, who was MP at the time, stated in her WR *"Although, at 35m in height, this is 11m lower than the traditional lattice pylon, the height of the pylon, together with the 'bunched' configuration of heavy cables will make it vastly more visible than the existing line and more prominent on the landscape. Mitigation by tree planning is unrealistic – the unique visual landscape will be despoiled."* [REP2-049].
- 5.9.310 In response to these and similar views expressed at the Landscape ISH, the Applicant explained that the relative solidity as compared with a lattice pylon had been considered in the Pylon Design Options Report for each section. The Applicant also stated that this study had taken into account the fact that in close views the T-pylon would be more dominant than a steel lattice pylon [Doc 5.2.2.6].
- 5.9.311 A number of parties were concerned that the T-pylons were not going to be strung by the date set for the ASI. However we undertook a number of further USIs to the Eakring test centre and observed the test T-pylons strung. The Applicant did point out that the construction of test T-pylons at Eakring was not first and foremost for assessing the visual impact. It was however most useful for us; and as requested, the Applicant provided photographs from the Eakring viewpoints [Doc 8.39.4].

5.9.312 We agree that the solid nature of the monopile and the diamond arrangement for the conductors would make the T-pylon more evident than the lattice pylons, especially when seen against a landscape backdrop. This point was also made by the Joint Councils [REP4-005]. We consider colour to be a very important consideration in assessing the T-pylon's visibility and effect on the landscape. Our views on colour are reported in Section 5.5 of this report on good design.

Landscape planting

5.9.313 The embedded landscape mitigation planting is secured through DCO Requirement 9 and subject to Requirement 11 for implementation. The River Axe cable crossing, if by a bridge is secured by Requirement 30, but this is not referred to in Requirement 11. We have included reference to the River Axe cable crossing in the recommended DCO.

Advance planting

5.9.314 We raised the potential use of advance planting or temporary screen planting at the Landscape ISH, in particular with reference to the South of the Mendips CSE compound, but also in relation to other areas where it could be accommodated [EV-059 to EV-062]. By advance planting, we mean installing planting which is part of the eventual embedded landscape mitigation, replacement planting or OSPES at an early stage so it functions as screening during construction and is a more effective means of mitigation or enhancement at the start of operation. The Applicant acknowledged the value of advance planting referring to the substation and CSE compounds, and agreed to look at opportunities for advance planting [EV-051, action 3], although also expressing the view that it can be seen as counterproductive if minor changes occur which mean planting later needs removal [Doc 8.13.3.1].

5.9.315 We asked the Joint Councils for their opinions in Q2.9.16. They responded *"It is considered the opportunities for advance planting should be reviewed on a case by case basis. Whilst it is appreciated that advance planting may not be worthwhile in cases where there is a real chance that a considerable amount of it might need to be removed. In most circumstances however, especially in respect of off-site planting there is little to no risk of advance planting being abortive and all reasonable efforts should be made to achieve mitigation planting as early as possible, even before construction on a particular phase has begun. The CSE south of the Mendips is a good example amongst many where significant effects could be alleviated more quickly through the use of advance planting of site specific mitigation, OSPES planting and replacement planting."* They also suggested there could be opportunities at St Anthony's Park [REP5-012].

5.9.316 At Deadline 5, the Applicant provided updated drawings showing phasing for the embedded mitigation planting at Sandford substation and the South of the Mendips CSE compound [Doc 8.18.2.1, Appendix 2.9.27.1]. These updated drawings are not secured in the DCO, so we

have added reference to them in the DCO Requirement 11. We have added a proviso for the CSE compound site allowing planting up to one planting season later, as the drawing shows the advance planting would be implemented in February/March 2016, which may be somewhat optimistic. The Applicant also indicated that opportunities for temporary planting would be discussed with landowners [Doc 8.18.1, response to Q2.9.27].

- 5.9.317 The Joint Councils again raised the matter of advance planting in their outstanding issues summary table at Deadline 7 [REP7-071]. They also suggested revisions to Requirement 11 and set out suggested wording and particularly sensitive locations [REP7-070]. They suggest advance planting can be secured by a requirement which states *"Unless otherwise agreed with the relevant local authority advance planting shall take place in the following locations in the first available planting season between the grant of development consent and the commencement of development in the relevant stage of the authorised development:"* and which then lists sensitive locations.
- 5.9.318 We agree with the Joint Councils [REP7-070] that the requirement to consider advance planting sits better in Requirement 11, rather than only in Requirement 10 (which sets out the need to submit and receive approval for replacement planting), which is where the Applicant has proposed wording. That wording proposed in the final DCO Requirement 10 would not achieve the desired outcome as it refers to replacement planting *"after implementation of the authorised development."* [Doc 2.1.1E and Doc 2.1.2E, Requirement 10(2)(d)]. We have amended this sub clause to refer to *"prior to the implementation of the relevant stage"* in the recommended DCO. We have also added a reference to identifying opportunities for temporary planting to this Requirement as this could apply to ex-situ replacement planting as well as OSPES.
- 5.9.319 However with regards the Joint Councils' proposed wording for a requirement, we consider this places too much onus on the Applicant to deliver, unless otherwise agreed. Also we do not believe that advance planting on OSPES sites can be secured through the DCO. This would need to have been secured through the s106 agreement. Therefore we propose wording for Requirement 11, which would require the Applicant to implement advance planting at the South of the Mendip Hills CSE compound, the River Axe cable bridge (if used) and the Sandford substation. This refers to the drawings provided in response to our Q2.9.27. We also have added Ashtrees (because it is land owned by the Applicant).
- 5.9.320 As for the other areas in the Joint Councils' submission, we agree with the sentiment and list those locations, and some others in this report below. We consider the delivery of advance planting in these areas should be achievable, but this would need to be through collaborative working between the relevant planning authorities and the Applicant using the amended sub-clause we have included in Requirement 10(d)

which requires the submission of identified opportunities for early landscape and replacement planting.

5.9.321 The locations we consider would benefit from advance planting would be as follows:

- Wick Moor OSPES;
- Polden Ridge: OSPES and replacement planting;
- Cripps Farm: OSPES;
- Mark and Tarnock: OSPES and replacement planting;
- between footpath D1.F1 and the Sandford substation: OSPES planting
- Moorland Park: OSPES
- Tickenham and Nailsea: OSPES; and
- St Anthony's Park replacement planting (secured through Doc 8.43.1); and
- Avonmouth village public realm and garden planting (subject to the s106 agreement).

Enhancement

OSPES (planting)

5.9.322 The Application includes a description and details of an off-site planting scheme, which has been updated to take account of comments as described above. There are drawings showing proposed locations and schedules and descriptions for each planting area. [Doc 5.25.1B, Doc 5.25.2B, Doc 5.25.3.1B, Doc 5.25.3.2B and Doc 5.25.3.3B]. This is offered for enhancement and softening of adverse effects, where it is considered the effects of the proposed development are not of such significance that would warrant mitigation before the scheme could be reasonably approved.

5.9.323 The s106 agreement which secures the OSPES sets out the 5.25 series of documents above as "*First OSPES*" and the Applicant would be obliged to use reasonable endeavours to deliver First OSPES. In the event it could not, then the Applicant would have to prepare a draft replacement ("*Replacement OSPES*"), consult the relevant Councils, have regard to reasonable representations from the Councils and use reasonable endeavours to deliver the Replacement OSPES [Doc 8.4B, schedule 9, para 2.6].

5.9.324 The Applicant drew our attention to EN-5 (para 2.8.11) on a number of occasions, which states that off-site landscape schemes can assist in mitigating potential landscape and visual effects, but that these can only be implemented with the agreement of the relevant landowners [Doc 8.1.2, response to Q9.9]. This was also stated at the Landscape ISH and the summary of the case put orally at that ISH by the Applicant set out how it considered the ExA might take the OSPES into account [Doc 8.13.3.1, para 9.16]. The points made by the Applicant are:

- as OSPES is not on land within the Applicant's control, reliance should not be placed on particular planting proposals when considering residual landscape and visual effects;
- the ExA may take account of the fact there is an OSPES and that it is to be secured by a s106 agreement, but not for specific locations as there is no certainty that planting can be delivered; and
- the Applicant has reported "*considerable initial interest*" from landowners (at this stage 85 landowners out of the 300 contacted had expressed interest) to host OSPES; and that would be relevant to the weight (if any) the ExA might attach to the proposal to fund OSPES.

5.9.325 We are grateful for the Applicant setting out these points. We have considered the OSPES proposals throughout the Examination as we have heard evidence and undertaken site inspections. As will be clear from our reporting above, the Panel has taken into consideration and given weight to the contribution that the OSPES planting and other OSPES enhancements would make. We are content that there is a commitment to a quantum of planting that would be delivered and consider this is necessary to make the development acceptable in planning terms. We accept the flexibility the Applicant still requires whilst landowner discussions continue.

5.9.326 We are content with the arrangement whereby the s106 agreement securing the OSPES requires the planting to be delivered as set out; or if not possible in the locations specified, is subject to consultation with the local planning authorities over whether the replacement scheme would deliver the necessary softening and enhancement of adverse landscape and visual effects.

5.9.327 The Panel has not given weight to the stage the Applicant has achieved by the end of the Examination in reaching agreement with landowners. This is because we think the Applicant could have achieved considerably more than one signed agreement, had it commenced discussions earlier. This is one of the reasons for seeking more detail for locations such as Moorland Park.

OSPES Landscapes of distinction s106 contribution

5.9.328 The Panel gives weight to the inclusion of sums in the OSPES for landscapes of distinction in the s106 agreement with the Joint Councils. We consider this is important in terms of enhancement of the landscape through management practices and other enhancement particularly for landscapes that are not particularly characterised by trees, where OSPES planting is not appropriate. This point was made by some parish councils and YACWAG at hearings and in WRs. It would be for the local authorities to decide how this money is allocated. We would suggest this is an area where the parish councils could have input, especially in those areas where comments were made regarding the need for landscape enhancement other than tree planting such as by Bridgwater Without Parish Council.

OSPES Woodland management s106 contribution

5.9.329 The Panel gives weight to the inclusion of sums in the OSPES for woodland management in the s106 agreement with the Joint Councils. We consider this is important in terms of enhancement of the landscape character through management practices.

Conclusions on enhancement and mitigation

5.9.330 The Panel considers the application for the proposed development has been the subject of environmental assessment which has covered the topics of landscape and visual matters in a relevant and proportionate manner. The effects are set out, mitigation explained and residual effects described all in accordance with EN-1 and EN-5.

5.9.331 For mitigation the Applicant set out the detrimental effects and explained the process by which embedded mitigation has been included in the proposed development. These comprise:

- use of the Holford Rules for overhead line routing;
- use of T-pylons for most of the route;
- undergrounding in the AONB;
- siting using Horlock Rules for site infrastructure; and
- embedded landscape mitigation for site infrastructure.

5.9.332 The Panel was not satisfied that the mitigation contained in the application minimised the impact of the site infrastructure through good design, as required by EN-1 and EN-5, particularly in relation to both the setting of the AONB and also to other areas of high amenity value. However during the Examination, the Applicant put forward a Design Approach document, which is now secured in the final proposed DCO.

5.9.333 We consider this document would address our concerns regarding the need for design parameters against which post-consent details could be approved. The Applicant has also explored opportunities for advance planting, which would particularly address our concerns about some construction stage landscape and visual impacts. We are now satisfied the mitigation meets the tests of EN-1 and EN-5, as described above.

5.9.334 Regarding the issue of OSPES enhancement or mitigation, the Panel considers OSPES planting enhancements are necessary to make the proposed development acceptable in planning terms and consistent with the landscape schemes referred to in EN-5, para 2.8.11. Even though the locations are not guaranteed, we are content in the main, that there are sufficient details and a sufficient overall quantum to ensure OSPES would deliver the necessary mitigation.

5.9.335 The Panel considers that there are some areas where more specific mitigation measures, as set out in EN-5 para 2.8.11, would be particularly important. For that reason; we have identified locations in the recommended DCO where we consider a site-specific mitigation

scheme should be agreed with the local planning authority prior to works commencing. This would give the opportunity for detailed schemes to take account of local conditions, which may not be identified on the OSPES and for the particular screening function of planting as set out in EN-5 to be realised in a manner most appropriate for the site, whilst still recognising the need for landowner agreement. These are sites where other construction stage mitigation is required and are listed in Requirement 43 in the recommended DCO.

MANAGEMENT AND MAINTENANCE

The Applicant's case

- 5.9.336 From the outset the Applicant considered five years' maintenance adequate to establish the planting proposed. Reference is made to model conditions. In response to Q2.9.24, the Applicant indicated that on land it owns it would maintain the planting for the lifetime of the infrastructure [Doc 8.18.1, response 2.9.24.14]. The Applicant's solution to the need for eight years' maintenance for SAC bat flyways and our response to that are set out in the HRA Chapter 6 of this report.
- 5.9.337 The Applicant pointed out at the Landscape ISH, that it was important for the ExA to bear in mind that a longer maintenance period meant accessing other people's land. The Applicant would have no power to do this, and it could not happen without the agreement of the landowner [EV-064]. The Applicant accepted that different circumstances exist when planting street trees in the public realm, such as at Avonmouth [Doc 8.3.12A, ID 6.20], where it has agreed to provide a commuted sum for 15 years' maintenance in the s106 agreement [Doc 8.4B, schedule 8, point 2].
- 5.9.338 We asked about the need for maintenance activities such as thinning of woodland, to which the Applicant replied that the first five years are the most important to establish newly planted trees, but if the Secretary of State considered it appropriate for a longer maintenance period, then a further thinning operation could be carried out at year ten [Doc 8.18.1, response to Q2.9.21]. In response to ExA's Q2.9.24, the Applicant explained how landscape maintenance periods could be extended if considered necessary by the Secretary of State. The Applicant repeated its opinion that extending the period of access to privately owned land might jeopardise the willingness of landowners to enter such agreements [Doc 8.18.1, response to Q2.9.24].
- 5.9.339 The Applicant indicated at the Landscape ISH and in response to Q2.9.24 that it was willing to prepare landscape management plans for all new planting areas, setting out the maintenance for the first five years and more limited management activities for years 6 to 15 if required [Doc 8.18.1, response to Q2.9.24]. It was stated that this could be covered by additional wording in the DCO if required.

The case made by other Interested Parties

- 5.9.340 Throughout the Examination, the Joint Councils' position remained that they considered a 15 year maintenance period necessary. This point is also made in the Joint Councils' comments on the updated draft DCO against the relevant articles and requirements [REP7-004] and in their updated SoCG [Doc 8.3.12A, ID 6.9, 6.14, 6.20]. The Joint Councils pointed to SPDs for Bristol City Council, Sedgemoor council and North Somerset Council which cite fifteen year management periods for planting [Doc 8.3.12. ID 6.20]. The Joint Councils also refer to the advice given by NE regarding the maintenance of hedgerows for bats (eight years) and that it may take up to ten years for hedgerows to reach pre-construction conditions. They contend that the model conditions refer only to a five year period for replacement of damaged or diseased plants, that the model conditions are guidance not policy and management and maintenance should be project-specific.
- 5.9.341 We asked NE about maintenance and management periods, to which the response was that a single figure cannot be used for all vegetation and habitat types as the length of time to establish, mature and perform necessary functions would vary between plant species, as would resilience, but that the necessary period for aftercare could stretch to up to 15 years [REP5-013]. The Joint Councils set out the maintenance periods they felt appropriate for different types of planting in response to Q2.9.24 [REP5-012].

The Panel's reasoning and conclusions

- 5.9.342 Notwithstanding the Applicant's statement that it would maintain the planting on land it owns for the lifetime of the infrastructure, the ongoing management and maintenance of that planting is not secured beyond five years in the Applicant's final draft DCO. The case has been made by the Joint Councils, in particular, that the ES relies for mitigation of significant adverse landscape and visual effects on growth and survival of the planting for fifteen years.
- 5.9.343 The Joint Councils have argued for fifteen years' maintenance for all planting. We are not persuaded by that argument, as explained earlier. We accept the Applicant's case that the planting required to offset the significant adverse landscape and visual effects is that described as embedded landscape mitigation by the Applicant, combined with an enforceable design approach and the need for some advance planting in these areas. However, we find the Joint Councils' argument about the need to ensure plant survival and growth over that fifteen year period to be relevant and important for the embedded landscape mitigation. We therefore amend Requirement 9 in the recommended DCO accordingly to secure fifteen years' maintenance for the embedded landscape mitigation. This is deliverable without imposing on other landowners as it is on land acquired by the Applicant.

5.9.344 For other areas apart from the bat flyways, where we are persuaded of the need for eight years' maintenance, we consider five years in accordance with the specification as set out by the Applicant to be adequate. However, we also commend the Applicant's offer to provide management plans for landowners, as requested by the Joint Councils, setting out maintenance required beyond year five and have amended the recommended DCO to secure the submission of management plans under Requirement 10.

PUBLIC RIGHTS OF WAY

5.9.345 The Applicant describes the long distance footpaths and national cycle routes and published footpaths in the ES [Doc 5.7.1.1, para 7.4.197 to 7.4.258 and Doc 5.7.2.2, Appendix 7I and Doc 5.7.3.2]. The ES assessment of effects is based on the aforementioned PRowS being ascribed with high susceptibility to change in views and sensitivity of change depending on the value of the view (national value from long distance footpaths and national cycle routes - giving high sensitivity to change in views; and local value from locally published footpath routes - giving medium sensitivity to change in views) [Doc 5.7.1.1, para 7.4.199].

5.9.346 In response to Q9.3 [Doc 8.1.2, responses Q9.3.13 to 9.3.14], the Applicant indicated that views from regional cycle tracks and published walks would be of regional value. In the assessment tables, the value of view for published footpath routes is shown as regional. It appears a regional category was introduced at some stage during the assessment. We consider this supports our earlier criticism of the way the application of value in the visual assessment of other receptors and of the landscape assessment had moderated the outcome. Introducing a regional category for some PRowS, and assessing magnitude of effect in some detail, allows a finer grained approach to the PRow assessment than for other visual receptors.

5.9.347 The updated SoCG with the Joint Councils showed sustained disagreement over the way in which the visual effects on long distance footpaths and cycle tracks and published footpaths has been assessed, where high sensitivity and moderate adverse magnitude of effect result in a moderate adverse effect [Doc 8.3.12A, ID 7.13]. The Joint Councils argued that this provides additional justification for their proposed CIM fund.

5.9.348 The proposed development includes improvements to the Strawberry Line in the vicinity of the Sandford substation, enabling a current section which passes along Nye Road to be off-road, utilising a disused railway line. This was requested and is supported by Winscombe and Sandford Parish Council [RR-113].

5.9.349 The s106 agreement between Applicant and the Joint Councils makes provision for the payment of £368,494.18 for public rights of way, as part of the OSPES contribution. The way the sum is shared between four members of the Joint Councils is set out, the resulting sums being

for *"the amendment and enhancement of the public rights of way network with discretion for the Councils to apply monies received towards those purposes as they shall decide."* [Doc 8.4B, schedule 9]. We have given some weight to this.

5.9.350 The Joint Councils are not satisfied with the level of contribution towards the landscape effects of the proposed project on PRoWs. This was set out in their LIR [REP2-112, Appendix B] and restated at the ISH on 23 April, which covered landscape mitigation [REP4-006]. The Joint Councils queried the Applicant's basis for recommending which PRoWs receive funding and which do not. They also disagreed with the Applicant's cut-off distance limit of 1km from the proposed development for triggering funding. Following the signing of the s106 Agreement there remain PRoW improvements which the Joint Councils list in their summary table of outstanding issues [REP7-071]. The Applicant increased the funding from those amounts originally shown to include further contributions towards diverting part of the West Mendip Way long distance path and for improvements in South Gloucestershire [Doc 8.18.1, response to Q2.9.6].

5.9.351 The detail of the Joint Councils' case for the content of the requested supplementary s106 regarding further contributions to PRoWs is for:

- diversion of footpaths WL23/71 (H1.F1b) and WL23/61 (H1.F2) - £11,575;
- strategic link improvements to the Strawberry Line - £5,706; and
- diversion of PRoWs away from oversailed and most impacted routes to upgraded existing lanes at Hallen Marsh - £32,000 [REP6-009].

The Panel's reasoning and conclusions

5.9.352 In terms of landscape and visual assessment of PRoWs the moderate adverse category is still broad. We are, however, satisfied that within the Applicant's definition of moderate (which we have accepted), those sections of PRoWs which would experience the greatest adverse effect (generally where the PRoW would pass under the proposed overhead line or would run adjacent to it) have been assessed as moderate adverse.

5.9.353 We walked sections of some of the PRoWs which were assessed to have different significance of effects along their alignment in order to understand how the Applicant's assessment might tally with our opinion. We took stock of views over 1km away from existing 132kV lines [EV-159 and EV-166]. Generally, we found the assessment to be sound. Any differences we had were in the area between minor beneficial and negligible. Therefore they were not significant in terms of overall effects, nor for the purpose of reaching agreement over s106 contributions to footpath improvements for reasons of significant adverse visual effects.

- 5.9.354 We support the improvement to the Strawberry Line long distance footpath which is included in the Applicant's mitigation proposals for the Sandford substation in terms of the visual effects as well as from the traffic and transport point of view (Section 5.13 of this report). We cannot see the justification on landscape and visual grounds for the additional connection requested as part of a further s106 Agreement. We support the additional contribution offered for diversions of the West Mendips Way and long distance footpath improvements in South Gloucestershire.
- 5.9.355 The Applicant has set out its position a number of times regarding additional contributions and justified its selection of footpaths in the OSPES. The Applicant has also pointed out the s106 allows flexibility for the local planning authorities which receive s106 payments to use their discretion over expenditure [Doc 8.18.1, response to Q2.9.6]. This is also the Applicant's position in response to the Joint Councils' case for a supplementary agreement [Doc 8.37].
- 5.9.356 The Panel does not agree that the potential adverse landscape and visual impacts on the three footpaths requested for inclusion by the Joint Councils in a further s106 agreement would make the overall proposal unacceptable in planning terms, taking account of the local environment and context. The Panel therefore agrees on landscape and visual grounds that no further action is required. The position from the transport point of view is different with regard to the diversion of footpaths WL23/71 (H1.F1b) and WL23/61 (H1.F2) that carry the England Coast Path which is reported in Section 5.13 of this report.

MONITORING

The Applicant's case

- 5.9.357 The Applicant set out its case regarding the need for monitoring in response to the Joint Councils' LIR [Doc 8.6.1, ref 1.5]. The Applicant does not agree that there is a need for monitoring of implementation of mitigation and states "*National Grid, as a responsible developer, has robust monitoring and compliance systems and has committed to self-imposed monitoring regarding mitigation. It does not agree that additional funding on top of that payable for the discharge of Requirements is either required or justified.*" This point was repeated when we asked if the need for monitoring was still a matter of disagreement in our second round questions [Doc 8.18.1, response to Q2.9.23].

The case made by the Joint Councils

- 5.9.358 From the outset, the Joint Councils set out their case for funding to monitor the mitigation associated with the proposed development as part of the Service Level Agreement (SLA) they consider is necessary to monitor the implementation of DCO requirements [REP2-111, ref 1.5]. This position had not changed at the end of the Examination,

where they repeat their response to first round Q4.59. *"The Joint Councils require funding for monitoring as the development and any in-built mitigation takes place. The Joint Councils note that Part 8 of the Planning Act 2008 states that the relevant Local Planning Authority is responsible for enforcing the provisions and requirements set out in a DCO which has been granted. However, the Joint Councils note that planning enforcement is a discretionary activity and therefore the Joint Councils are not obliged by statute to provide a planning enforcement service. The Joint Councils are of the view that monitoring of certain activity is necessary to ensure that works are being carried out in accordance with the approved plans and/or the mitigation necessary to ensure that the significance of environmental effects is being delivered effectively. In this regard the Joint Councils are of the view that National Grid should, as part of the Service Level Agreement, agree that the reasonable costs of the Joint Councils carrying out discretionary activity should be included so that the cost of providing this does not fall to local Council tax payers. The Joint Councils note the provisions of Section 73 of the Local Government Act 2003 which allows them to charge for the provision of discretionary activities".*[REP7-001, comment on response to Q2.4.13]

5.9.359 The Joint Councils add for clarification:

- *"where a process is described as delivering mitigation within the Environmental Statement the Joint Councils do not consider it is appropriate for the project promoter to 'self-police' the delivery of those measures;*
- *That the delivery of essential mitigation should not be left at the behest of whether or not a complaint is received*
- *Planning enforcement is a discretionary activity and therefore the Joint Councils are not obliged by statute to provide a planning enforcement service".*

The Panel's reasoning and conclusions

5.9.360 We consider the Joint Councils' case for monitoring funding is valid to carry out the monitoring of the planting and aftercare management and maintenance activities with regard to the hedge planting for the bat flyways. This is because this mitigation is essential to ensure the HRA tests are met. Even with the Applicant's commitment to self-monitoring, we consider the Secretary of State, as the Competent Authority for HRA purposes, should be able to rely on monitoring by persons other than the Applicant itself. This is to ensure that the hedgerow planting, which is the mitigation required for bats from European Sites, has been installed and is being managed and maintained adequately for eight years to meet its stated function.

5.9.361 In light of HRA matters, we give weight to the lack of monitoring proposed and we consider this is necessary to secure the mitigation. We therefore would be unable to recommend approval without a further s106 to secure the monitoring and hence the mitigation of the hedges that form the bat flyways.

5.9.362 For all other areas of planting, whilst we understand the Joint Councils' concerns we also acknowledge that the Applicant has set out its proposed monitoring and reporting mechanisms in the BMS and CEMP, and we consider these would be satisfactory.

COMMUNITY IMPACT MITIGATION FUND

5.9.363 As described elsewhere in this report, the Joint Councils have made a case for a community impact mitigation fund. The particular concerns in relation to landscape and visual effects which the Joint Councils have raised are:

- residual landscape effects in Section C within the AONB and consequential under-assessment of effects in Section C;
- length of maintenance period for replacement and embedded mitigation planting and consequential ability to mitigate effects of the proposed development;
- level of mitigation offered in Sections G and H due to under-assessment of effects in these locations;
- concerns about the assessment of significance of visual effects and resultant lack of mitigation in all sections;
- concerns about the assessment of significance of visual effects for long distance footpaths, cycle routes, published footpaths and regional transport routes; and
- concerns that attempts to reduce significance of effects through targeted, specific deliverable mitigation have not been taken [REP7-067].

5.9.364 The Panel agrees there is a case for increasing the landscape maintenance period for the embedded mitigation planting to fifteen years. Rather than, as suggested, securing this through a CIM fund, we have amended the recommended DCO accordingly. We consider this would give a more certain means of securing the outcome and is more appropriate as this planting is on land owned by the Applicant.

5.9.365 The Panel considers the other suggestions made by the Joint Councils are not justified in planning terms. We have described the Panel's views on the Applicant's methodology for visual and landscape effects. We share the Joint Councils' misgivings about the approach and certainly about the moderating influences, which have resulted in a large continuum of effects assigned to the moderate adverse category of significance for both landscape and visual effects. However we do not consider these effects would be so serious as to require alternatives to be considered, or for them to make the proposal unacceptable in planning terms within the policy context of EN-1 and EN-5, with only five years' maintenance.

LOCAL POLICY AND GUIDANCE COMPLIANCE

5.9.366 At Deadline 7, the Joint Councils suggested that the OSPES document should make specific reference to the South Gloucestershire Adopted Landscape Character Assessment Landscape Strategy (November

2014) to inform the detail design in the Pilning Levels area [REP7-070 Point 6]. At the time of preparing the OSPES, [Doc 5.25.1B] the Applicant had taken into account the extant 2005 South Gloucestershire Landscape Character Assessment. We consider that the later document is something that the Joint Councils might like to take up with the Applicant if consent is granted.

- 5.9.367 For works at St Anthony's Park, the Joint Councils pointed to the Bristol City Council Core Strategy (2011), Site Allocations and Development Management Policies (2014) Policy DM17: Development Involving Existing Green Infrastructure, which states that where tree loss or damage is essential to allow for appropriate development, replacement trees of an appropriate species should be provided in accordance with the tree compensation standard set out [REP5-027]. As the tree replacement plans are subject to approval by the relevant planning authority and a mitigation plan is to be submitted for approval for this site, the Panel considers there should not be any conflict with the green infrastructure policy given the control that the Council retains over securing mitigation for St Anthony's Park.
- 5.9.368 Policy DM17 would apply to other areas in the administrative area of Bristol City Council affected by the proposed development. As reported in the biodiversity Section 5.2 of this report, it also refers to Ancient Woodland and Veteran Trees. From the available evidence it would seem there has been no breach of this policy. No specific Veteran Trees or areas of Ancient Woodland have been brought to our attention. Trunk diameter of the removed tree is the parameter for deciding number of new trees in compensation. Trunk diameters for all trees to be removed are provided in the AIA. No evidence was given which suggested the compensation standard would not be met.
- 5.9.369 The Joint Councils find the lack of maintenance for planting in years six to fifteen to be inconsistent with adopted Council policy [Doc 8.3.17A and REP7-004]. Guidance citing 15 years' maintenance is found in Supplementary Planning Documents (SPDs) set out in the SoCG between the Applicant and the Joint Councils as:
- Bristol City Council Planning Obligations SPD;
 - Sedgemoor Council SPD: Outdoor Space for Sport and Play; and
 - North Somerset Council, Guidance on calculation of development of public open space contribution to be sought under s106 agreements [Doc 8.3.12A, ID 6.20].
- 5.9.370 The Panel has considered the arguments made for a fifteen year maintenance period and has amended the recommended DCO to include a fifteen year period for the embedded landscape mitigation on which the Applicant's ES relies. We have also added the Joint Councils' request for management plans to be prepared for years one to five and years six to fifteen to the DCO. We have not recommended maintenance and management should be undertaken by the Applicant beyond year five (except for SAC bat flyways). This is because we accept the Applicant's arguments regarding the difficulty of access to

land not in its control and because we accept the Applicant's argument that it is not necessary to secure the fifteen years as the Applicant's case does not rely on it. Therefore for mitigation planting the Order would comply with the SPDs, but for ex-situ replacement planting and OSPES it would not.

- 5.9.371 Other than the specific local policies and SPDs mentioned above, the Panel is content that that the proposed development would comply with local policy.

CONCLUSIONS

- 5.9.372 Landscape and visual matters were raised as a point of concern by many IPs. We have addressed these points and also our own, and, where relevant linked them to related matters of good design and effects on biodiversity. There was much discussion of the application of the methodology for landscape and visual matters. Inevitably for someone concerned about the impact of a pylon near their home or a locally important viewpoint, describing the adverse visual effects as of moderate significance would seem unduly generous and an underassessment.
- 5.9.373 The Panel has accepted the Applicant's later and more relevant description of a major effect, which we consider should have been included in the ES to enable better understanding of how the assessment outcomes were reached. This means that we do not accept the Joint Councils' criticism about the lack of effects of major significance. We do not consider this belies the need for mitigation, as moderate adverse impacts are addressed in the ES. However we do not agree with all the ES assessment outcomes and we agree with the Joint Councils that there are aspects of the application of the methodology which have led to moderating of conclusions on effects.
- 5.9.374 Concluding on methodology, we confirm we it meets the requirements of EN-1 and follows relevant guidance. However we consider the substantial effort of assessing and presenting, for example the visual effects of most properties within 1km of the LoD, was not at all matched by a similar level of analysis that would have been more useful in directing conclusions on areas for mitigation and areas for prioritising enhancement. That process has been undertaken during the Examination.
- 5.9.375 The Panel's major concern was that the mitigation proposed for the South of the Mendip Hills CSE compound did not meet the tests set out in EN-1 and EN-5, or local policies. The Panel confirms that with the addition of the Design Approach document and the commitment to advance planting, we consider the tools are there for the local planning authority to insist on a holistic approach to this infrastructure which would satisfy EN-1 and EN-5. We also had concerns about the impact on other sites with substations and cable sealing end compounds and confirm that proper use of the Design Approach

document for this infrastructure would satisfy EN-1 and EN-5 in these locations as well.

- 5.9.376 The Panel has explained its general agreement with the Applicant's approach to enhancement. We have given weight to the OSPES planting because we consider it is necessary to make the proposed development acceptable in planning terms and is compliant with the specific measures described in EN-5, para 2.8.11. However we accept the need for some flexibility in deciding final location, which we think is implicit in EN-5.
- 5.9.377 In locations where we felt more certainty was required to ensure some screening, as defined in EN-5 could be secured, we asked the Applicant to provide more information. We propose that these locations are secured in the DCO as requiring relevant planning authority approval of a scheme before commencement of the works. This would give more certainty of appropriate enhancement without committing to planting of a particular type on a particular site.
- 5.9.378 We also support the Applicant's proposals for advance planting in some of these locations and for some of the embedded landscape mitigation sites. There are other locations where the Joint Councils and the Panel consider benefit would be achieved from advance planting. Where these relate to OSPES planting we have reported locations where advance planting would be desirable in this report. This is not secured in the DCO because the location of that planting remains uncertain until a later date.
- 5.9.379 The Panel has discounted the Applicant's suggestion that weight should be given to the certainty of deliverability of the OSPES and replacement planting in the locations shown because we saw insufficient persuasive evidence of progress with landowner agreements. However we consider the s106 agreement securing the OSPES gives sufficient certainty of delivery overall, and an appropriate process for change. Moreover the replacement planting would be subject to the local authorities' approval. We appreciate the Joint Councils' desire for more certainty in terms of location of planting and for a holistic view of planting proposals, but we think this can come later and would urge parties to work together to this end. The Panel is satisfied that the OSPES planting and replacement planting as set out satisfy EN-5 and have given weight to both.
- 5.9.380 The Panel considers the flexibility of the other elements of the OSPES in the s106 funding for PRowS, landscapes of distinction and woodland management, giving the local authorities the ability to decide on most deserving enhancement is fit for purpose. This would give an opportunity for the local authorities to engage with the parish councils over appropriate projects. The Panel gives weight to these elements of the OSPES.
- 5.9.381 We have made changes to management and maintenance proposals where they relate to HRA matters and to the monitoring of those

activities. This is to provide more certainty of delivery of hedgerow planting which achieves its function as bat flyways for bats from SACs. We have increased the maintenance period for the embedded landscape mitigation to fifteen years, so it relates to the ES assessment period and to local SPDs.

- 5.9.382 The Panel is content that the approach to the use of Holford Rules and consideration of alternatives was proportionate and we are satisfied that the Applicant's routing appraisals meet the tests set out in EN-5. We agree with parties and the Applicant, who felt that the use of the T-pylon would present a more solid object in the landscape than a lattice pylon; and that backgrounding would be less effective than for a lattice. However we are content that the Applicant's reasoning for use of the T-pylon meets the test in EN-5 because of reduced height and that the change to lattice in the Port Area is justified and appropriate.
- 5.9.383 The Panel is satisfied the requirements of the NPPF, EN-1 and EN-5 have been met and sees no reason on landscape and visual grounds for the Secretary of State not to consent the grant of the Order, providing our additional recommendations for the DCO and further s106 agreement are met.

5.10 MARINE AND NAVIGATION

THE SCOPE OF THE WORKS WITHIN OR OVER THE MARINE AREA

- 5.10.1 The ES Project Description [Doc 5.3.1] indicates that the proposed 400kV overhead line route crosses the Severn Estuary Special Area of Conservation (SAC), Special Protection Area (SPA), Site of Special Scientific Interest (SSSI) and Ramsar site at the River Avon, supported by a lattice pylon either side of the river, and runs alongside the designation on the north-west shore of Avonmouth.
- 5.10.2 The relevant representation of the Marine Management Organisation (MMO) [RR-124], asserts that it is unclear within the application DCO exactly which works are below mean high water springs (MHWS). This made it difficult to understand which works are licensable under the Marine and Coastal Access Act 2009, or which works may impact upon the marine environment. The Applicant's response to the ExA's Q10.1 [Doc 8.1.2], clarifies that the location of the proposed development in relation to the MHWS is illustrated on plan G1979.2477A which accompanies the response and can also be found at Appendix 1 to the SoCG between the Applicant and the MMO [Doc 8.3.10].
- 5.10.3 The Applicant's response to Q10.1, and the SoCG, confirm that the only works associated with the proposed development below the MHWS are the activities relating to the River Avon crossing. These are covered by the River Avon Crossing: Method Statement April 2014, which is also appended to the SoCG. No other works would be located within the marine environment.

- 5.10.4 The MMO's response to the ExA's Q4.62 [REP2-089] confirms that it does not consider the dismantling and removal of the existing 132kV overhead electric line over the River Avon constitutes a "*licensable marine activity*" under Part 4 of the Marine and Coastal Access Act 2009. However, the construction of the new transmission system would constitute licensable marine activities under Section 66(1)7(a) of the 2009 Act. The licensed activities described in the Deemed Marine Licence (DML), Schedule 9, Part 2 of the draft DCO reflect this position.
- 5.10.5 The DML makes provision for notice to be given in writing to the MMO and the EA of the intended start date, and the likely duration of licensed activities, at least 10 business days prior to the commencement of the first licensed activity and no marine licensable maintenance works, other than emergency works, may commence without prior written approval from the MMO. The MMO Deadline 7 submissions, Appendix 1, [REP7-005] confirm that it is content with the provisions of the DML as set out in the draft DCO.

THE ENVIRONMENTAL STATEMENT ASSESSMENT AND MITIGATION PROPOSED

- 5.10.6 The ES Project Description for the River Avon crossing enables an assessment of potential effects to be made [Doc 5.3.1]. The ES includes an assessment of the potential effects during the construction of the proposed 400kV overhead line and the dismantling of the existing 132kV overhead line across the River Avon in each of the relevant topic chapters. All such potential effects are detailed in each of the relevant topic chapters of the ES, [Doc 5.6.1 to 5.16] and mitigation measures are identified, as appropriate. The ES concludes that, following the implementation of these mitigation measures, there would be no adverse effects as a result of the River Avon crossing, either during construction or operation.
- 5.10.7 The potential effects of these activities on the Severn Estuary SAC, SPA, SSSI and Ramsar site at the River Avon Crossing, are specifically assessed in the Biodiversity Chapter of the ES [Doc 5.8.1, Section 8.5] and in the 'The Applicant's Report to Support the Habitat Regulations Assessment' (the HRA Report), [Doc 5.20]. The proposed development in the context of the SAC is illustrated on plan G1979.2486A which is attached as Appendix 4 to the SoCG. The River Avon Crossing Method Statement includes mitigation measures outlined in the Biodiversity Mitigation Strategy (BMS) [Doc 5.26.3C] to safeguard the saltmarsh and intertidal habitat, which are the qualifying features of the SAC. The mitigation measures as they relate to the European Sites are reported in the HRA Chapter 6 of this report.
- 5.10.8 The ES concludes that, as a result of these safeguards, the proposed development would not result in any direct or indirect adverse effects on the saltmarsh and nine intertidal habitats of the River Avon [Doc 5.8.1, para 8.5.169, Table 8.30]. The MMO's response to the ExA's Q10.10 confirms that it is content that the EIA has adequately

assessed the potential environmental impact of the proposed licensable activities. The SoCG between the Applicant and the MMO also confirms that the parties agree that the environmental effects of the licensable activities have been adequately assessed.

- 5.10.9 The ES [Doc 5.9.1 and 5.10.1] also provides an assessment of the potential effects on groundwater and surface water during the construction and operation of the proposed development. Avonmouth is affected by known ground and groundwater contamination from historic industrial activity including along the route of the proposed 400kV overhead line. The ES assesses the potential for construction of the proposed development to interact and remobilise this contamination. The mitigation measures proposed by the ES are included in the CEMP. Following the implementation of these measures, no significant adverse effects are predicted for ground and surface waters.
- 5.10.10 The Panel has given consideration to all the mitigation measures proposed by the Applicant including those within the updated BMS, the CEMP and the Water Vole Mitigation Method Statement. We believe that the package of mitigation measures proposed would effectively mitigate the ecological, groundwater and surface water impacts of the proposed development in the location of the River Avon crossing.

THE IMPACTS ON NAVIGATION

- 5.10.11 The closure of the River Avon for a short duration would be required to protect the health and safety of river users during installation of the new 400kV overhead line and dismantling of the existing 132kV overhead line across the river. The works and duration of the closures are described in detail within the response to the ExA's Q10.14 [Doc 8.1.2]. This explains that, depending on the Contractor's methodology used for the works, these short closures would take place for about 11-19 days. At the end of each closure period, the overhead line works would be secured and the river re-opened.
- 5.10.12 The Bristol Port Company (BPC) is the statutory harbour authority for the area. The Applicant's Position Statement in relation to the BPC [Doc 8.34.8] notes that the BPC has raised concerns that the construction of the proposed development where it crosses the River Avon might create a danger to navigation.
- 5.10.13 The ES assessments did not include consideration of the closure of the river during these works and the potential resultant effects on recreational and harbour users. The Applicant submits that there are no implications for the adequacy of the ES, as the effects on recreational and harbour users would be short-term and temporary, and do not amount to a significant environmental effect. The limited effect could be further minimised by planning the works to avoid times of peak usage and re-opening the river between phases of work, which would result in a negligible effect on recreational and harbour users for the duration of closure during construction.

- 5.10.14 The Applicant recognises the importance of safeguarding the interests of users of the river. The issue of notifications of closures to the relevant authorities would be secured by the latest draft of the DML. The temporary possession would be undertaken in collaboration with the MMO and the Harbour Authority. The DML provides that the licence holder must inform the relevant harbour authorities in writing of the licensed activities (including timetable, contractor and vessel details) at least 20 business days prior to the commencement of any licensed activity. The Applicant's response to the ExA's Q10.16 confirms that it has agreed to co-operate with the BPC to prepare a detailed methodology of works in order to minimise and mitigate any impacts on navigation that may be caused by the works in the vicinity of the River Avon.
- 5.10.15 The Applicant has held discussions with the BPC regarding provisions to protect the BPC in its capacity as the Port Authority. The Applicant has included within the draft DCO, protective provisions that it believes would be an effective and proportionate means of preserving BPC's ability to perform its statutory duties as the harbour authority during the construction of the river crossing. For example, provision is made for plans of the proposed works programme and a navigational risk assessment to be submitted to the BPC for approval before works commence; 20 days' notice of commencement of the works; a communication plan for vessels engaged in the works; and the positioning of guard vessels, warning lights and buoys around the works.
- 5.10.16 The BPC's Deadline 8 final submissions [REP8-002] confirm that protective provisions have been agreed for the benefit of the BPC as the Port Authority and that these are included in the latest version of the draft DCO, Schedule 15, Part 6 [Docs 2.1.1E and 2.1.2E].
- 5.10.17 The Panel is satisfied that, having regard to the safeguards provided by the protective provisions and the terms of the DML, the proposed works adjacent to and over the River Avon would not result in any significant adverse impact upon recreational and other harbour users. All potential navigational risks have been adequately addressed by the Applicant.

OTHER DCO RELATED MATTERS

Article 7

- 5.10.18 During the course of the Examination the MMO raised concerns in relation to Article 7 which would permit the transfer of the benefit of the Order. However, Article 7 of the draft DCO provides that the transfer of benefits, including Schedule 9, can only be with the consent of the Secretary of State. The Panel is satisfied that the need for the Secretary of State's consent to be obtained to any transfer of the benefits of the Order, and for the Secretary to be required to consult with the MMO before giving consent to any transfer of the benefits of the provisions of the DML, would provide sufficient

safeguards for the interests of the MMO. We propose therefore propose to amend Article 7 of the recommended Order to require the Secretary of State to consult with the MMO in that event. The Panel's detailed consideration of this matter is set out in Chapter 9 of this report.

Article 40

- 5.10.19 Article 40 grants power to the undertaker to temporarily interfere with the relevant part of the River Avon in connection with the construction of the authorised development. The BPC originally raised objections to the powers granted by Article 40 [REP2-095] and sought protective provisions. The protective provisions set out in the recommended DCO, Schedule 15, Part 6, have been amended to provide adequate safeguards for the Port Authority in respect of the exercise of this power. There is no need therefore for any amendment of Article 40 to be made. The Panel's detailed consideration of this matter is set out in Chapter 9 of this report.

Article 49 and Schedule 17

- 5.10.20 Article 49 of the recommended DCO grants the power to amend local legislation. It enables various local enactments and byelaws referred to in Schedule 17 to be excluded. The Panel does not consider that the Applicant has justified the inclusion of such a wide range of Bristol Port General Byelaws 2005, as are set out in Schedule 17 of the draft DCO. These particular byelaws have therefore been excluded from the scope of the recommended DCO. The Panel's detailed consideration of this matter is set out in Chapter 9 of this report.

CONCLUSIONS ON MARINE AND NAVIGATION ISSUES

- 5.10.21 During the course of the Examination, the Applicant has clarified the extent of the works that would be below MHWS and that could potentially impact upon the marine environment.
- 5.10.22 The ES adequately assesses the potential environmental impact of those works. The potential effects of these activities on the Severn Estuary SAC, SSSI, SPA and Ramsar site at the River Avon crossing, have been specifically assessed. The ES identifies various mitigation measures, including those which would be secured by the BMS and the CEMP. The Panel considers that following the implementation of these mitigation measures, there would be no adverse environmental effects as a result of the River Avon crossing, either during construction, operation or decommissioning.
- 5.10.23 The closure of the River Avon for a short duration would be required to protect the health and safety of river users during installation of the new 400kV overhead line and dismantling of the existing 132kV overhead line across the river. However, the effects on recreational and harbour users would be short-term and temporary and do not amount to a significant environmental or socio-economic effect.

- 5.10.24 The issue of notifications of river closures to the relevant authorities would be secured by the latest draft of the DML. The final submissions of the MMO [REP7-005] confirm that it is content with the provisions of the DML as set out in the draft DCO. The MMO retains an outstanding objection to Article 7 of the draft DCO. However, the Panel considers that the requirement to obtain the consent of the Secretary of State to any transfer of the DML, and for consultation with the MMO to take place in relation to that transfer, would provide the necessary safeguards.
- 5.10.25 The protective provisions for the benefit of the BPC, as the Port Authority, have been agreed and these are set out in the recommended DCO, Schedule 15, Part 6. Given the safeguards provided by the protective provisions and the DML, the power granted by the recommended DCO Article 40 is considered to be necessary and proportionate to enable the undertaker to carry out the necessary works adjacent to, and over, the River Avon safely and without delay to the delivery of the project.
- 5.10.26 The Panel concludes that the package of mitigation measures proposed together with the contents of the DML and the DCO protective provisions would ensure that there would have no significant adverse environmental effects upon the marine environment and adequate safeguards would be provided to minimise the impact of the necessary river closures upon other users of the river during construction works. All potential navigational risks have also been adequately addressed by the Applicant.

5.11 NOISE AND VIBRATION

INTRODUCTION

- 5.11.1 This section deals with the impact on residents, wild life and biodiversity of the noise and vibration that would be caused by the proposed development during construction, operation and decommissioning.
- 5.11.2 The Overarching National Policy Statement (NPS) for Energy (EN-1) Section 5.11 identifies noise and vibration as a topic that should be considered in the assessment of any nationally significant energy infrastructure project. It notes at Section 5.11.1 that *"Excessive noise can have wide ranging impacts on the quality of human life, health (for example owing to annoyance or sleep disturbance) and use and enjoyment of areas of value such as quiet places and areas with high landscape quality. The Government's policy on noise is set out in the Noise Policy Statement for England. It promotes good health and good quality of life through effective noise management. Similar considerations apply to vibration, which can also cause damage to buildings. In this section, in line with current legislation, references to "noise" below apply equally to assessment of impacts of vibration."*

- 5.11.3 NPS EN-1 also states at para 5.11.2 that *"Noise resulting from a proposed development can also have adverse impacts on wildlife and biodiversity. Noise effects of the proposed development on ecological receptors should be assessed by the IPC in accordance with the Biodiversity and Geological Conservation section of this NPS."*
- 5.11.4 The proposed development is described in detail elsewhere in this report. It starts from the outskirts of Bridgewater in Somerset and runs roughly north, parallel with and to the east of the M5 Motorway, crossing the motorway at Portbury, just south of Bristol, then crossing the River Avon at Avonmouth and ending north-west of the M49 motorway at Seabank. A further short section involves changes to overhead power lines at the existing Hinkley Point sub stations.
- 5.11.5 Because of the extended linear nature of the proposed development, its proximity to housing in some areas and wildlife habitats in others, the noise and vibration likely to be generated during the construction and demolition phases and the longer term impact of noise generated by high voltage over-head power lines and substations were identified as a Principal Issue at Appendix C of the ExA's Rule 6 letter of 28 November 2014 [PD-005].
- 5.11.6 The National Policy Statement (NPS) for Electricity Networks Infrastructure (EN-5) Section 2.9 details specific considerations which apply to noise and vibration caused by the operation of electricity networks infrastructure including overhead lines and substation equipment.
- 5.11.7 The Applicant has produced an assessment of the potential noise and vibration effects of the construction, operation and decommissioning of the various components of the proposed development. This is the Environmental Statement - Noise and Vibration (ESNV) [Doc 5.14] produced following a scoping exercise, a consultation process and engagement with the Joint Councils. The Panel notes that the ESNV addresses all of the elements that NPS EN-5 specifies for inclusion in the noise assessment.
- 5.11.8 The ESNV makes reference to the National Planning Policy Framework (NPPF) of March 2012 but notes that this document provides no assessment criteria. However it does state [NPPF para 123] that planning policies and decisions should aim to:
- *"avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;*
 - *mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;*
 - *recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and*

- *identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason."*

5.11.9 The ESNV also notes that the majority of local planning policies seek to control the impact of noise, looking to avoid or else provide appropriate mitigation for unavoidable harm to environmental amenity. [Doc 5.14 para 14.2.9]. Local planning policies are reviewed by the Applicant but very few of those reviewed deal with noise and none specifically with vibration. The Panel agrees that none of the local planning policies add materially to the protection afforded at a national level in respect of noise and vibration.

5.11.10 Wildlife and biodiversity issues in relation to noise and vibration are dealt with in a number of places within the Environmental Statement and these are identified below in a section of the report devoted to this topic.

5.11.11 Relevant representations were received from 150 organisations and individuals of which nine raised issues specifically relating to noise and vibration. Written representations were received from 68 organisations and individuals of which seven raised issues specifically relating to noise and vibration.

5.11.12 The Joint Councils in their Local Impact Report [REP2-111] raised issues about:

- uncertainty of noise effects from T-pylons;
- assessment of construction vibration effects;
- night time construction operations;
- enclosures for cable jointing;
- the noise and vibration management plan; and
- construction noise.

These issues have been managed through a Statement of Common Ground process and have each been considered by the Panel.

CONSTRUCTION AND DECOMMISSIONING

5.11.13 The Applicant's view is that, since the operations involved in decommissioning are generally the same as those in construction, only the construction phase need be analysed in detail. The Panel agrees with this conclusion and approach.

5.11.14 The Applicant's approach to the calculation of noise and vibration generated during the construction and decommissioning phases of the proposed development uses criteria set out in British Standard BS5228-1:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites: Noise, and BS5228-2:2009+A1:2014 Code of practice for noise and vibration control on construction and open sites: Vibration. It is noted in the ESNV that *"Whilst not mandatory Annex E of BS5228 provides informative advice to aid the development of noise assessment criteria based on previous*

published guidance and methodologies adopted successfully for other planning applications." [Doc 5.14 para 14.2.14]

- 5.11.15 For construction noise, the study area within which all sensitive receptors are considered is defined by the Applicant as 200m from the proposed overhead line. For cable jointing, which is assessed as being the noisiest operation likely to take place, this is extended to 350m. For sections of underground cabling the 200m envelope is measured from the boundary of the proposed Order limits. [Doc 5.14 para 14.2.27]
- 5.11.16 While noise from traffic using haul roads is considered as part of construction noise, the noise from construction traffic using the road network is dealt with using the method set out in the Highways England Design Manual for Roads and Bridges (DMRB) Vol 11 Section 3 Part 7 HD213/11 Noise and Vibration. The magnitude of noise effects from changes to short term noise from this source are classified in the ESNV [Doc 5.14 Table 14.8] while long term effects are scoped out since in operation the proposed development will generate little or no heavy traffic.
- 5.11.17 No study area is defined for vibration but on the basis of BS5228-2:2009+A1:2014 data the Applicant assumes that vibration will not be perceptible beyond 100m, with significant effects only anticipated at distances of less than 10m. The Applicant notes that there are no residential properties within 10m of proposed pylon or substation construction [Doc 5.14 para 14.2.28] although no mention is made of horizontal directional drilling launch and reception pits in this context.
- 5.11.18 The overall significance of noise and vibration effects is assessed using a combination of receptor sensitivity and magnitude of effect. ESNV [Doc 5.14 Table 14.9 to 14.11]. The Applicant uses night time ambient noise levels as the base line with a view to providing conservative noise and vibration assessments [Doc 5.14 para 14.3.3].

NOISE

- 5.11.19 The Applicant has produced Construction Noise Assessment Tables in the ESNV [Doc 5.14 Appendix 14A] which list noise readings from BS5228-1:2009+A1:2014 Tables C for each type of plant and equipment likely to be deployed in the construction of the proposed development. These are presented in groups of plant and equipment needed to carry out specific operations, with an estimate of the percentage of the total length of time for the particular operation for which the item is required [Doc 5.14 Appendix 14A Table1].
- 5.11.20 Using the method set out in BS5228-1:2009+A1:2014 Annex E these figures are then used to determine the sound power level for each operation and the distances at which this predicted level would fall below the threshold levels set out in Table E-1 of Annex A. This gives examples of thresholds of potential significant effects at residential properties [Doc 5.14 Appendix 14A Table 2].

- 5.11.21 The prediction and assessment of the significance of potential noise effects is carried out for the construction of overhead and underground cable routes, substation construction, construction compounds, cable sealing end (CSE) compounds and transition jointing pits.
- 5.11.22 The Applicant notes that noise threshold levels would be exceeded for the various types of works (pylon construction, horizontal drilling etc.) within distances calculated using the method described above and details the receptors falling within the minimum threshold distance for the noisiest elements of work [Doc 5.14 Appendix 14A Table 3 and 4].
- 5.11.23 For 400kV and 132kV overhead lines and underground cable routes the Applicant's assessment is that the magnitude of noise effects is low, because threshold values are unlikely to be exceeded for significant periods as the construction period at any one point is likely to be less than a month [Doc 5.14, para.14.4.3]. As no receptors with a major or moderate significance have been identified this would not result in moderate or high magnitude effects. Details of significance are provided in the ESNV [Doc 5.14, Tables 14.15 and 14.16].
- 5.11.24 A similar exercise is carried out for substation construction where the significance of noise effect is assessed as negligible apart from Portishead and Churchill substation where it is assessed as minor adverse. For construction compounds eight are assessed as having minor adverse and the remaining 15 and as having negligible significance of noise effects. Both the CSE compounds are assessed as having negligible significance of noise effects.
- 5.11.25 Transition jointing activities, which include the cutting of cables using angle grinders, are assessed as having a minor adverse significance of noise effect during daytime working but moderate adverse if carried out at night.
- 5.11.26 Construction traffic on existing roads calculated using the DMRB method referred to above is assessed as having a minor adverse or negligible significance of noise impact.

VIBRATION

- 5.11.27 BS5228-2:2009+A1:2014 describes methods of mitigation that can be used for ground-borne vibration from construction activities and provides a library of historical data of vibration levels measured during a range of activities on various ground types. It gives transient vibration guide values in the 4Hz–15Hz and 15Hz and above frequency bands that lead to cosmetic damage and discusses the assessment of the vulnerability of ground-related structures and services. [BS5228-2:2009+A1:2014 Annex B]. This Annex also discusses the vulnerability of building contents and activities within buildings to vibration, concluding that they too should be assessed on an individual basis.
- 5.11.28 The Applicant makes reference to vibration in a number of places in the ESNV document [Doc 5.14] but has not carried out a full

assessment of vibration impacts. It is asserted at para 14.4.23 of that document that *"Due to the complex relationship between the source of vibration, forcing frequency, the distance and geological characteristics between source and receiver and the construction of the receiving structure, it is difficult to predict the degree of vibration that may occur."* Again, at ESVN para 14.4.26 *"Most construction activities are not significant sources of ground-borne vibration.... Piling activities could produce perceptible levels of vibration."* The Applicant's assessment of the significance of the effect of construction vibration is minor adverse or negligible [Doc 5.14 para. 14.4.26].

- 5.11.29 Following questions from the Panel the Applicant provided a Construction Vibration Assessment in Response to Examining Authority's First Written Question Part 27 [Doc 8.2.27 Appendix 11.13.1.1]. This considers vibration impacts from piling operations (Section 1.2) and from mechanical compaction for access road construction and trench reinstatement (Section 1.3).
- 5.11.30 BS5228:2009-2+A1:2014 Table B1 is reproduced in the Construction Vibration Assessment document [Doc 8.2.27 Appendix 11.13.1.1 Table 1.1]. This indicates that vibration levels of $1.0\text{mm}\cdot\text{s}^{-1}$ are likely to cause complaint from people in residential areas but can be tolerated if prior warning and explanation has been given. It goes on to indicate that single or infrequent occurrences at this level do not produce the effect indicated in every case and recommends the use of other guidance.
- 5.11.31 In the Construction Vibration Assessment [Doc 8.2.27 Appendix 11.13.1.1 para 1.2.4 and 1.2.5] the Applicant uses assessment levels suggested by a British Steel document [Control of Vibration and Noise During Piling, British Steel, York 1997] with criteria based on a combination of vibration levels and time exposure. These indicate acceptable threshold vibration peak particle velocities (PPV) levels of:
- $1.5\text{ mm}\cdot\text{s}^{-1}$ for works durations of one to six days (as would be the case for T-pylon construction);
 - $1.3\text{ mm}\cdot\text{s}^{-1}$ for durations of seven to 26 days (for lattice pylons); $1.0\text{ mm}\cdot\text{s}^{-1}$ for durations of 27 to 28 days.
 - $2.3\text{ mm}\cdot\text{s}^{-1}$ for durations of seven to 26 days (for T-pylon foundation piling); and
 - $3.0\text{ mm}\cdot\text{s}^{-1}$ for durations of one to six days (for T-pylon foundation piling).

It further suggests that these higher levels of vibration can be tolerated if prior warning and explanation is given to affected residents.

- 5.11.32 In the Noise and Vibration Management Plan (NVMP) figures "based upon guidance provided in BS5228-2:2009+A1:2014" [Doc 5.26.7B Table 6.1] are given for PPV values at which certain effects are likely:

- 1.0 mm.s⁻¹ It is likely that vibration of this level in residential environments will cause complaint, but can still be tolerated if prior warning and explanation is provided to residents;
- 15 mm.s⁻¹ Onset of possible cosmetic damage to residential or light commercial buildings.

5.11.33 Figures from BS5228:2009-2+A1:2014 Annex B Table B1, quoted in the Environmental Statement Noise and Vibration [Doc 5.14 Table 14.7] give PPV figures and anticipated effects of:

- 0.14 mm.s⁻¹ Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration;
- 0.3 mm.s⁻¹ Vibration might be just perceptible in residential environments;
- 1.0 mm.s⁻¹ It is likely that vibration of this level in residential environments will cause complaint, but can be tolerated if prior warning and explanation has been given to residents;
- 10 mm.s⁻¹ Vibration is likely to be intolerable for any more than a very brief exposure to this level in most building environments.

These figures do not necessarily contradict those quoted in the previous paragraphs but indicate that methods of presentation and the interpretation placed upon figures can range considerably and could give rise to concerns that the correct assessments of vibration impacts are being made.

5.11.34 The Applicant has not carried out any investigations into the likely transmission or possible impact of vibrations from construction sources. In Section 7 of the Noise and Vibration Management Plan (NVMP) dealing with Noise and Vibration Monitoring the Applicant notes that *"It is not currently proposed that any routine long- term noise and vibration [sic] would be undertaken during the construction period."* but that measurements would be undertaken in the event of complaints. [Doc 5.26.7B Section 7]

5.11.35 The Applicant asserts [Doc 8.2.27 Appendix 11.13.1.1 para 1.2.7] that empirical calculations based on BS5228:2009-2+A1:2014 Table E1 show that for a worst case of percussive piling:

- the 1.5mm.sec⁻¹ threshold would be exceeded within 42m of the operation;
- the 1.3mm.s⁻¹ threshold within 47m; and
- the 1.0mm.s⁻¹ threshold within 58m.

The Applicant notes that there are no residential properties within the 42m or 47m thresholds and that notification of the works would be given to residents under the provisions of the NVMP.

5.11.36 The Applicant asserts that vibration from construction traffic on haul roads results from a poor road surface which can be easily mitigated by appropriate repairs [Doc 5.14 para.14.4.22]. The DMRB does not

contain a description of how to assess ground-borne vibration but for construction traffic on roads vibration is assumed to be proportional to noise and the significance of effect is considered to be 'negligible.'

- 5.11.37 The Applicant's Construction Vibration Assessment in Response to Examining Authority's First Written Question Part 27 [Doc 8.2.27 Appendix 11.13.1.1 Section 1.3] notes that vibration impacts from access road construction and trench reinstatement would stem from the use of vibrating rollers and that the effects of these would be unlikely to be felt beyond a 20m threshold. These operations are linear and are unlikely to last beyond six days in one location and so a vibration limit of 1.5mm/s is likely.

MITIGATION

Noise

- 5.11.38 The Applicant's assessments of noise are made without the benefit of mitigation measures to reduce construction noise and since a night time base line is used this will tend to describe a worst case. The range of mitigation measures to be used to reduce the effects of noise are set out in the ESNV [Doc 5.14 para 14.6.1] and in the NVMP [Doc 5.26.7B para 3.1.1].
- 5.11.39 The Panel is concerned that the analysis of noise has identified threshold distances for various sound levels and the receptors within those limits, but has not sought to identify the possible sound levels that might be experienced by individual receptors. The Applicant has not sought to distinguish between properties at the edge of the affected area and those closest to the sources of noise within that area and it has not produced detailed schemes of mitigation for any of the affected properties. This is seen as a substantial defect in the approach taken by the Applicant, making it impossible for the Panel, Interested Parties or others to obtain a full appreciation of the impact of construction noise at particular properties.
- 5.11.40 The Panel concludes that full noise assessments must be carried out for all residential properties lying within the identified thresholds. These should include details of mitigation methods proposed to ensure noise levels are attenuated to acceptable levels during construction. This will be secured by an additional requirement in the recommended DCO. This change to the DCO is explained further in Chapter 9 of this report.
- 5.11.41 The Applicant has produced a Noise and Vibration Management Plan (NVMP) as an appendix to the Construction Environmental Management Plan (CEMP) [Doc 5.26.7B] which will define, under Schedule 3 Requirement 5 of the DCO, how noise and vibration is to be managed during the construction of the proposed development. This lists mitigation measures in Section 3.1, the management of reversing alarms (Section 3.3) and the erection of physical barriers around particularly noisy activities (Section 3.4). It notes (Section 3.6)

that the Applicant will prevent cable cutting outside core working hours by contractual constraints on its appointed contractor.

- 5.11.42 The Panel considers that, while the mitigation measures described in the NVMP are appropriate, the potential for nuisance to be caused by cutting cables with angle grinders is such that it should be specifically excluded from the list of operations that may be undertaken outside core working hours given in Requirement 7(4) of the draft DCO. This Requirement will be amended in the DCO to give effect to this change.

Vibration

- 5.11.43 Although noise control measures to prevent and reduce the effects of noise are set out in the NVMP [Doc 5.26.7B para 3.1.1] and elsewhere, there are no specific mitigation measures proposed with regard to the effects of vibration. The Noise and Vibration Management Plan (NVMP) sections on vibration deal with vibration action levels, the handling of complaints and the use of the Control of Pollution Act 1974 (CoPA) Section 61 to identify the need for monitoring [Doc 5.26.7B].
- 5.11.44 The NVMP states that *"...nuisance impacts of piling will be limited by restricting working hours and through public liaison and communications."* It also notes that *"In the event that a complaint of excessive vibration levels is received, a vibration monitoring exercise will be undertaken at impacted sensitive receptors."* [Doc 5.26.7B Section 6].
- 5.11.45 The NVMP also notes that *"It is not currently proposed that routine long-term noise and vibration monitoring would be undertaken during the construction period."* The need for this, or for specific measurement, would be identified either during a Section 61 application under the CoPA or as a result of investigations into complaints. [Doc 5.26.7B Section 7]
- 5.11.46 The Panel considers that this approach is deficient in a number of ways. It notes the comments in the British Standard [BS5228-1:2009+A1:2014 Annex A para 3.3.4] *"An employer or its agent can choose to place the responsibility on the contractor to secure the necessary consents and can impose this requirement through formal contractual arrangements. This could have implications for traditional tender and contract procedures because the local authority's noise and vibration requirements (in addition to any separate requirements defined by the employer) can be ill-defined at tendering and contract award stage. In these circumstances, any tendering contractor needs to endeavour to identify, quantify and accommodate the level of risk (in terms of both construction methodology and cost) prior to participating in the tendering process. When a person for whom construction work is to be carried out has already sought and obtained consent from the local authority, the local authority's requirements need to be incorporated in the tender documents so that tenderers are aware of any apparent constraints arising from the consent."*

5.11.47 The Panel considers that:

- because no physical site assessments of likely vibration impacts have been made it is uncertain what would represent acceptable levels of vibration and appropriate threshold distances for piling and other operations likely to produce vibration;
- reliance on a contractor to use the Section 61 process in a position where estimates of the cost of possible mitigation measures are highly likely to have been a consideration in the pricing of a tender will place a direct financial incentive on the contractor to minimise those measure;
- the time available under a time and cost related contract for the Section 61 process will be less than that available to the Applicant at the pre-tender stage.

5.11.48 As a result the Panel recommends that full vibration impact assessments are carried out on properties defined by the triggers for the submission of Section 61 applications set out in the NVMP. [Doc 5.26.7B para 4.1.2] before construction commences. This would be secured by an additional requirement in the recommended DCO. This change to the DCO is explained further in Chapter 9 of this report.

Control of Pollution Act Section 61

5.11.49 The Applicant seeks to control noise and vibration effects by requiring its appointed contractor to submit applications for consents, variations and dispensations under Section 61 of the Control of Pollution Act 1974 (CoPA). NVMP [Doc 5.26.7B Section 4].

5.11.50 The NVMP [Doc 5.26.7B para 4.1.1] states that applications will be required for all construction activities that may generate significant noise and/or vibration including piling and activities to be undertaken outside core working hours. Para 4.1.2 states that the trigger for such applications would be the contemplation of any of a number of listed operations within defined distances of residential property.

5.11.51 The Panel considers that this latter stipulation should not limit the generality of the first.

5.11.52 The noise assessment exercise set out in above would inform the production of Section 61 CoPA consent applications. It is noted in BS5228-1:2009+A1:2014 in Annex A para 3.3.4 that *"When a person for whom construction work is to be carried out has already sought and obtained consent from the local authority, the local authority's requirements need to be incorporated in the tender documents so that tenderers are aware of any apparent constraints arising from the consent."*

5.11.53 While this approach is proactive in seeking to forestall any difficulties with noise and vibration, it would still be open to complainants, through the local authority, to use CoPA Section 60. This *"enables a local authority, in whose area work is going to be carried out, or is being carried out, to serve a notice of its requirements for the control*

of site noise on the person who appears to the local authority to be carrying out the works and on such other persons appearing to the local authority to be responsible for, or to have control over, the carrying out of the works.” [BS5228-1:2009+A1:2014 Annex A para A3.3.2]

Conclusion on noise and vibration during construction and decommissioning

5.11.54 With the safeguards set out in the preceding paragraphs the Panel considers that the impact of noise and vibration from the construction of the proposed development on buildings and human receptors can be appropriately and sufficiently mitigated so as to be acceptable.

OPERATIONAL NOISE AND VIBRATION

5.11.55 The Applicant identifies sources of noise and vibration as being substations and overhead lines. Substations contain three basic sources of noise:

- Transformers and shunt reactors;
- Switch gear and circuit breakers; and
- Auxiliary plant such as diesel generators and air compressors.

Overhead lines generate noise by corona discharge when surface electrical stress exceeds inception level. This effect is more pronounced during and after rainfall or fog when water droplets on the lines initiate multiple corona discharges. This is known as 'wet noise.' Prolonged dry weather allows contaminants to accumulate on the lines also giving rise to noise: this is known as 'dry noise.'

5.11.56 The Applicant has defined a study area of 800m from the Sandford substation and 200m from the proposed centre line of the overhead line, with the other substations scoped out as they contain no new material sources of noise [Doc 5.14 para 14.10.26 et seq].

5.11.57 The noise assessment for the Sandford substation uses a desk assessment of sensitive receptors, noise modelling software and background noise measurements taken during quiet night-time periods [Doc 5.14 para 14.10.33].

5.11.58 For the 400kV overhead lines the Applicant's noise assessment involves a desk assessment of sensitive receptors within 200m of the line, night-time background noise measurements at locations representing receptors, and analysis using, or based on, TR(T)94 as specified in NPS EN-5 para 2.9.9. The 132kV lines are considered to be much quieter in operation and are scoped out of the assessment as are underground cables and CSE compounds [Doc 5.14 para 14.10.51 and 14.10.52].

5.11.59 Inspections of overhead lines are carried out by helicopter while maintenance work would be accessed using mobile elevated working platforms. Both these operations would be of low impact and short

duration and are scoped out of the assessment [Doc 5.14 para 14.10.53].

- 5.11.60 The Applicant's assessment of significance of operational noise effects uses the usual methodology of assessing the sensitivity of the receptor and combining this with the magnitude of the effect to produce a matrix of significance of effects [Doc 5.14 para 14.10.55 et seq.]
- 5.11.61 The Panel considers that the Applicant's approach to the assessment is appropriate.
- 5.11.62 The Applicant's analysis of noise from the Sandford substation indicates that the magnitude of effect is low at Droveaway Farm, negligible at The Oak and that there is no effect at any other property in the area. This translates into an assessment of minor adverse or negligible significance of effect [Doc 5.14 Table 14.21]
- 5.11.63 The Applicant's analysis of noise from the 400kV overhead line identifies no high sensitivity receptors, with residential receptors of medium sensitivity being the highest category identified. For the majority of the receptors the magnitude of effect is assessed as low or negligible. Three receptors where magnitudes of effect are assessed as negligible for dry noise and medium for wet noise are identified. [Doc 5.14 Table 14.22]. These are:
- The flat above the garage at Tarnock;
 - Tarnock Cottage; and
 - Moorland Park.
- One receptor where magnitude of effect is assessed as medium for both wet and dry noise is identified [Doc 5.14 Table 14.22]. This is:
- Star Inn, Stone Edge Batch.
- 5.11.64 The assessment of significance of impact for properties with a low or negligible magnitude of effect is minor adverse or negligible.
- 5.11.65 During dry conditions the Applicant's assessment of significance of impact for the Star Inn is moderate adverse. During wet conditions the assessment of significance of impact for the flat above the garage at Tarnock, Tarnock Cottage, Moorland Park and the Star Inn is moderate adverse [Doc 5.14 para 14.12.11 et seq.]. It notes that meteorological records indicate that the weather is wet for 7% of the time in this area.
- 5.11.66 The Applicant points out that the assessment is based on night-time readings when background noise levels are at a minimum and suggests that the significance during the daytime is minor adverse or negligible [Doc 5.14 para 14.12.13].
- 5.11.67 EN-5 (para 2.9.12) notes that applicants should have considered the following as measures of mitigation:

- *"the positioning of lines... to help mitigate noise;*
- *ensuring that the appropriately sized conductor arrangement is used to minimise potential noise;*
- *quality assurance through manufacturing and transportation to avoid damage to overhead line conductors which can increase potential noise effects; and*
- *ensuring that conductors are kept clean and free from surface contaminants during stringing/installation."*

5.11.68 The Applicant indicates that the mitigation of noise was one of the considerations in the selection of the cable route. The ESNV [Doc 5.14 Table 14.17 ID EN-5 2.9.12] refers to the Environmental Statement Project Need and Alternatives [Doc 5.2.1] but this contains only four references to noise and none in the context of overhead cables or pylons. These relate to:

- The location of Sandford substation [Doc 5.2.1 para 2.6.36 and 2.8.47]; and
- Underground cable routing at Nailsea [Doc 5.2.1 para 2.9.65 and 2.9.66]

5.11.69 The Applicant also notes in ESNV [Doc 5.14 Table 14.17 ID EN-5 2.9.12] that measures to address the other mitigation points raised [NPS EN-5 para 2.9.12] are to be found in the ESNV [Doc 5.14 Section 14.6]. This Section, however, relates solely to construction matters and there is no reference to the mitigation measures detailed in NPS EN-5.

5.11.70 In addressing the particular mitigation points the Applicant notes [Doc 5.14 Table 14.17 ID EN-5 2.9.12] that:

- *"The conductor proposed for the majority of the proposed development is the quietest twin conductor system currently used by National Grid;*
- *Quality assurance through manufacturing and transportation will be undertaken to avoid damage to overhead line conductors which can increase potential noise effects;*
- *Care will be taken during installation to ensure that conductors will be kept clean and free of surface contaminants during stringing. This will minimise the risk of excessive dry noise on energising the proposed 400kV overhead line."*

5.11.71 Reference to these measures is not included in the NVMP and so they are not secured by the CEMP referred to in Requirement 5 of the DCO Schedule 3.

5.11.72 The Panel considers that an additional Requirement in Schedule 3 of the DCO is necessary to secure these mitigation measures.

5.11.73 The Applicant offers no additional means of mitigating the effects of operational noise for any of the four properties identified as suffering moderate adverse impacts from this source.

- 5.11.74 Vibration effects from the operation of the proposed substations and overhead lines are considered by the Applicant not to generate significant levels of vibration and operational vibration effects have been scoped out from the assessment. ESNV [Doc 5.14 para 14.10.54].
- 5.11.75 The Panel concludes that the analysis of operational noise and vibration provided by the Applicant is appropriate and logical. It addresses all the issues raised in the overarching NPS for Energy (EN-1) and the NPS for Electricity Networks Infrastructure (EN-5). With the inclusion of the measures noted above the Panel considers that the mitigation measures described meet the requirements EN-5 para 2.9.12.

WILDLIFE AND BIODIVERSITY

- 5.11.76 As noted above NPS EN-1 para 5.11.2 requires the impacts of noise and vibration from the proposed development on wildlife and biodiversity to be assessed in accordance with the biodiversity and geological conservation section of the NPS.
- 5.11.77 The Applicant's updated Report to Support the Habitats Regulations Assessment [Doc 5.20.1A] notes that disturbance caused by noise and vibration, particularly during the construction phase, could cause disturbance to species which are features of the European Sites. The potential effect of disturbance from noise and vibration on these species is assessed in Doc 5.20.1 Sections 4.5 and 4.6. Chapter 6 of this report considers the predicted effects on the project on European Sites alone and in combination with other plans or projects. At the close of the Examination there were no outstanding issues between the Interested Parties in relation to effects from noise and vibration. With appropriate mitigation in place we are satisfied that no significant effects on European Sites from noise and vibration associated with the project are likely.
- 5.11.78 The Environmental Statement Biodiversity and Nature Conservation [Doc 5.8.1, Table 8.30 Residual Effects] notes noise or vibration as a potential impact after mitigation for a number of sites and species, including birds and geese. None of the effects are predicted to be significant. The ES also identifies potential effects on water vole from noise and vibration caused by construction of temporary or permanent bridges, culverts and pits for HDD but does not predict any significant adverse effects on water vole following mitigation [Doc 5.8.1 para 8.5.234 to 8.5.245].
- 5.11.79 Concerns were raised by the Joint Councils about potential effects on fish from vibration [Doc 8.3.12 ID 8.13.1]. The EA confirmed that they had no concerns about noise and vibration effects on aquatic organisms [REP5-021 Action 27]. Following this the Joint Councils confirmed that they have no outstanding concerns on this matter [Doc 8.3.12A Table 4.5 ID 8.13.1].

- 5.11.80 Although, as described in Section 5.2, there were initial concerns from interested parties about the effect of the proposed development on water voles these were subsequently resolved, with the exception of the concerns raised by the Bristol Port Company (BPC). The Panel does not consider, as explained in Section 5.2, that the BPC's sustained objection in relation to water voles is a matter for concern.
- 5.11.81 The Panel considers that the Applicant has properly assessed the impact of noise effects on wild life and biodiversity in accordance with the requirements of NPS EN-5 para 5.11.2.

OTHER ISSUES

Community Impact Mitigation fund

- 5.11.82 In the Updated Statement of Common Ground Between National Grid and the Joint Councils [Doc 8.3.12A Table 4.11 ID 14.21] the Joint Councils comment that the inspection and monitoring of works and record keeping proposals set out in the ESNV and the NVMP are appropriate but contend that any uncertainty in the provisions of the NVMP should be mitigated by contributions to a CIM fund.
- 5.11.83 The Applicant notes that Schedule 3 Requirement 5(2)(f) of the draft DCO now refers to the NVMP and is content for the matter of a CIM fund to be decided by the Secretary of State.
- 5.11.84 The Panel concludes that the provisions set out in the NVMP and elsewhere, together with the suggested additional Requirements added to the DCO with regard to noise and vibration, obviate the need for any additional mitigation.

Uncertainty over operational noise

- 5.11.85 In the Joint Council Local Impact Report (LIR) [REP2-111] the Joint Councils consider that *"provision should be made for the uncertainty associated with potential operational noise effects on the new T-pylon technology. The Joint Councils consider that provisions for unforeseen of [sic] poorly predicted effects should be made through the CIM fund."* Project wide and local issues are identified in Tables 7A and 7B of the LIR and among these is *"Uncertainty associated with potential operational noise effects on new T-pylon technology."*
- 5.11.86 In the Updated Statement of Common Ground Between National Grid and The Joint Councils [Doc 8.3.12A Table 4.11 ID 14.16] the Joint Councils note a lack of agreement over the description of overhead line operation noise effects. The Joint Councils consider that there is uncertainty over the assessment of noise from T-pylons and question how unique noise curves for each pylon and conductor bundle have been derived in accordance with the TR(T)94,1993 method specified in EN-5 (para 2.9.9). Since no T-pylons have yet been energised no live measurement of noise effects has yet been possible. The Joint Councils believe that this uncertainty, and the possibility of unforeseen noise effects, should be mitigated by a contribution to a CIM fund.

- 5.11.87 The Applicant considers that the noise analysis has taken into account all the worst possible situations and has used modelled electrical stress related to likely audible noise levels as detailed in the TR(T)94,1993 method. The Applicant makes no comment on the appropriateness of a CIM fund contribution and is content to let the matter be decided by the Secretary of State.
- 5.11.88 In considering this matter the Panel is conscious of the lack of physical evidence available about the noise characteristics of the new T-pylon and cable arrangements in live operation. The calculations produced by the Applicant are logically based on the TR(T)94,1993 method and, while this does not provide absolute proof of the assertions made by the Applicant, given that the properties of the conductors and insulators to be used are known, it appears likely that the noise effects will be largely as claimed by the Applicant.
- 5.11.89 On balance the Panel does not consider that any additional mitigation through a CIM fund is appropriate in these circumstances.

Children's play area Portbury

- 5.11.90 The issue of noise from overhead conductors at the children's play area in Portbury was raised in a Representation [REP2-015]. The area concerned is immediately to the south of the M5 motorway at Portbury in a location where, if the Option A route were adopted, the 400kV overhead lines would be immediately to the north. The Representation raises issues about the health effects of transmission lines (which are dealt with elsewhere in this chapter) and noise, where concerns about the 'buzzing noise' affecting Portbury residents were expressed.
- 5.11.91 The Applicant indicates in a Response to the Examining Authority's First Written Questions Part 2 [Doc 8.1.2 Q7.3] that a full analysis of operational noise has been undertaken involving its impact on residential receptors in wet and dry conditions.
- 5.11.92 While the impact of operational noise at the Portbury play area has not been directly assessed by the Applicant, places that would be closer to the transmission lines in the area have been assessed. Analysis given in the Environmental Statement Noise and Vibration [Doc 5.14 para 14.12.17 and Table 14.23] indicates that the significance of any effects would be negligible or minor adverse in all but a very few cases. In the case of the play area any noise impacts from the overhead lines would be likely to be below the levels generated by the intervening motorway: this matter is referred to further in Section 5.15 of this report.
- 5.11.93 The Panel is content that this matter has been dealt with appropriately.

St Anthony's Park

- 5.11.94 In the Updated Statement of Common Ground Between National Grid and The Joint Councils [Doc 8.3.12A Table 4.11 ID 14.24] the Joint

Councils note a lack of agreement over the description of residual construction and decommissioning noise and vibration effects. The Joint Councils' concerns are, again, about the lack of assessment of vibration effects. In particular the description of residual effects at the St Anthony's Park traveller site is questioned.

- 5.11.95 Calculations of construction noise impact at St Anthony's Park are included in the Appendices to Applicant's Responses to Examining Authority's Second Round Written Questions Part 1 [Doc 8.18.2.1 Appendix 2.11.1a.1]. This gives predicted construction noise impacts at selected receptors and indicates 'minor' or 'negligible' impacts at St Anthony's Park. This produces a 'minor adverse' assessment of noise impact.
- 5.11.96 The Applicant notes the production of a Construction Vibration Assessment in Response to Examining Authority's First Written Questions Part 27 [Doc 8.2.27 Appendix 11.13.1.1]. It has also produced a Noise and Vibration Management Plan [Doc 5.26.7B] setting out the means by which these impacts will be managed and controlled during the construction process. This would be part of the Construction Environmental Management Plan secured by Schedule 3 Requirement 5 of the recommended DCO.
- 5.11.97 The Panel considers that the measures set out in the NVMP and Requirements 5 and 7 of the recommended DCO would secure the mitigation of noise effects reasonably sought by the Joint Councils.

Church Road and Factory Lane, East Huntspill

- 5.11.98 A number of representations from residents of East Huntspill and Bason Bridge expressed concern about noise and vibration in connection with the use of Factory Lane and Church Road East Huntspill as part of a major primary construction traffic route [e.g. REP7-026 onwards 'Other submissions']. Of particular concern was the prospect of vibrations from construction traffic using this route causing damage to adjoining properties.
- 5.11.99 Section 5.13 of this report deals with issues arising from the use of the route. The impact of construction traffic generally on noise and vibration is dealt with above in the relevant sections of this Chapter.
- 5.11.100 Riverview Farm house lies immediately alongside the haul road running east from the end of Factory Lane. It lies well within the threshold envelope for haul road construction derived from the Construction Noise Assessment Tables and Construction Traffic Assessment [Doc 5.14 Appendices 14A and 14B]. The impact of haul road traffic running on the completed haul road would equate to that of normal road traffic. As noted above, vibration is likely to be proportional to sound in the case of road traffic, and would be minimised by measures to reduce traffic speed and to keep the surface of the haul road in good repair and free from potholes. However, the impact of traffic noise and vibration on living conditions

in an environment which currently experiences no passing traffic would be marked.

- 5.11.101 In Highways and Transport Matters Note Regarding Alternatives to the proposed use of Factory Lane [Doc 8.21.1 Section 5] the Applicant proposes site specific mitigation measures for this section of haul road. These include a number of measures (a 5mph speed limit, resurfacing with bitumen bound material) which would further reduce the possibility of adverse effects from noise and vibration at this location.
- 5.11.102 The Panel concludes that the mitigation measures proposed for Church Road and Factory Lane East Huntspill by the Applicant with regard to noise and vibration are proportionate if secured within the DCO. The overall impact of the proposed development on Riverview Farm is discussed in detail in Section 5.3 of this chapter.

Acoustic enclosures

- 5.11.103 In the Updated Statement of Common Ground Between National Grid and The Joint Councils [Doc 8.3.12A Table 4.11 ID 14.1, 14.2 and 14.12] the Joint Councils raise the issue of acoustic enclosures for transition jointing sites. They seek confirmation that enclosures capable of providing a 20dB(A) insertion loss would be used in order to mitigate the effects of angle grinding of cables in the jointing process.
- 5.11.104 The Applicant's response is that the specific reference to a 20dB(A) insertion loss for cable transition jointing enclosures has been removed from the Noise and Vibration Management Plan (NVMP). It is replaced by a statement that an obligation would be placed on Contractors to complete the noisiest cable jointing operation during core daytime working hours. NVMP [Doc 5.26.7B Section 3.6].
- 5.11.105 The Applicant has produced revised proposals for noise control in the NVMP [Doc 5.26.7B Section 4] and points to the use of Control of Pollution Act Section 61 applications and other mitigation measures. The use of acoustic enclosures would be one possible method of mitigation and would be used in situations where an assessment for Section 61 purposes deemed this necessary.
- 5.11.106 The Panel considers that the issues raised under this heading have been appropriately addressed by a combination of the Applicant's further action and the further measures secured by additional requirements under Schedule 3 of the DCO noted above. In particular, in respect of working hours the Panel considers steps taken by the Applicant to be reasonable and acceptable subject to the modification to the list of works permitted outside core working hours to be secured by the addition to Requirement 7(4)(a) discussed above.

CONSTRUCTION COMPOUNDS

- 5.11.107 In the Updated Statement of Common Ground Between National Grid and The Joint Councils [Doc 8.3.12A Table 4.11 ID 14.9 and 14.20.1] the Joint Councils note a lack of agreement over the description of substation construction and decommissioning noise effects. They state that the description of noise effects is considered to be appropriate for the locations described but that the assessment may not be appropriate for the locations eventually chosen for the compounds.
- 5.11.108 The Applicant refers to the Applicant's Response to Examining Authority's Second Round Written Questions [Doc 8.18.1 Q2.4.2 and Q2.9.27] which sets out how the draft DCO defines the proposed location of compounds as being within limits included on Works Plans and so cannot be located anywhere else within the Order limits.
- 5.11.109 The Panel is content that the positions of compounds included in the draft DCO are sufficiently constrained to provide certainty.

Noise insulation qualification

- 5.11.110 In the Updated Statement of Common Ground Between National Grid and The Joint Councils [Doc 8.3.12A Table 4.11 ID 14.20.1] the Joint Councils raise the possibility that works may trigger noise insulation qualification at a number of locations including Wren Gardens, Portishead and Stock Lane, Churchill.
- 5.11.111 The Appendices to Applicant's Responses to Examining Authority's Second Round Written Questions [Doc 8.18.2.1 Appendix 2.7.10.1] gives an amenity assessment for a number of properties named by the ExA including receptors at Wren Gardens and Stock Lane. The assessment of noise effects in each case is minor adverse because of the relatively short periods of noise exposure.
- 5.11.112 The Applicant points to the noise insulation eligibility criteria in the NVMP [Doc 5.26.7B para 5.5.1] which are an abstract from BS5228-1:2009+A1:2014 Annex E. These indicate that the relatively short duration of transition jointing activities makes it unlikely that the trigger levels for this mitigation method would be reached.

Conclusion

- 5.11.113 The Panel considers that the measures set out in the NVMP and secured by the DCO Schedule 3 Requirements 5 and 7 would secure the mitigation of noise effects reasonably sought by the Joint Councils.

5.12 SOCIO-ECONOMIC MATTERS

POLICY

- 5.12.1 The Overarching National Policy Statement for Energy (EN-1) notes at Section 5.12 that, where the project is likely to have socio-economic

impacts at local or regional level, the applicant should undertake an assessment of these impacts as part of the ES.

- 5.12.2 It should consider all relevant socio-economic impacts which may include the creation of jobs, training opportunities, additional local services, and improvements to infrastructure; effects on tourism; the impact of a changing influx of workers during different phases, changing the local population dynamics; and cumulative effects, were a number of projects developed within the same timeframe. Applicants should describe the existing socio-economic conditions and how the proposed development's socio-economic impacts correlate with local planning policies. This has been carried out in Volumes 5.15.1, 5.15.2 and 5.15.3 of the ES.
- 5.12.3 EN-1 states that the decision-maker should have regard to the potential socio-economic impacts identified by the applicant and from any other sources that the decision-maker considers to be both relevant and important to its decision. It may conclude that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence, in view of the need for energy infrastructure, and should consider any relevant positive provisions to mitigate impacts, for example through planning obligations.
- 5.12.4 The Panel has also considered the aims set out in section 3.3 of the NPS for Ports in its analysis of the effects of the proposed development on the operation of the Avonmouth and Royal Portbury docks. These aims include the encouragement of sustainable port development and the contribution of port infrastructure to local employment, regeneration and development. In addition, we have taken into account the socio-economic impacts of port infrastructure, set out in section 5.14 of the NPS, including the effects on tourism.
- 5.12.5 Sections of the Joint Councils' Local Impact Report (LIR) [REP2-111 to 2-116] relevant to socio-economic matters include tables 9A, 9B and 12, and Appendix H. The LIR refers to local policy. The Panel has had regard to these references and to other relevant local policy, including:
- Bristol City Council Core Strategy, Policy BCS4 (Avonmouth and Bristol Port)
 - North Somerset Council Core Strategy, Policy CS24 (Royal Portbury Dock)
 - South Gloucestershire Core Strategy, Policy CS35 (Sevenside)
- 5.12.6 Schedule 10 of the main s106 Agreement [Doc 8.4B] refers to the National Grid programme for the national support of education in science, technology, engineering and mathematics (STEM), and Schedule 2 of the supplemental s106 Agreement [Doc 8.29A] refers to project opportunities for local people and local businesses.

STATE OF AGREEMENT - METHODS AND BASELINE ASSESSMENT

- 5.12.7 The method adopted for the socio-economic and land use assessment is set out in Volume 5.15.1, section 15.3 of the ES. The cumulative effects of the Hinkley C power station and other projects are also assessed in the ES [Doc 5.17.1, para 17.3.88 to 17.3.90]. At the ISH on socio-economic matters, held on 30 April 2015, the Joint Councils noted that their concerns over the method used were addressed by the proposed mitigation agreed verbally [REP4-008]. However, the Updated Statement of Common Ground (SoCG) between National Grid and the Joint Councils [8.3.12A] notes disagreement over the following points:
- The method used does not adequately assess the economic impact on the development of land in the Avonmouth Severnside Enterprise Area (ASEA) [SoCG, ID 15.1.1].
 - Protection of land at St Anthony's Park Travellers Site [SoCG, ID 15.1.2a]. This matter is addressed in the sections of the report on Construction Access and Haul Roads (5.3) and Traffic and Transport (5.13).
 - The assessment of likely tourism impacts is not sufficiently robust [SoCG, ID 15.1.5].
 - The description of the baseline environment for PRoW is not appropriate for the England Coast Path; the Somerset Rights of Way Improvement Plan; and PRoW BCC/5, BCC/18 and BCC/4 [SoCG, ID 15.2].
 - The description of the amenity effects during construction, operation and decommissioning is not accurate with respect to Footpath WL23/71; PRoW BW28/1; and PRoW network at Hallen Marsh [SoCG, ID 15.3].
 - The method employed in the cumulative effects assessments in relation to socio-economic and land use effects, and in-combination amenity effects [SoCG, 17.12.1, 17.12.3]. In combination amenity effects are addressed in the Health, Well-being and EMFs section of the report (5.7).
- 5.12.8 The Panel's initial concerns regarding the method adopted in the EIA, which in general have been satisfactorily answered, are set out in the first written questions [PD-007] as follows:
- 14.1 - the sampling approach taken;
 - 14.2 and 14.10 - the study area;
 - 14.5 - the survey months chosen;
 - 14.29 - cumulative effects.
- 5.12.9 Assessment of the content and nature of the baseline environment is set out in Volume 5.15.1, section 15.4 of the ES. The Panel makes no general criticism of ES assessments of resource sensitivity, but there may be particular criticisms in the analyses that follow.

ANALYSIS OF EFFECTS

Generally

Economic nature of the intervention

- 5.12.10 The capital cost of the proposed development at the time of preparation of the ES was estimated to be £485m. National Grid tell us that, based on their previous experience in electricity infrastructure procurement, 65% (some £315) would be spent on civil engineering and construction, and 35% (some £170m) on plant and equipment [Doc 5.15.1, para 15.5.1].
- 5.12.11 The ES notes that some of the expenditure on plant and equipment might be made in the UK, either directly or indirectly, but past project experience suggests that most, if not all, first round suppliers would be companies located outside the UK. If this is so, there would be no net economic effect from expenditure on plant and equipment, either locally or in the UK as a whole [Doc 5.15.1, para 15.5.12]. The ES also tells us that, once operational, it is expected that the majority of the component parts would be procured from international suppliers, whilst operational works would be specialist tasks contracted to a network of national suppliers [Doc 5.15.1, para 5.15.18].
- 5.12.12 This disappointing situation is the subject of first round written questions 14.4 and 14.5 [PD-007]. The responses indicate that efforts can only be directed towards procurement support and guidance [Doc 8.1.2].
- 5.12.13 If the civil engineering and construction contracts were awarded to UK based contractors using UK based labour, as National Grid assume (despite the need to seeks expressions of interest EU wide), some £315m net additional expenditure would take place, contributing to the UK economy. However, it is unlikely that more than a small proportion would directly benefit the local economy, despite the money spent locally by staff from outside the region.

Employment

- 5.12.14 The profile of staff requirements over time, and in relation to skills and activities is summarised in the ES [Doc 5.15.1, para 15.5.4-15.5.6]. This has been modified by a two year delay in the date of connection to Hinkley C power station. The expectations during the Examination changed to a start date in December 2015 and completion in March 2022, taking 25 months longer than previously anticipated. The changed connection date was confirmed in correspondence dated 15 January 2015 [AS-007]. The consequent changes in terms of socio-economics and land use matters are set out in ES [Doc 5.29.1.1, section 15].
- 5.12.15 Peak employment periods change slightly as a result, but the consequences in terms of the effects in reducing local unemployment, the input of additional spending into the local economy, and demand

for accommodation, remain slight. Because of the dispersal of work into different areas, without concentrated focus, major local variations are not expected.

- 5.12.16 The ES indicates [Doc 5.15.1, para 15.5.7 et seq] that the vast majority of construction work associated with the proposed development would probably be carried out by labour brought in from outside the region with little effect on local employment. The majority of jobs taken by local residents would probably be non-specialised construction, security and service jobs, but much depends on the sourcing policy of successful tendering contractors. The EIA estimates that an average of 17% of the workforce could be from the local labour market [Doc 5.15.1, para 15.5.22]. This figure applies also to the extended programme [Doc 5.29.1.1, para 15.5.7].
- 5.12.17 The Panel welcomes the STEM subject support programme secured in the main s106 Agreement [Doc 8.4B], which would operate from the commencement of the development to energisation of the line, some six years. It would go some way to encouraging local training in the technical areas central to National Grid's operations and, if not employment on the proposed development, future careers in similar areas.
- 5.12.18 The Panel also welcomes the encouragement of project opportunities for local people and local businesses secured in the supplemental s106 Agreement [Doc 8.29A]. It commits the Applicant to using its reasonable endeavours to achieve a cumulative total of at least 17% employment of local people; the development of skills; and the encouragement and support of local businesses in competition for project work, during the construction period. The Agreement sets out a number of outreach initiatives to help meet these objectives.
- 5.12.19 These components of the agreements meet the criteria for obligations set out in EN-1, paragraph 4.1.8, and the Panel affords them weight. However, neither of them guarantees results, nor could they. Nevertheless, the Panel is content that the Applicant would act in the spirit of the agreements. It is satisfied that no further safeguards are required through the DCO.

Accommodation

- 5.12.20 From experience, the Applicant expects accommodation of non-local staff to be split as follows [Doc 5.15.1, para 15.5.28 to 15.5.30]:
- 50% in caravans or camping facilities;
 - 20% in short term lets;
 - 20% in serviced accommodation such as hotels or B&B;
 - 10% travel to the area from home.
- 5.12.21 The conclusion in the ES [Doc 5.15.1, para 15.5.32] is that the accommodation demands of the workforce, relatively dispersed as it would be, could be satisfied within existing accommodation stock, including camp sites, without displacing existing tourist users. The

impact would be negligible. The extended programme, with the later connection date, depresses peak bed space demand. Although there would be some changes in periods of maximum demand in relation to the tourist season, the effects would be insignificant. The Panel does not expect the availability of tourist accommodation to be compromised by demand for staff accommodation.

Tourism

- 5.12.22 The ES refers to the Visit Somerset Visitor Survey 2009/10, which notes that the Cheddar Caves and Gorge, Wells Cathedral and Clarkes Village were the most popular attractions within Somerset [Doc 5.15.1, para 15.4.47]. None of the top attractions listed in the report is located within 2km of the proposed development, but the Mendip Hills Area of Outstanding Natural Beauty, crossed by the proposed development underground, provides the principal focus of tourism and recreation activities within the study area.
- 5.12.23 The ES lists a number of locally and regionally valuable attractions and areas for recreation within the local area of influence [Doc 5.15.1, Table 15.26]. The effect of the proposed development on their amenity was assessed by scoping in those receptors significantly affected by more than one discipline (landscape/visual, air quality, noise/vibration, or traffic/transport), then a professional judgement of the significance of the amenity effect was assessed from a combination of sensitivity and magnitude of change [Doc 5.15.1, para 15.5.123].
- 5.12.24 The outcome was an anticipated direct effect on 14 of the visitor attractions and areas of recreation identified [Doc 5.15.1, para 15.5.80 and Table 15.36]. Of these, only four were rated as suffering as much as moderate adverse effects during construction (Nailsea and Blackwell FC, Cripps Farm Caravan Park, Noah's Ark Zoo Farm, and Motocross on Caswell Hill), and only one (Caswell Hill Motocross) was rated as reaching minor adverse in operation.
- 5.12.25 The Applicant has engaged with the owners of Caswell Hill Motocross and reports being close to agreement for the acquisition of land necessary for the development and for compensation payable should the remaining land interests be subject to adverse effects [Doc 8.1.2, response 14.25.2]. The Panel finds any effects on tourism with regard to the other sites not to have been supported by clear evidence and not likely to be significant.
- 5.12.26 In addition, PRoW, national trails and cycle routes act as tourist attractions. Of those where a direct effect was anticipated, only one (National Cycle Route 33, which passes under the line at Huntspill Moor) was rated as reaching moderate adverse effect, and this in visual terms, in all phases of the development [Doc 5.15.1, Table 15.46].

- 5.12.27 The Joint Councils have indicated dissatisfaction with regard to the ES assessments of PRowS. Issues concerning pedestrian access to the countryside are considered in the Traffic and Transport section of the report (5.13), and those concerning visual and landscape matters, including mitigation planting, in the Landscape and Visual section of the report (5.9). Residual effects on tourism to the region, after mitigation secured through the s106 Agreement and other means, would be slight in the Panel's opinion. The case for significant residual effects is not justified in the evidence put forward by the Joint Councils.
- 5.12.28 Turning to tourism and recreational/community facilities, the impact was rated as reaching minor to moderate adverse effect on only two facilities. The Star Inn public house, Tickenham, is predicted to suffer moderate visual harm in all phases of the development, and moderate noise effect in operation. The Portbury Wharf Nature Reserve/SNCI is rated as suffering minor to moderate harm during construction and decommissioning, and minor adverse effects during operation (route Option B only) [Doc 5.15.1, Table 15.46]. The Panel broadly agrees with this analysis and, absent any persuasive evidence otherwise, considers that the residual effect of tourism would be slight.
- 5.12.29 The Panel has considered representations regarding facilities which have not been covered by the ES, including local caravan and camp sites. In planning the proposed development, an attempt has been made to minimise overall harm to tourism and other interests during construction and operation. We are not persuaded that significant residual harm would arise with regard to these facilities.
- 5.12.30 The Applicant points to a study it commissioned into the socio-economic effects of its major infrastructure projects, carried out by Environmental Resources Management (ERM), Imperial College, London; Bridge economics; and Ipsos MORI³⁷. It notes that the study concludes that the majority of business and recreational users do not perceive there to be an impact from National Grid projects on their own business or personal behaviour [Doc 8.1.2, response 14.26.1 and 14.26.2].
- 5.12.31 The ES reports the results of a recreational user survey taken at five locations during the peak tourist season [Doc 5.15.1, para 15.5.83-15.5.115]. Its purpose was to understand frequency of visits, demographics, spend, awareness of the proposed development and perception of effects.
- 5.12.32 Amongst many other questions, all respondents were asked if they felt the presence of National Grid infrastructure such as pylons with power lines and substations would affect their decision to come to the area; what they would do in the area and how often they would do it; and

³⁷ National Grid, A Study into the Effect of National Grid Major Infrastructure Projects on Socio-economic Factors. A Business and Recreational User Surveys Report, 2014

the recreational activities they might undertake in the area. The vast majority felt that it would have no influence.

- 5.12.33 The ES also reports the results of two surveys carried out to better understand the perceptions of business owners and directors, including those involved in tourism, whose operations might be affected by the proposed development [Doc 5.15.1, para 15.5.34-15.5.48]. Although views varied, the overall perception was that the proposed development would have a negligible effect on individual businesses. None of the surveys were challenged during the Examination.
- 5.12.34 The Joint Councils consider that the assessment of tourism impacts is not sufficiently robust. They note that there is a presumption of certainty which is unwarranted. Tourism economies are susceptible to adverse reaction to changes in circumstance and can take years to recover. The proposed development could, through a combination of perceived impacts and actual reported experiences damage the brand image of Somerset causing a reduction in spend in the local tourist economy which accounts for 37,000 jobs or 9% of total employment and generating an income to Somerset of over £1bn per year [REP2-111, Table 9A, Item 9.1; and Doc 8.3.12A, Table 4.12, ID 15.1.5].
- 5.12.35 Further, the Joint Councils consider that the cumulative impacts of the proposed development with Hinkley Point C through traffic impacts during construction and landscape impacts during operation could negatively affect the visitor economy in the long term. A Community Impact Mitigation (CIM) fund would be capable of addressing these intangible impacts [REP2-111, Table 9B, Item 9.4; and Doc 8.3.12A, Table 4.12, ID 15.1.6].
- 5.12.36 Other sections of the report deal with the traffic and transport and landscape impacts cumulative with the construction of Hinkley Point C power station. No evidence of harm to tourism through cumulative impact with Hinkley Point C or with other factors has been put forward. The use of CIM funds to counter unforeseen effects on tourism or other components of the local economy cannot be justified without persuasive evidence and none has been forthcoming.
- 5.12.37 Little or no evidence of potential harm to tourism brought about by the proposed development has been presented. Having regard to the advice in paragraph 5.12.7 of EN-1, that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence, particularly in view of the need for energy infrastructure, the Panel considers that any residual harmful effects on tourism would be acceptable.

Effects of changes in land use

- 5.12.38 Regarding the socio-economic effects of changes in land use, the ASEA and the Bristol Ports are particular areas of focus and are considered below. Turning to the remaining areas, the ES sets out constructional

and operational effects with regard to business and agriculture [Doc 5.15.1, para 15.5.49-15.5.69]. It also considers the effect on planning allocations and permissions [Doc 5.15.1, para 15.5.70-15.5.78 and Table 15.35]. Arising from the changed programme, three additional planning permissions, approved since the submitted ES was drafted, are also considered [Doc 5.29.1.1, para 15.5.18-15.5.22 and Table 15.2].

Existing Operations

- 5.12.39 The construction corridor would pass through the operational grounds of Cripps Farm, an agricultural and tourist accommodation business near East Huntspill with four to six employees. Although some disruption would take place during construction, the Panel agrees that the effect on the level of business activity would be temporary and employment unlikely to be significantly affected. Little or no harm to the business would take place during the operational phase.
- 5.12.40 There would also be some disturbance to businesses in Nailsea affected by undergrounding in the road network. However, the Panel notes that access would be maintained throughout construction, employment would be maintained, and there would be no operational effects.
- 5.12.41 Droveaway Farm near Sandford would be significantly affected by the proposed substation and linked works. A substantial amount of land would be occupied during construction and a lesser but still large amount permanently occupied by the footprint of the substation, CSE compounds and pylons. The Applicant predicts moderate adverse effects on the ability of the business to function and continue to provide employment for up to five employees during construction and operation. National Grid is exploring relocation options which would avoid loss of employment, but this cannot be guaranteed.
- 5.12.42 The agricultural operations at Nut Tree Farm, near Barton, would be significantly affected by the undergrounding operations running across the land during the three year construction phase, but would return to normal afterwards. Additional infrastructure and equipment would help keep the farming operation running and compensation would be payable for residual losses to the business and its employment of up to five workers.
- 5.12.43 Webbington Farm, with less than five employees, farms beef and runs holiday lets, and is in a similar situation. However, the holiday lets would not be attractive during the construction period and this side of the business would suffer. The Applicant's response to the ExA's first written question 14.19 explores the situation with regard to Droveaway, Nut Tree and Webbington Farms [Doc 8.1.2].
- 5.12.44 The general effect of the construction corridor, and the loss of footprint of installed plant on land during operation, including the loss of the best and most versatile agricultural land, would not be great.

Overall, the residual socio-economic effects of the proposed development on existing operations arising from changes in land use, excluding the ASEA and Bristol Ports areas, would be slight. The Panel sees no reason to seek further controls through the DCO.

Planning allocations and permissions

- 5.12.45 Setting aside the ASEA and Bristol Ports areas for later consideration, the ES records seven planning allocations or permissions within the local area of influence of the proposed development [Doc 5.15.1, Table 15.35 and Doc 5.29.1.1, Table 15.2]. Of these, only one, the Wessex Solar Energy project at Pyde Drove, The Causeway, Woolavington, Bridgwater is reported as reaching moderate adverse effect, and this only during the construction phase.
- 5.12.46 The proposed development's order limits extend into the application red line boundary of the solar energy project and cover some 10% of the site including a number of solar panels. However, there would be no pylons or other plant on the site and no oversailing lines. The operation of the solar farm might be affected during the proposed development's construction phase. On this basis, the Panel regards the socio-economic impact as acceptable.
- 5.12.47 Concerning the effect of the proposed development on the projected reopening of the Portishead to Pill railway line, the Panel has had regard to Bristol City Core Strategy Policy BCS10 (Transport and Access Improvements) and North Somerset Replacement Plan saved Policies T/1 (Existing and Proposed Railway Lines) and T/3 (Proposed Railway Stations). The ES reports that the allocation area could be oversailed by the 400kV line under route Option A, but that this would not limit the viability of the development. Effects during construction, operation and decommissioning are assessed as negligible. The Panel sees no reason to disagree.
- 5.12.48 The ES assessment of the socio-economic effects of the proposed development on the Royal Ordnance Factory, having regard to the adopted supplementary planning document and subsequent outline planning applications, is recorded as minor adverse during construction and negligible during operation [Doc 5.15.1, Table 15.35]. The Panel considers this assessment appropriate and the effects on both the Royal Ordnance Factory and the Portishead to Pill railway projects as acceptable.

AVONMOUTH SEVERNSIDE ENTERPRISE AREA

Existing operations

- 5.12.49 There are a number of existing operations in the area of King Road Avenue, St Andrews Road, and Third Way, Avonmouth, which would be affected by the positioning of pylons within their sites or the oversailing of power lines [RR-011, RR-049, RR-063, RR-069, RR-070, RR-072, RR-087 and others]. Their operational capabilities might well

be compromised and, in the case of C J Associates, they would be forced to relocate [Doc 5.15.1, para 15.5.55].

5.12.50 The Applicant is in negotiation with owners and occupiers to achieve appropriate mitigation, including financial compensation and the possible raising of the clear height of the power lines, within the vertical limits of deviation, by some 3m. The state of negotiations then achieved was reported by the Applicant at the ASEA and Bristol Ports ISH of 19 May 2015 and recorded in its summary of submissions [Doc 8.13.9, para 3.9].

5.12.51 During the construction phase there would be disruption along the line of the construction footprint and at associated access points. However, loss to the local economy would be redressed by compensation in accordance with the Applicant's statutory obligations. During the operational phase, the majority of constraints would be resolved through adjustment of business operations with little effect on the local economy. Unless C J Associates were able to relocate within the area, there would be loss of employment amounting to some 25 staff [Doc 5.15.1, para 15.5.51].

Planning allocations and permissions

5.12.52 A detailed planning permission which would be no longer possible to implement under the development proposals would be that on the Global Machine Tools site, Third way, at the corner of St Andrews Road. The pylon, with oversailing power lines, would prevent development as approved. The Applicant's intention is to purchase the site, but the socio-economic harm in terms of lost employment and production would remain. Also, in planning permission DM13, BCSS8, principal industrial and warehousing areas, Avonmouth, the oversailing power line might constrain the configuration of the site layout [Doc 5.15.1, Table 15.35].

5.12.53 However, the most controversial topic is the effect of the proposed 400kV overhead as it crosses ten development sites in the ASEA. The situation has been analysed in detail by the Applicant and Joint Councils [REP2-114; Doc 8.6.2, Appendix F; Doc 8.12; REP4-025; Doc 8.13.9; REP5-002; Doc 8.25.1 to 8.25.4; Doc 8.3.12A, Table 4.12, ID 15.1.1].

5.12.54 The Joint Councils maintain that the presence of pylons and oversailing lines would severely compromise the development of the sites, the subject of a City Region Deal with the Government, for the large footprint high volume warehouses demanded by the market. They contend that the full potential of the sites would no longer be available because of restrictions in plan, caused by the presence of pylons, and in height, because of the limited clearance beneath the power lines.

5.12.55 The Bristol Port Company (BPC) makes reference in a similar vein to three sites, which it owns, of the ten [REP5-020, Appendix 3]. Two of

these sites, (Site C: Gloucester Road sidings, and Site I: Port land) are considered under the Bristol Ports - Avonmouth subheading, below, and are capable of being made acceptable by increasing the clear height available.

- 5.12.56 The third, (Site E: Crooks Marsh) is adjacent to Seabank substation and has complex overhead routing, some of which would be undergrounded. It would be a difficult site to develop at present and its future prospects would probably not be greatly harmed by the proposed power line, which might be raised within the limits of deviation.
- 5.12.57 The Applicant seeks to show that the plan area of each site sterilised by the pylons would be very small. Moreover, having regard to market demands, typical densities and other constraints, it would be perfectly possible to accommodate large warehousing on clear areas and smaller structures, car parking, or landscaping under the lines, with little or no effect on the realistic development potential of the site. In addition, National Grid is in dialogue with ASEA land owners with the aim of providing greater clearance within the limits of deviation where requested.
- 5.12.58 Regarding limits of deviation in plan, the Joint Councils remain concerned that the lateral limits of deviation have the potential to increase impact on the ASEA sites [Doc 8.3.12A, ID 5.4.1]. The Applicant's Note on the Effect of Limits of Deviation on Sites A to J [Doc 8.25.4] shows that moving the line laterally within the limits of deviation makes no difference to the outcome in terms of the ability to develop the sites, except in the case of Site E, to which the considerations made above apply in any event.
- 5.12.59 In the Updated SoCG between National Grid and the Joint Councils [Doc 8.3.12A, Table 4.12, ID 15.1.1], the Joint Councils no longer aim to secure a s106 contingency mechanism to protect the public purse from a reduction in business rate uplift arising from the reduced development potential of the sites. However, they do seek a marketing contribution of £50,000 towards promoting the ASEA as a destination for development, employment and inward investment, secured through a s106 agreement [REP6-009].
- 5.12.60 The Applicant's view is that the evidence regarding the impact of the proposed development on the marketability of sites in the ASEA does not merit such a contribution above the practical assistance it generally provides to developers. As a matter of course, National Grid works with owners and occupiers of sites affected by overhead lines providing advice on how the sites can be developed and operated. There are a series of publications dealing with practical aspects and, at the request of owners and occupiers, National Grid conducts site visits to discuss site specific issues [Doc 8.13.9, para 3.30].
- 5.12.61 The Panel considers that the Joint Councils have not made a sufficiently persuasive case that the tests set out in paragraph 4.1.8 of

EN-1 for such a contribution would be met. In particular, the contribution would not be necessary to make the proposed development acceptable in planning terms, given the assistance noted above that National Grid gives as a matter of course.

Conclusion

- 5.12.62 The Panel acknowledges the Applicant's overriding aim of identifying a route which would minimise effects on business activities within the Avonmouth area. Having examined the route and considered its consequences we are satisfied that this has been achieved for all practical purposes.

Bristol Ports

- 5.12.63 The BPC's estate comprises Avonmouth Docks, to the north east of the River Avon, and Royal Portbury Dock to the south west. Existing power lines run through the Port, some of which would be removed, and the proposed 400kV line would take one of two alternative routes (Option A or Option B) through the Royal Portbury Dock, crossing the river and continuing through Avonmouth Docks.
- 5.12.64 The ISH of 19 May 2015 considered matters of a general nature connected with the Port, and that of 22 May (continuing on the 15 June) turned attention to the alternative routings. The merits of the alternative routes are considered elsewhere in the report. The main issues within this section of the report concern the socio-economic effects of the clearances available beneath the power lines arising from the route through Avonmouth Docks, and the implications of the proposed use of T-pylons for route Option B, if it were adopted, through the Royal Portbury Dock.

Avonmouth

- 5.12.65 The BPC make the case for the flexible use of the whole of the docks area to meet the developing and frequently changing needs of its customers, to which it has a statutory duty to respond. The land occupied by National Grid's infrastructure might be a small proportion of the overall area of the Port, but the location, and probably more importantly the obstruction of clear space above the level of the dock, is critically important. At present, the Avonmouth Docks are not affected by any height restrictions [REP5-007].
- 5.12.66 This is illustrated in drawings prepared by the BPC for the ISH which show typical warehousing sheds, of the type and dimensions currently in use, in plan and section in relation to the power line as proposed between lattice pylons LD109 and LD113 [EV-098 to EV-101]. The ridge height of the sheds reaches 15.4m above ground level meaning that, with the safety requirement of 5.3m above a fixed structure, the minimum clear space required between ground and the lowest point of the cable assembly is 20.7m. The proposed development fails to achieve this clear height by some margin, and it would not be possible to meet it within the vertical limits of deviation.

- 5.12.67 The BPC explain that, were the areas traversed by the line used for stacked storage containers or other stacked goods instead of warehousing, the clear height of 20.7m would still be required. This is to allow safe and efficient use to be made of the dock, bearing in mind the machine handling involved in open storage. The BPC argues that the design drawings and draft DCO should be amended to substitute pylons of a type which would allow this clear height to be achieved, and to specify a minimum clearance of 20.7m below the relevant spans.
- 5.12.68 The Applicant points out that a balance has to be struck between the additional visual and other harm that would be caused by raised pylons, and the benefits arising to the BPC's operations. The area of land affected is small compared to the BPC's overall undertaking, and the proposed development would prevent little happening that would not otherwise happen. The Port has grown up successfully around the existing overhead lines and the removal of lines would create new development opportunities in themselves. Moreover, agreed protective provisions would go a large way towards mitigating harm [Doc 8.13.9, para 8.3-8.9].
- 5.12.69 The Applicant subsequently prepared and submitted a table showing pylon heights necessary to achieve 20.7m clearance [Doc 8.25.8]. This shows, for the five pylons involved, that the overall height would rise, at its tallest, from 52m to 61.5m above ground level. Some pylons would be raised to a greater extent than others, the maximum being a 15m increase in height. The base of the lattice pylons would also increase in size.
- 5.12.70 The Applicant also prepared a document setting out the findings of an assessment into whether the changes in height of pylons LD109 to LD113 would give rise to any new or materially different likely significant environmental effects to those assessed and reported in the ES [Doc 5.34.1]. The report concludes that the increased height would be likely to result in greater adverse effects on views, particularly from Avonmouth village, but a moderate or low proportion of views would be involved because of screening. The significance of the visual effects would remain as assessed in the ES.
- 5.12.71 With regard to the historic environment, the assessment concludes that there would be a change to the setting of the Grade I listed Kings Weston House, with its formal views towards the Port some 1.5km distant. This would result in the proposed development's effect on the significance of the asset moving from neutral to minor adverse, because of the greater scale of the pylons within the industrial context of the Port.
- 5.12.72 In terms of socio-economics and land use, there would be a small increase in permanent land take because of the larger pylon bases, but the ability to develop to greater heights would be beneficial to the owner's operations. There would also be a beneficial effect on arboriculture since five trees could be pruned rather than felled.

- 5.12.73 In its Deadline 6 submissions covering letter dated 18 June 2015 [REP6-018], the Applicant noted that it had supplied a revised design drawing showing the increased height of the pylons [Doc 5.34.3]. It also formally requested that this alternative to its original proposals for pylons LD109 to LD113 be accepted for consideration by the ExA. As was made clear at the DCO ISH of 16 June 2015, this proposal, if accepted, is to be considered as an alternative to the original height proposals. It remains open for the ExA to recommend either of the alternatives for approval by the Secretary of State.
- 5.12.74 The Panel accepted the alternative in its letter dated 24 June 2015 [PD-013]. The Applicant advertised the additional environmental information [Doc 5.34.2] and, following the consultation period, prepared a report which indicated that no responses were received to the advertisement [Doc 8.41]. At the Panel's request, the Applicant also supplied a note on proposed alternative wording for the draft DCOs to secure the change if adopted [Doc 8.42].
- 5.12.75 The Panel is of the opinion that the increased clearance would significantly benefit the Port's operation, partly because of the particular location of the affected land in relation to circulation routes. The constraint on the Port's activities which would otherwise occur would not be compensated by the removal of power lines elsewhere. Also, protective provisions could not compensate for the constraint on the Port's activities.
- 5.12.76 We have considered the harm to views, and to the heritage significance of Kings Weston House which would be caused by the increase in pylon height. However, any harm would be very small in addition to that which would take place in any event. In Section 5.8 of the report, dealing with Heritage and the Historic Environment, an assessment is made of the effect of the intrusion into the setting of Kings Weston House of the proposed development in its original and alternative forms. An assessment of the landscape and visual effects is made in Section 5.9.
- 5.12.77 The Panel recommends that the alternative of increased height pylons from LD109 to LD113 is adopted and the revised design drawing substituted for the equivalent submitted with the application. It also recommends that DCO Article 5 (Limits of deviation) is amended ensuring a minimum clearance of 20.7m would be available beneath the conductors spanning between these pylons.
- 5.12.78 Whilst we appreciate that there should be no downwards limits of deviation, to allow installation of foundations according to ground conditions encountered, clear working heights beneath power cables must be guaranteed in situations such as this, in addition to the statutory separations above roads and existing buildings.

Royal Portbury

- 5.12.79 The BPC objects to the use of T-pylons rather than lattice pylons for Option B, were this route option to be adopted across Royal Portbury Dock. Although the cable clearance above ground level would be the same whichever pylon type were used, for T-pylons the width of the conductor zone is significantly greater than for lattice pylons. This configuration allows the height of T-pylons to be some 10m less than that of equivalent lattice pylons.
- 5.12.80 The BPC sees this as sterilising a greater area of land for the future development of buildings of any size. Moreover, it notes that T-pylons would require a more complex foundation design in the poor ground conditions of the Port than would lattice pylons. As a result, construction would take longer, be more intrusive, and generate more dust and debris. After construction, settlement would extend the area of sterilised land around the T-pylon's base. Moreover, T-pylons cannot be climbed to carry out maintenance and therefore special plant and equipment would be required to cross the Port, interfering with its operations. Finally, T-pylons are unproven and may fail, requiring disruptive intervention [REP5-004, para 9-10].
- 5.12.81 The Panel notes that the reasons for choosing T-pylons for Option B are set out in the ES [Doc 5.2.2.6, Section 12]. They revolve around the reduced visual impact of the shorter pylon. Although T-pylons are estimated by the Applicant to take some 10% or 20% longer to construct than lattice pylons [Doc 8.27.5, questioned by the BPC in REP6-016] and there may be a need for more piling in poor ground, the technical challenges are not great, the environmental effects relatively easily controlled [Doc 8.25.9], and any time saving minimal in relation to the time span of the construction contract.
- 5.12.82 It is not clear why settlement should be a problem confined to the T-pylon. The base of the lattice pylon, which would also require piling, might produce a similar effect. Moreover, its resolution, either in the design of adjacent buildings or the making up of levels, is not difficult or disruptive. The need for maintenance of the pylon would be infrequent and it is not clear that more plant and equipment would be involved.
- 5.12.83 Many components of the T-pylon are identical to those already in use, high voltage testing would be carried out before installation [Doc 8.13.7.1, para 3.1-3.8], and the trialling of construction techniques is underway at the National Grid centre at Eakring. The general use of monopole construction is well tried and tested in wind turbines and other structures many times the height of the T-pylon, in estuarine and other environments. The BPC has its own experience of sizable turbines at Avonmouth Dock, located in ground which may be similar to that at Royal Portbury Dock.
- 5.12.84 Overall, the Panel sees no compelling reason to prefer the lattice pylon for Option B. Moreover the much smaller base of the T-pylon would

allow the present use of the land for open car storage to operate more efficiently.

CONCLUSIONS

- 5.12.85 Cumulative socio-economic effects are considered in the ES [Doc 5.17.1, para 17.3.88 - 17.3.90]. Where development projects take place within the same time-frame the enhanced inward investment is beneficial in general and there are no clearly harmful socio-economic outcomes. Decommissioning effects may be similar to those for construction and are likely to be capable of satisfactory mitigation.
- 5.12.86 Subject to the recommendations made, the Panel considers the socio-economic effects of the proposed development to be acceptable, meeting the aims of EN-1, the NPS for Ports, the National Planning Policy Framework, and local policy.

5.13 TRAFFIC AND TRANSPORT AND PUBLIC RIGHTS OF WAY

BACKGROUND AND POLICY

- 5.13.1 This section deals with the impact of the proposed development on the existing highway network and the impact on public rights of way (PRoWs) that are crossed by the proposed development.
- 5.13.2 The Overarching National Policy Statement (NPS) for Energy (EN-1) Section 5.13 identifies traffic and transport as a topic that should be considered in the assessment of any nationally significant energy infrastructure project. The NPS notes at Section 5.13.1 that *"The transport of materials, goods and personnel to and from a development during all project phases can have a variety of impacts on the surrounding transport infrastructure and potentially on connecting transport networks, for example through increased congestion. Impacts may include economic, social and environmental effects. Environmental impacts may result particularly from increases in noise and emissions from road transport."* The NPS also notes at Section 5.13.2 that *"The consideration and mitigation of transport impacts is an essential part of Government's wider policy objectives for sustainable development..."*
- 5.13.3 The National Planning Policy Framework does not set policy for testing the acceptability of Nationally Significant Infrastructure Projects (NSIPs) although it does outline the role played by transport policies in the provision of sustainable development. Paragraph 14 notes a presumption in favour of sustainable development, while Paragraph 32 notes that development should only be prevented on transport grounds where residual cumulative impacts are severe.
- 5.13.4 Similarly, local planning policies do not address the testing for acceptability of NSIPs although Public Rights of Way (PRoWs), accesses onto existing highways and travel plans are within their purview and the Panel has considered these topics in their context. We

consider the relevant NPPF and local planning policies to be important and relevant matters to our decision-making.

5.13.5 The proposed development is described in detail elsewhere in this report. It starts from the outskirts of Bridgwater in Somerset and runs roughly north, parallel with and to the east of the M5 Motorway, crossing the motorway at Portbury, just south of Bristol, then crossing the River Avon at Avonmouth and ending north-west of the M49 motorway at Seabank. A further short section involves changes to overhead power lines at the existing Hinkley Point C power station.

5.13.6 Because of the extended linear nature of the proposed development, the time scales involved and the potential impacts on the existing transport infrastructure and PRowS, this topic was identified as a Principal Issue at Appendix C of the ExA's letter of 28 November 2014 [PD-005]. The particular concerns identified at that stage for highways were:

- (a) effects including cumulative effects on the road network and other accesses in particular in relation to construction and ongoing maintenance during operation;
- (b) effects on rights of way and accesses including justification of the required accesses to the sites;
- (c) adequacy of baseline assessment methodologies and mitigation;
- (d) adequacy of traffic assessment including agreement with local highway authorities and the Highways Agency (now Highways England) on assessment discrepancies;
- (e) cumulative impacts of traffic generated from a comprehensive list of permitted and planned developments;
- (f) adequacy of the Draft Construction Traffic Management Plan (CTMP) and its enforcement;
- (g) the level of mitigation needed to ensure road safety, particularly associated with bellmouth accesses and their associated traffic management measures;
- (h) construction traffic restrictions at junctions currently operating above capacity;
- (i) access and egress to sites for staff and materials;
- (j) parking requirements for site staff during construction and the effects on the local traffic network;
- (k) the need for abnormal indivisible loads (AILs), the access routes to be used and any special measures required;
- (l) management and reporting of traffic control measures;
- (m) appropriateness of the extended use of temporary traffic orders;
- (n) condition of the existing local and strategic road networks; and
- (o) agreement and funding for the repair of highway assets subject to extraordinary use as a result of the project and for maintenance of rural roads and structures.

The particular concerns identified for PRowS at that stage were:

- (p) completeness and accuracy of PRow information;
- (q) management of PRowS during construction period; and

- (r) need for disruption and adequacy of mitigation for PRowS, particularly in relation to site accesses.

5.13.7 On the face of it the operation of the proposed development would have little impact on traffic, transport or PRowS in the area, with only minimal repair and maintenance traffic to be considered. Construction traffic would, however, have the potential to impact the M5, part of the country's Strategic Road Network (SRN), the Local Roads Network (LRN) and disrupt PRowS. Removal of pylons, overhead lines and other equipment at the end of its useful life could have a similar impact on the roads networks and PRowS.

5.13.8 The main impacts would be caused by:

- delivery of plant and materials to construct pylons and install cables;
- construction of cable sealing end compounds, substations and works compounds;
- delivery of large items of equipment such as electrical transformers as AILs;
- excavation and backfilling of trenches for sections of underground cable;
- excavation of top soil to construct access haul roads along the length of the development;
- delivery of quarry stone and other materials for the construction of haul roads and hard standings;
- the construction of accesses from haul roads to, and crossings of, the LRN;
- the removal of haul roads and reinstatement of the ground on completion of the construction phase of the proposed development; and
- removal of overhead lines, pylons and other equipment when life-expired.

5.13.9 The Panel investigated the Applicant's approach to traffic and transport matters by considering the principal issues noted above in the light of the information supplied by the Applicant and the views expressed by Interested Parties both in writing and verbally at an ISH and in response to the Panel's written questions. Those with primary responsibility in these areas are the various highway authorities: Highways England for the SRN and the Joint Councils, representing all the affected highway authorities, for the LRN. The issues raised by these bodies in large measure replicate the principal issues identified, but where additional concerns have been pursued through the examination process these have been reported. Parish councils also took a full part in the examination process as did a number of individuals. All other issues raised in relevant and written representation have been addressed.

RELEVANT AND WRITTEN REPRESENTATIONS

5.13.10 Relevant representations were received from 150 organisations and individuals:

- seven were from local authorities, six of whom made identical submissions as members of the Joint Councils group;
- seven were from parish councils and one from a town council with five raising issues relating to traffic, transport or PRowS.
- six were from other statutory consultees and four from non-statutory organisations but none of these made reference to traffic, transport or PRow issues; and
- of the remaining relevant representations seven mentioned traffic, transport or PRow issues.

5.13.11 Written representations were received from 68 organisations and individuals :

- 22 from Interested Parties with statutory functions of whom 11 raised issues relating to traffic and transport: none raised issues about PRowS;
- 25 from persons with an interest in land of whom four raised issues relating to traffic and transport: none raised issues about PRowS; and
- 21 from local community members or representatives of whom four raised concerns issues about traffic or transport: two raised issues about PRowS.

5.13.12 The individual issues identified have been addressed in the following sections. Consideration will be divided into two areas:

- the existing road network; and
- PRowS.

THE EXISTING ROAD NETWORK

Construction traffic and access

5.13.13 Issues related to construction access and haul roads, identified above as Principal Issues, are dealt with in Section 5.3 of this report.

Traffic engineering

5.13.14 This section covers the following issues:

- adequacy of baseline assessment methodologies and mitigation;
- adequacy of traffic assessment including agreement with local highway authorities and Highways England on assessment discrepancies;
- cumulative impacts of traffic generated from a comprehensive list of permitted and planned developments; and
- construction traffic restrictions at junctions currently operating above capacity.

- 5.13.15 In accordance with paragraph 5.13.3 of EN-1 the Applicant has produced a Transport Assessment [Doc 5.22.1] as part of an overall Environmental Impact Assessment. This has been prepared using the methodology specified in EN-1 and in consultation with Highways England (the Highways Agency prior to 1 April 2015) and the local highways, traffic and planning authorities (Somerset County Council, North Somerset Council, West Somerset Council, Bristol City Council and South Gloucester Council, Sedgemoor District Council) acting as the Joint Councils.
- 5.13.16 The Department for Transport (DfT) guidance referred to in paragraph 5.13.3 of EN-1 was withdrawn on 22 October 2014 and replaced by a document entitled Transport evidence bases in plan making and decision taking. The Environmental Statement (ES) Transport Assessment [Doc 5.22.1] and the ES Traffic and Transport section [Doc 5.12] are dated May 2014 and have been prepared on the basis of the earlier advice.
- 5.13.17 Both Highways England (HE) and the Joint Councils accept in their separate Statements of Common Ground (SoCGs) [Doc 8.3.3, Section 2.1.1, ID 12.2, 12.3 and Doc 8.3.12A, Table 4.9, ID 12.4] that the assessment method of the construction traffic and transport effects is appropriate and has been applied in an appropriate manner. The Panel agrees.
- 5.13.18 The highways access routes that that would be used during the construction of the proposed development are identified in the Transport Assessment [Doc 5.22.1, Section 7]. This routing strategy has been developed in consultation with the highway authorities and is considered acceptable by Highways England, SoCG [Doc 8.3.3, Section 2.1.1, ID 12.1], and the Joint Councils, Updated SoCG [Doc 8.3.12A, Table 4.9, ID 12.3]. The strategy appears practical and sensible to the Panel in avoiding, as far as possible, difficulties with:
- narrow rural roads;
 - built up areas;
 - impacts on the capacity of existing road junctions; and
 - conflict with local roads.
- 5.13.19 Existing traffic flows on proposed construction access routes from the M5, including motorway junctions, have been measured using automatic traffic counters. The method of calculating traffic growth follows that specified in the DfT guidance and is agreed between the parties. It uses the Trip End Model Presentation Program (TEMPro), the industry standard software published by the DfT, adding the traffic flows calculated for other committed developments impacting this area of the road network. Growth factors are derived from the DfT National Transport Model for Heavy Goods Vehicle (HGV) traffic growth.
- 5.13.20 The impacts of seven committed developments identified in the area of the proposed development are taken into account in calculating traffic flows. These are:

- Hinkley Point C power station and three associated developments;
- Huntspill Energy Park;
- housing development at Nailsea;
- Weston Villages;
- Rockingham Park Development, Bristol; and
- former Rodia site, Bristol.

- 5.13.21 The updated Statement of Common Ground (SoCG) between the Applicant and the Joint Councils [Doc 8.3.12A, Table 4.9, ID 12.4 and 12.7] indicates that the Joint Councils are content that the assessment method of construction traffic and transport effects, as set out in the DCO application submitted to the Planning Inspectorate, and the additional information issued to the Joint Councils in August 2014 is appropriate. However, they disagree with the analysis of additional information submitted in relation to the amended construction period [Doc 5.29.2.2.1].
- 5.13.22 The purpose of this sensitivity test is to assess the impact of a revised construction programme on the original Transport Assessment [Doc 5.22.1] and to consider whether there are changes to the traffic and transport effects described in the original document. The Joint Councils are concerned that no new committed development sites have been added to the cumulative development flows that are used in the Transport Assessment Sensitivity Test. The reasons for the Joint Councils' refusal to agree this methodology are given in their SoCG with the Applicant [Doc 8.3.12, Appendix A, ID 12.4].
- 5.13.23 The Applicant's response to this position is given in the SoCG [Doc 8.3.12, Appendix A] and in the response to Joint Councils' comments on the Applicant's Traffic and Transport Sensitivity Assessments [Doc 8.13.5.2, Note 2]. The Applicant's position is that all the previously committed developments identified and used in the original Transport Assessment have been included in the sensitivity test. While a number of new potential committed developments have been identified since the submission of the ES none of these is deemed likely to increase traffic flows along the agreed construction routes during the period of the revised construction programme to any significant extent.
- 5.13.24 Highways England considers that any additional growth would be taken into account through TEMPro, but notes that the Joint Councils should agree with this approach as additional developments could be committed during the extended construction period [Doc 8.3.3, Section 2, ID 12.7].
- 5.13.25 The use of TEMPro software to determine future background traffic growth is based on the new assessment year to match the revised construction programme. This approach contains in itself an element of double counting when committed development flows are added separately. The use of TEMPro without additional flows would properly take account of the new committed developments.

- 5.13.26 On balance the Panel is persuaded that the approach taken by the Applicant to the treatment of future committed development flows in the period of the revised construction programme is appropriate in seeking to avoid the over-counting of traffic flows.
- 5.13.27 A further point of disagreement is raised by the Joint Councils over the treatment in the sensitivity test of increases in background traffic growth. This point is set out in the updated SoCG between the Applicant and the Joint Councils [Doc 8.3.12A, Table 4.9, ID 12.7]. The Joint Councils point out that the sensitivity test has only included further assessment of highway links where background traffic growth is more than 10%. In their opinion this approach is outdated and current Department for Transport (DfT) guidance advises against this approach.
- 5.13.28 The Applicant maintains that a 10% growth threshold for inclusion in the sensitivity test is not used. The method used for the further assessment of junctions is described in the Transport Assessment Sensitivity Test [Doc 5.29.2.2.1, Section 11]. This reviews the impact of the revised construction programme on the 47 junctions originally analysed. The peak cumulative year of assessment for 25 of the junctions changes to a later year and, of these, nine had been previously identified as operating at or over capacity in the original assessment so that no further analysis is necessary in these cases. Junction capacity assessments are, therefore, carried out for the remaining 16. A threshold of 10% growth in background traffic is not used as the criterion for the inclusion of junctions in the sensitivity test.
- 5.13.29 The Panel considers that the selection of junctions for re-assessment in the Transport Assessment Sensitivity Test has been carried out appropriately.
- 5.13.30 The road network to be analysed is split into discrete areas within each highway authority area so that traffic growth figures are modelled as closely as practicably possible on local conditions. A total of 47 junctions on the construction access routes have been subject to capacity assessments using methodology agreed with Highways England and the Joint Councils. Transport Assessment [Doc 5.22.1, para 8.2.10]. Of these junctions, 17 are calculated to operate above their theoretical capacity when analysed using traffic figures for future baseline plus committed development. These junctions are identified in the Transport Assessment [Doc 5.22.1, para 15.2.2] as:
- M5 Junction 23;
 - A39/Puriton Hill;
 - A39 Puriton Hill/Bath Road;
 - A39 Bath Road/Woolavington Hill;
 - M5 Junction 22/A38 Bristol Road/B3140;
 - A38 Bristol Road/Harp Road;
 - Dunball Roundabout;
 - A38 Bristol Road/The Drove;

- A38 Bristol Road/Wylds Road;
- Wylds Road/The Drove;
- M5 Junction 21;
- M5 Junction 20/Central Way/Northern Way/B3133 Moor Lane;
- Central Way/Southern Way;
- Northern Way/B3133 Tickenham Road;
- Clevedon Road/B3128 Tickenham Hill;
- M5 Junction 19; and
- A403 St Andrew's Way/Kings Weston Lane.

- 5.13.31 The omission of the A371/A38 junction at Cross from this analysis and the effect on it of additional traffic was raised at the Traffic and Transport ISH. The Applicant noted that this junction was not included in the list of junctions to be assessed provided by the local highway authorities [Doc 5.22.1, Table 8.1]. Some preliminary analysis to isolate traffic flows at the junction had been carried out which had shown that this was not a sensitive junction. This position has been agreed by the Joint Councils [Doc 8.13.5.1, para 2.14 and 2.16].
- 5.13.32 The Transport Assessment [Doc 5.22.1, para 15.2.3] states that *"While the anticipated impacts of the Proposed Development at these locations are for the most part immaterial, and all temporary, National Grid will restrict HGV movements during the peak hours of assessment (08.00-09.00 and 17.00-18.00) at the junctions listed above. These restricted hours will be secured by a DCO requirement."*
- 5.13.33 The Transport Assessment [Doc 5.22.1, para 17.1.22 to 24] proposes as mitigation to *"restrict the movement of HGVs through any junction on the LRN shown to be above an RFC (Ratio of Flow to Capacity) of 0.85 or 90% DoS (Degree of Saturation) during the highway peak periods of 08.00-09.00 and 17.00-18.00."* It goes on to provide a list of junctions that will be included in these mitigation measures. This is similar to the list provided above but excludes all motorway junctions.
- 5.13.34 The apparent contradiction between these two approaches was explored during the ISH on Highways and Transport on 28 April 2015. The Applicant confirmed that mitigation measures are not now proposed for any of the motorway junctions identified as being likely to operate above capacity as a result of the proposed development. This has been a source of disagreement between the Applicant and Highways England and the Joint Councils as the inclusion of the motorway junctions had originally been contemplated.
- 5.13.35 The Highways Agency (now Highways England) letter to ExA dated 26 February 2015 [REP2-030] notes that *"... in recent correspondence with National Grid, all the key SRN junctions have now been removed from above list."* (The list that is given above in this section of the report.) *"The removal of these junctions from the restricted list has come at a very late stage in the planning process. Further to this the methodology offered up for removing them is inconsistent and has never been agreed with the Highways Agency."* The Applicant's Written Summary of Case Put Forward Orally at ISH on Highways and

Transport - 28 April 2015 [Doc 8.13.5.1, Section 2] position confirms that in the Applicant's view:

- *"...traffic flows associated with the proposed development would have an insignificant impact on overall traffic flows at these junctions at the peak as development vehicle flows are low compared to predicted baseline traffic flows. For example, the greatest peak hour predicted development traffic flow is 18 two-way HGV movements, at a junction where there are in excess of 2000 non-development traffic movements in the same period."*
- *"Development flows are considered to have minimal impact on the results of junction capacity analysis in future scenario assessments."*
- *"The assessments may in fact overstate the impact on these junctions, because a 20% contingency factor was added to all development traffic flow, and the junctions were assessed on the basis that all of the development traffic flowing through them would arrive from both the North and the South simultaneously, effectively double counting the flow."*
- *"In addition, the junction restrictions that are proposed for parts of the local road network will in practical terms restrict the number of project vehicles that could be routed through nearby motorway junctions."*

5.13.36 While the inclusion of the 20% contingency factor and the double counting of development traffic flowing through the motorway junctions reflect a degree of uncertainty about construction traffic origins, destinations and levels, it must inevitably result in an overestimate of traffic flows and their impact on traffic conditions.

5.13.37 Further overestimates result from the assumption in the Transport Assessment [Doc 5.22.1, para.10.1.7] that origins and destinations of all construction traffic are either the M5 or a haul road bellmouth. Although the sources of stone products for the proposed development are not yet known it is probable that a considerable proportion of it will come from quarries to the east of the development in the Cheddar and Mendip areas. The Transport Assessment [Doc 5.22.3, Figure 22.3] indicates that:

- Stancombe Quarry would deliver via the A370 to the M5 Junction 21;
- Callow Rock and Batts Combe Quarries via the A38 to the M5 Junction 22; and
- Gurney Slade, Halcombe, Moons Hill, Whately and Torr Works Quarries via the A39 to the M5 Junction 23.

The outputs of these quarries, and thus the volume of traffic that they generate, is already controlled by existing planning consents and cannot exceed consented limits. It is reasonable to suppose that deliveries to bellmouths accessible from routes leading from these quarries to the M5 would be made without travelling on the motorway.

This means that there is an additional overestimate of traffic using Junctions 21, 22 and 23.

5.13.38 The Applicant has undertaken a number of sensitivity tests as part of the Traffic Assessment and these are reported in the Environmental Statement Transport Assessment (Update to Section 12) [Doc 5.22.1A, Section 12.5]. One of these considers a situation where 20% of all aggregate deliveries arrive from these quarries. Although the origin of this assumption has been the subject of some conjecture (see Highways and Transportation Matters Note on Evidence Underlying the 20% Assumption for Construction Materials Arriving from Quarries in the Mendips [Doc 8.21.8, bullet point 2] it is accepted by the Joint Councils as a means of providing confidence in a robust traffic assessment [REP8-006, para 1.1 et seq.].

5.13.39 The analysis carried out indicates that of the 13 junctions involved, five remain unaffected, five show decreases in peak RFC or DoS figures and three show increases. Of these, one (A39/Puriton Hill) shows a marked increase RFC but this junction has already been identified as being over capacity while the other two junctions show very marginal increases.

5.13.40 The Transport Assessment [Doc 5.22.1, Tables 5.4 and 5.37] gives Annual Average Daily Traffic flows 18 hour total figures in excess of 50,000 for motorway junctions 20, 21, 22, 23 and 24. Table 10.3 of the Transport Assessment gives peak daily two-way traffic generation for the various groupings of bellmouths and the duration in weeks that the peak would last. While it does not specifically give the timing of these peaks it is possible, by using this information in combination with that in Table 7.1 of the same document, to identify a worst case for each motorway junction. This would occur if each peak traffic generation for each group of bellmouths being supplied from that junction happened at the same time. The figures produced for two-way journeys generated by the proposed development for each motorway junction are:

- Junction 18/18A 260 two-way journeys
- Junction 19 236 two-way journeys
- Junction 20 303 two-way journeys
- Junction 21 54 two-way journeys
- Junction 22 607 two-way journeys
- Junction 23 402 two-way journeys

5.13.41 So in the worst case, that of Junction 22, a daily total of 607 two-way journeys would be generated. Doc 5.22.1, Table 5.9 shows an Annual Average Daily Traffic 18 hour total through traffic flow of 51,354 vehicles for this junction. This shows that the very unlikely worst case situation would add less than 2.5% to total traffic flows at the most affected junction.

5.13.42 The Panel concludes that:

- baseline assessment methodologies and mitigation have been adequately carried out;
- traffic assessments have been properly carried out and are generally agreed with local highway authorities and Highways England;
- the cumulative impacts of traffic generated from a comprehensive list of permitted and planned developments have been properly assessed; and
- construction traffic restrictions at local road network junctions currently operating above capacity are properly assessed and appropriate mitigation agreed in the case of junctions operating above calculated capacity.

5.13.43 The Panel also concludes that on balance the approach taken by the Applicant to the analysis of the effect of the extended construction period is justified because of over-counting inherent in the methods used and the relatively small proportion of overall traffic represented by construction traffic generated by the proposed development. As a result the Panel further concludes that restrictions on the times at which HGVs serving the proposed development may use motorway junctions are unnecessary.

5.13.44 The Panel also notes that the Applicant has accepted that the A403 St Andrew's Way/Kings Weston Way junction is part of the LRN and is now included in the list of restricted junctions in Requirement 23 of the draft DCO. This, together with restrictions on other local road network junctions lying close to motorway junctions will tend to reduce the volume of traffic using motorway junctions during peak hours.

CONSTRUCTION TRAFFIC MANAGEMENT PLAN

5.13.45 This section deals with the adequacy of the Construction Traffic Management Plan (CTMP) and its enforcement. The Applicant has produced a draft CTMP as Appendix 4 to the overall CEMP [Doc 5.26.5C] and this has been updated by the Applicant during the Examination. In the Panel's opinion it now contains the means of controlling the impact of construction traffic generated by the proposed development. The CTMP is secured by Requirement 5(2)(d) of the final DCO which requires that the CEMP incorporates a CTMP. Requirement 6 states that *"No stage of the authorised development may commence until, for that stage, the following plans and scheme to minimise the impacts of construction works have been submitted and approved by the relevant planning authority - ... (d) Project Environmental Management Plan...."* This Plan is defined in Requirement 1 as *"... the plan detailing environmental mitigation measures to be implemented during each stage of the construction of the authorised development and in accordance with the CEMP."*

5.13.46 The Panel concludes that the proposed CTMP is adequate and proportionate for the task of removing or mitigating the adverse environmental effects during construction of the proposed

development, and that its establishment and operation are appropriately secured by the recommended DCO.

ROAD SAFETY

- 5.13.47 This section deals with the level of mitigation needed to ensure road safety, particularly associated with regard to bellmouth accesses and their associated traffic management measures.
- 5.13.48 The SoCGs between the Applicant and the Highways Agency [Doc 8.3.3, ID 12.9] and the Applicant the Joint Councils [Doc 8.3.12, ID 12.10] agree that the baseline highway safety analysis undertaken as part of the transport assessment is appropriate. The Panel reviewed the process and documentation.
- 5.13.49 The Transport Assessment [Doc 5.22.1, Section 6] investigates vehicle accident history along the links and junctions that would be used by the proposed development over a five year period. None of the fatal accidents analysed were shown to have highway layout or condition as a cause of, or contributory factor to, the accident.
- 5.13.50 Analysis of the accident record using methodology from the Department of Transport Design Manual for Roads and Bridges³⁸ (DMRB) shows that 12 of the 51 junctions recorded accidents above the rate predicted by the DMRB method. A comparison of the worst case year (including base year with the worst case base year) plus the proposed development shows a small increase in annual accident rates, but these are still generally below DMRB predicted rates. For the worst junctions considered, an additional four accidents at two junctions over five years are predicted [Doc 5.22.1, para 6.2.103].
- 5.13.51 The Joint Councils have raised concerns about the impact of construction traffic on a number of road junctions although the Applicant does not consider that the analysis carried out indicates that an increase in capacity is required for any junction. However under the terms of the s106 agreement [Doc 8.4B, Schedule 2 Section 2] financial contributions will be made by the Applicant towards safety measures to be carried out at the A39 Bath Road/Woolavington Hill junction and at Nye Road.
- 5.13.52 Assertions have been made in relevant representations and at OFHs that road layouts have contributed to a number of road traffic accidents. The information provided by the highway authorities does not bear this out and there is no evidence that this was the case during the 5 year study period.
- 5.13.53 Concerns were raised about the positioning of a site access road off the A38 near a school bus stop. The CTMP [Doc 5.26.5C, Section 6.17]

³⁸ DMRB Vol 13 Section 1, Part 2 The Valuation of Costs and Benefits, The Valuation of Accidents at Junctions (now withdrawn)

describes how the Applicant would identify the need to temporarily move bus stops affected by site works and this approach is secured by Requirement 5 of the final DCO.

- 5.13.54 The Panel concludes that evidence shows that the proposed development would have little impact on road safety.
- 5.13.55 The Joint Councils do not agree with the Applicant's approach to Road Safety Audits (RSAs) and seek an amendment to Requirement 22 relating to Highway Works. This is set out in the updated SoCG [Doc 8.3.12A, Table 4.9, ID 12.44].
- 5.13.56 The wording in the Applicant's Draft DCO [Doc 2.1.1E, and Doc 2.1.2E, Schedule 3, Requirement 22(3)] is as follows: *"... and must remedy to the reasonable satisfaction of the relevant highway authority any defects identified in any such road safety audits."*
- 5.13.57 The Joint Councils propose instead *"... and must implement recommendations arising from the road safety audit reports, unless otherwise agreed with the Local Highway Authority."* [Doc 8.3.12A, Table 4.9, ID 12.44].
- 5.13.58 The Applicant considers this amendment unnecessary as Requirement 22(1) of the DCO directs that the details of the design are to be submitted to and approved by the relevant highway authority. However, the wording of the Applicant's Requirement 22(3) is capable of two interpretations: either defects in the highway works identified by the RSAs are to be remedied, or, defects in the RSAs are to be remedied. The question of what constitutes the *"reasonable satisfaction of the relevant highway authority"* also introduces an element of uncertainty into the outcome of the RSA process.
- 5.13.59 For the removal of doubt the Panel concludes that the wording proposed by the Joint Councils should be included in the recommended DCO.
- 5.13.60 The Joint Councils considers that the design of each proposed bellmouth should be based on the 85th percentile traffic speed for that location in addition to the usual design considerations [Doc 8.3.12A, Table 4.9, ID 12.45]. The Applicant accepts that the design speed for a bellmouth should more appropriately be the 85th percentile traffic speed for that location.
- 5.13.61 The Panel agrees that this approach is appropriate when combined with the proper implementation of the RSA process. The provisions of Article 41 of the recommended DCO allow the necessary flexibility.

PARKING REQUIREMENTS

- 5.13.62 This section deals with the parking requirements for site staff during construction of the proposed development and the effects on the local traffic network.

- 5.13.63 The Applicant has produced a Travel Plan as part of the CTMP. This notes that no parking will be provided on-site for private vehicles, with limited parking provided at specified locations such as construction compounds for a limited number of business vehicles and company cars [Doc 5.26.5C, Annex A, para 2.5.2].
- 5.13.64 Highways England seeks further commitment to a full worker travel plan and enhanced measures [Doc 8.3.3, ID 12.42]. Particular areas of interest are:
- modal shift;
 - welfare vans and pick-up and drop-off locations;
 - the use of targets; and
 - monitoring of travel planning measures.
- 5.13.65 The Applicant has included in the Travel Plan [Doc 5.26.5C Annex A para 3.4.1] details of how modal shift information will be collected and reported by a Travel Plan Co-ordinator to a Traffic Management Group (TMG) which will include representatives of all interested highway authorities.
- 5.13.66 The Panel considers that this approach is appropriate and will enable Highways England and the Joint Councils to obtain the modal shift information required.
- 5.13.67 The Applicant details in the Position Statement in respect of Highways England [Doc 8.34.9, Page.4] the consideration made in assessing the location of welfare van pick-up and drop-off points. It notes that *"...the use of welfare vans is the primary measure by which the impacts of staff travel will be minimised on the local road network and also the strategic road network. Typically construction gangs will stay together in local accommodation and travel in welfare vans together. Pick up and drop off locations will therefore be based on crew accommodation and shift patterns which are not known at this time...local staff may choose to use public transport to access pick up locations and this would be arranged on a case by case basis. Predetermined pick up points cannot therefore be provided."*
- 5.13.68 The Panel accepts that more detailed or extensive information cannot be obtained until contractors are appointed for the proposed development and a workforce is employed.
- 5.13.69 Highways England considers that targets are essential for a successful Travel Plan as noted in para 1.11 of its Travel Plan Review attached to the Highways England letter of 1 June 2015 [REP5-011] and further noted in the Applicant's Position Statement in respect of Highways England [Doc 8.34.9]. The Applicant considers that targets are not appropriate given the nature, scale, location and temporary nature of the proposed development.
- 5.13.70 While it has some sympathy for the Applicant's position the Panel concludes that on balance the issue of targets is best considered by the TMG once data becomes available through the reporting procedure

noted above. This would involve a Transport Co-ordination Officer reporting to a TMG including representatives of all interested highway authorities. This process would be secured as part of the CTMP under Requirement 5.

- 5.13.71 Highways England considers that the implementation and operation of the Travel Plan should be monitored to ensure compliance. The Applicant details in the CTMP [Doc 5.26.5C, Annex A, Section 3.8] the role of the Traffic Plan Coordinator who would have specific responsibility for delivering the measures set out in the Travel Plan and would attend the TMG meetings.
- 5.13.72 The Panel considers that the measure proposed, supported by Requirement 5, appropriately meet the concerns raised.

ABNORMAL INDIVISIBLE LOADS

- 5.13.73 This Section deals with the need for Abnormal Indivisible Loads (AILs), the access routes to be used and any special measures required.
- 5.13.74 The SoCG between National Grid and Highways England [Doc 8.3.3, ID 12.17] requires consultation on the routing for the delivery of AILs, which are exceptionally large and heavy loads, via the roads network. In this case these are electrical transformers, complex and delicate machinery necessarily made off site. The routing of deliveries is planned through the Electronic Service Delivery for Abnormal Loads (ESDAL) process managed by Highways England. The Joint Councils have also made comment on the delivery of AILs and their particular concerns are addressed below.
- 5.13.75 The Applicant notes the ESDAL process is not included in the draft DCO provisions but that the normal application process for such loads would be followed through the ESDAL system once the details of the delivery are known. The relevant highway authority would be provided with all available information before a formal ESDAL application is made.
- 5.13.76 The Joint Councils disagree with the proposed means of dealing with the management of the AILs [Doc 8.3.12A, Table 4.9, ID 12.18]. They are concerned about the ability of highway structures on routes proposed for the delivery of AILs to accommodate the abnormal weights to which they may be subjected. They seek information on routing and relevant structural assessments to allow for the early identification of any highway issues.
- 5.13.77 The Applicant identifies five AIL movements during the construction of the proposed development, four to the Sandford substation and one from the Seabank substation [Doc 8.13.5.1, para 4.11]. The Applicant has submitted an AIL report [Doc 5.22.2.2, Appendix 22D] for a projected journey of an AIL from Avonmouth Docks to the proposed electricity substation at Sandford, in the form of a route feasibility report.

- 5.13.78 As part of this report process the Highways Agency, (now Highways England) has been approached for a provisional special order approval. The application initially failed because there was not enough structural information about two of the large bridge structures on the network to determine their capacity to carry the proposed load safely. After structural surveys and analysis of these bridges, provisional special order approval was granted. The report also includes a route survey identifying street furniture that would need to be moved to allow passage of the AIL, and swept path analysis of two junctions. It concludes that the proposed route is practicable but notes that other structures on the route have not been assessed.
- 5.13.79 The Applicant intends to use Highways England's ESDAL system which includes a facility to identify structures on an intended route and send abnormal load notifications to their owners or managers. While provisional routes for four of the AIL movements have been identified no route has yet been identified for the removal of an AIL from the Seabank substation [Doc 8.13.5.1, para. 4.13].
- 5.13.80 The Joint Councils raise further similar issues about AILs [Doc 8.3.12A, Table 4.9, ID 12.39]. The Applicant's response was to confirm the planned number and routing of AILs to the Sandford substation and to give anticipated dates for these deliveries. It expands on the process for determining the route for the removal of an AIL from the Seabank substation and confirms that the route will be provided to the local highway authority before a formal ESDAL application is made.
- 5.13.81 The Panel notes that there has already been some liaison between the Applicant and the Joint Councils in the preparation of the AIL report [Doc 5.22.2.2, Appendix 22D]. The Panel concludes that the disruption and difficulty caused by the passage of AILs over the LRN would be minimised if routes were identified at as early a stage as possible in discussion with the Joint Councils.
- 5.13.82 The Panel considers that this approach is appropriate and acceptable given that the exact timing of AIL movements is unlikely to be known until after the Applicant has engaged a contractor and procurement in is hand.

TRAFFIC CONTROL MEASURES

Delivery Management System

- 5.13.83 This section deals with the management and reporting of traffic control measures including delivery management systems and monitoring measures.
- 5.13.84 Highways England has indicated that the methodology to be used to ensure compliance with agreed traffic restrictions should be as set out in the Delivery Management System (DMS) [REP6-008]. It suggests that an electronic booking system should be used to regulate the arrival of HGVs to site by providing a set number of slots per hour.

This would regulate the flow of HGVs to and from the site and ensure that arrivals do not exceed set limits.

- 5.13.85 The Joint Councils consider [Doc 8.3.12A, Table 4.9, ID 12.37] that further detail of the DMS should be referenced in the CTMP. The Applicant has updated the CTMP and provided additional information about the management of the DMS [Doc 5.26.5C para 6.14.2]. This gives an overview of the DMS which describes a paper based record system but provides no detail of how it is to operate. At the Traffic and Transport ISH the Applicant explained that the system would be based on the normal order and dispatch records [Doc 8.13.5.1, para 4.8]. The Joint Councils have not provided any details of the additional measures they consider necessary for the satisfactory operation of the DMS.
- 5.13.86 The CTMP requires the process to be monitored by a Transport Co-ordinator and reported to a Traffic Management Group on which representatives of the local highway authorities and Highways England would be invited to serve. Enforcement and corrective measures are also addressed in the CTMP and all these arrangements would be protected by DCO provisions.
- 5.13.87 The Panel considers that, while electronic DMS are available and are invaluable in managing logistics for restricted sites with complex materials requirements, the proposed development does not fall into this category. A more traditional paper based system would be adequate and appropriate in this case.

Automatic Number Plate Recognition

- 5.13.88 The CTMP [Doc 5.26.5C, para 7.3.4] notes that there are a number of automatic number plate recognition (ANPR) cameras on roads in Bridgwater leading to the Hinkley Point C power station. Highways England has suggested that this approach could be extended to other parts of the roads network with the installation of ANPR cameras at motorway junctions. The Applicant considers that the extension of the ANPR system to monitor traffic for the proposed development would be disproportionate [Doc 8.34.9].
- 5.13.89 While the Panel agrees that the use of ANPR technology would provide a comprehensive monitoring system, the length of the proposed development and the number of delivery routes would mean that a highly complex system would be needed to ensure full coverage was available. On balance the Panel considers that effective monitoring can be provided by simpler means and that an extension of the ANPR system is not required.

Monitoring

- 5.13.90 The Joint Councils [Doc 8.3.12A, Table 4.9, ID 12.32] raise concerns on the level of detail provided by the Applicant of the way in which staff will monitor the use of the agreed construction routes.[Doc

5.26.5C]. The Joint Councils have provided no details of the additional measures they consider necessary.

- 5.13.91 The CTMP requires the process to be monitored by a Transport Co-ordinator and reported to a Traffic Management Group on which representatives of the local highway authorities and Highways England would be invited to serve. Enforcement and corrective measures are also addressed in the CTMP. The Panel considers that the principles set out in the CTMP for establishing a process to monitor the use of construction routes are appropriate and adequate.

Traffic Incident Management Plan

- 5.13.92 The Joint Councils indicate [Doc 8.3.12A, Table 4.9, ID 12.33] that diversion routes for inclusion in the Traffic Incident Management Plan (TIMP) are yet to be agreed. The Applicant has set out in the CTMP [Doc 5.26.5C, para 6.9.23 to 6.9.30] the approach to be used in the event of a traffic incident. Requirement 26(1) states that *"No stage of the development shall commence until a Traffic Incident Management Plan has been submitted to and approved by the relevant highway authority."*

- 5.13.93 The Panel considers that this requirement gives the Joint Councils sufficient powers to obtain all the details they require at the appropriate stage of the development and that it would be unreasonable to expect the Applicant to have developed the TIMP beyond an indicative document at this stage.

Information packs

- 5.13.94 The Applicant proposes that information packs containing details of construction routes, HGV restrictions, CTMP protocols, communications and contacts etc would be provided to all contractors [Doc 5.26.5C, Section 6.15]. The details of the information packs would be given to the local highway authorities before construction work starts. The CTMP requires the process to be monitored by a Transport Co-ordinator and reported to a Traffic Management Group on which representatives of the local highway authorities and Highways England would be invited to serve. Enforcement and corrective measures are also addressed in the CTMP.
- 5.13.95 The Joint Councils comment on the use of information packs and other means of communications with delivery drivers and others accessing the proposed development site [Doc 8.3.12A, Table 4.9, ID 12.38]. They seek further information about the location rest stops, pick-up points for staff travelling on the local road network and parking.
- 5.13.96 The Panel considers that the principles set out in the CTMP for establishing a communications strategy involving information packs are appropriate. It would be unreasonable at this stage of the proposed development to expect the Applicant to have completed the detailed design of the information packs since part of the information to be included would only be available once a contractor is appointed.

Travel Plan

- 5.13.97 The CTMP contains details of travel planning initiatives to be included in the Travel Plan [Doc 5.26.5C, para 6.18.1]. This lists:
- travel planning awareness;
 - welfare van provision for staff from external locations to site;
 - public transport;
 - car sharing;
 - construction traffic management;
 - modal shift monitoring; and
 - Travel Plan co-ordinator.
- 5.13.98 The Joint Councils raise concerns about the Travel Plan referred to in Requirement 27 [Doc 8.3.12A, Table 4.9, ID 12.41]. They consider that the reference to a framework travel plan is not appropriate and that modal shift monitoring and the transport review group should be referenced in a free-standing travel plan.
- 5.13.99 The Applicant has revised Requirement 27. It now specifies that the Travel Plan included in the CTMP must be implemented at the commencement of, and during, the construction of the authorised development. The Applicant has also updated the CTMP [Doc 5.26.5C] to include a stand-alone Travel Plan at Annex A. This requires a Travel Plan Co-ordinator to assume overall responsibility for the Travel Plan, including monitoring and reporting to the Traffic Management Group.
- 5.13.100 The Travel Plan [Doc 5.26.5C, Annex A, para 2.5.4 et seq.] indicates that staff pick-up points would be at local accommodation sites, town centres or public transport interchanges and that pick-up and drop-off points at the proposed development would be "... *at accessible locations for all staff.*" This does not preclude the use of the local roads network (LRN) for this purpose.
- 5.13.101 The Panel considers that the steps proposed by the Applicant provide a basis of an effective Travel Plan. Requirement 27 would ensure that a Travel Plan is submitted to the relevant highway authority for approval in writing and implemented from the commencement of the construction period and in full for the duration of the construction stage of the development.

TEMPORARY TRAFFIC ORDERS

- 5.13.102 This section deals with the appropriateness of the extended use of temporary traffic orders. Schedule 13 of the DCO lists streets that would be subject to Temporary Traffic Orders, variously prohibiting vehicular access at any time, imposing waiting restrictions and imposing speed limits. These would be secured under Article 41 of the DCO. Schedule 7 of the DCO lists streets or PRowS to be temporarily stopped up.
- 5.13.103 The Joint Councils agree that Temporary Traffic Orders and Stopping Up Orders are necessary but have concerns about whether the impact

of these powers, particularly in relation to PRowS, have not been properly assessed and should be mitigated by a contribution to a CIM fund.

- 5.13.104 Article 41(1) of the DCO states the imposition of the Orders described in Schedule 13 are *"Subject to the provisions of the article, and the consent of the traffic authority in whose area the road concerned is situated...."* Article 13(5) of the DCO prevents the temporary stopping up, alteration or diversion of the streets or public rights of way specified in Schedule 7 without first consulting the street authority.
- 5.13.105 The Panel considers that the terms of Articles 13 and 41 provide the local traffic and street authorities with powers to ensure that Temporary Traffic Orders and Stopping Up Orders are applied in an appropriate manner. It does not consider any further mitigation necessary.

CONDITION OF ROADS NETWORK

- 5.13.106 This section deals with the condition of the existing local and strategic road networks. The volume of traffic that would be generated by the proposed development is a small proportion of the total traffic volumes using both the SRN and the specified highways access routes that would be used during construction. These routes have been selected in consultation with Highways England and the local highway authorities [Doc 5.22.1, Section 7]. The only areas of concern as far as the structural condition of the road pavement is concerned are the locations of access and egress from haul road, works compounds and construction sites onto the agreed highway access routes and these are the subject of a specific design and approval process, the detail of which is considered elsewhere in this report.
- 5.13.107 The Joint Councils consider that Article 41(8), which establishes a deemed consent regime if the local highway authority has not responded to an application under Article 41(1) within 28 days of its receipt, should be removed. We give consideration to Article 41 and the matter of deemed consent in Chapter 9 of this report.
- 5.13.108 Draft DCO Schedule 3 Requirement 22 'Highway works' requires that *"No work to construct or alter any permanent or temporary means of access to a highway to be used by vehicular traffic shall commence until written details of the design and layout of that means of access has been submitted to and approved by the relevant highway authority."* This means that all matters relating to the design and construction of vehicular accesses to the LRN are to be approved by the highway authority. The Panel considers that this provision would adequately safeguard the condition of the road network in relation to the provision of permanent or temporary means of access.

ASSET MAINTENANCE

- 5.13.109 This section deals with the agreement and funding for the repair of highway assets subject to extraordinary use as a result of the project and for maintenance of rural roads and structures.
- 5.13.110 The matter of funding for repairs to the LRN necessary as a result of the additional traffic that would be generated by the proposed development was considered during the Examination. The terms of the s106 agreement [Doc 8.4B, Schedule 2 Section 3] mean that the Applicant would carry out a baseline deflectograph condition survey prior to the construction of each bellmouth access and submit the results to the highway authority. This process would be repeated within 3 months of the end of the construction period and the Applicant would pay to the highway authority that part of the reasonable costs of reinstating the highway to its former condition attributable to project traffic.
- 5.13.111 The highway authority would carry out repairs to defects attributable to project traffic in the bellmouth highway (the metalled highway required to accommodate vehicle turning tracks for access or egress) and recover its reasonable costs from the Applicant.
- 5.13.112 The Panel considers that this is an appropriate way to manage the potential additional damage to the LRN that may result from the construction of the proposed development.

ADDITIONAL ITEMS ARISING DURING THE EXAMINATION

Protective netting over highways

- 5.13.113 Highways England expressed concern that scaffolding and netting erected alongside and over the motorway to effect the installation of conductors between pylons could delay and distract drivers and affect safety [Doc 8.3.3, Section 2, ID 12.46 and 12.48].
- 5.13.114 In the Position Statement in respect of Highways England [Doc 8.34.9] the Applicant accepts that there should be discussions with Highways England about this topic. The Applicant also draws attention to the protective provisions included in the DCO (Schedule 15 Part 3 Protection for Highways and Traffic) for the benefit of highway authorities. where paragraph 14(1) requires that *"Before commencing the construction of, or carrying out any work which involves interference with a highway, the undertaker shall submit to the relevant highway authority for its approval plans, drawings and particularsrelating thereto, and the works shall not be carried out except in accordance with the plans submitted to, and approved by, the relevant highway authority."*
- 5.13.115 The Panel considers that this provision gives appropriate and effective protection to Highways England and a means of addressing the particular concerns raised.

Bristol Port Company

- 5.13.116 The Bristol Port Company (BPC) submitted a written representation to the Examination [REP2-065]. With regard to traffic, transport and PRow issues this notes general concerns about impacts on the port operation *"during construction: the material interference with port operations resulting from the use of port roads (traffic type/volumes and traffic management);"* [REP2-065 para 2.2.5(a)]. It then goes on to raise a number of detailed points.
- 5.13.117 The main issues identified are concerned with the impacts of access to proposed pylon locations and other work sites on the BPC land. This is addressed in the discussion on construction access in Chapter 5.3 of this report. A number of other issues relate purely to traffic and transport:
- the proposed use of roads assumed by the Applicant to be public highways but which are held by the BPC to be private roads over which no public rights of way or access exist;
 - powers under Articles 10 and 12 of the draft DCO;
 - the extent of powers of compulsory acquisition under Article 29 of the draft DCO; and
 - identification of Light Goods Vehicle (LGV) construction vehicles.
- 5.13.118 The issues raised have been the subject of protracted discussions between the parties but no final agreement had been achieved by the end of the Examination. The matters that are raised in the submissions for Deadlines 7 and 8 are considered to be those still outstanding between the parties and these are set out in the BPC update as at Deadline 7 [REP7-024, REP8-002].
- 5.13.119 Protective provisions set out in Part 5 of Schedule 15 of the DCO provide at para 48 *"Access, streets and public rights of way"* that the BPC must approve plans for any access works and no such work may be commenced until the BPC's approval is given. The provisions are not agreed between the parties and are considered in detail in later chapters of this report. However, the Panel considers that the protective provisions included in the recommended DCO would provide adequate safeguards for the BPC's interests in this area.
- 5.13.120 In a Position Statement in respect of The Bristol Port Company the Applicant notes in a section entitled *"Access during Construction and Operation"* [Doc 8.34.8 Section 7, para 7.2] that *"The private roads named the Drove and Victoria Road at Bristol Port would provide convenient access routes for part of the construction of the Proposed Development. However National Grid has not sought powers of access over these roads as they were initially thought to be public roads. National Grid hopes to reach agreement with BPC for the use of these roads, but would still be able to construct and maintain the Proposed Development without using these routes, by using the powers under the Order, if agreement cannot be reached."*

- 5.13.121 The BPC has provided a response to the Applicant's Position Statement in the form of an annotated version of the original document [REP8-002] commenting on the points made by the Applicant. No comments are made about the content of Section 7 quoted above, from which it is concluded that the position stated by the Applicant is not contested by the BPC.
- 5.13.122 The Applicant notes that the draft DCO seeks to extend the usual street works powers to include Article 10(1)(c), the power to remove or use earth or materials in or under the street [Doc 8.34.8, ID 12.71.3]. This is to reflect the street works powers available to the Applicant under Para 1(b)(iii) of Schedule 4 to 51 the Electricity Act 1989.
- 5.13.123 Article 12 of the DCO 'Power to alter layout etc. of streets' specifically limits the sites where these powers may be exercised to those listed in Schedule 6 of the DCO where the extent of the work at each location is also defined. Other works, defined but not limited by a list in Article 12(2), can be carried out for the purposes of constructing and maintaining the authorised development. These powers are, however, limited by Article 12(4) so that they may not be exercised without the consent of the street authority.
- 5.13.124 The Applicant also notes that Article 29 follows the model provision 27 [Doc 8.34.8, ID 12.71.4]. The Applicant considers it appropriate that the BPC is treated in the same way as other parties affected by the draft DCO where provision is made for the payment of compensation to persons suffering a loss as a result of the exercise of this power and declines to make any amendment to the Article.
- 5.13.125 Concerns were raised by the BPC about the identification of LGVs used in the construction of the proposed development. Schedule 3 Requirement 24 of the draft DCO now specifies that both HGVs and LGVs involved in work on the proposed development will be identified as such.
- 5.13.126 We have given full consideration to the protective provisions sought by the BPC in Chapter 8. Subject to the changes made to the BPC protective provisions as set out in the recommended DCO, the Panel considers that the Applicant has addressed the concerns raised by the BPC in respect of traffic and transport issues and that the position taken by the Applicant in this regard is reasonable and appropriate.

St Anthony's Park

- 5.13.127 The proposed 400kV overhead line is immediately to the north of the St Anthony's Park site at Kings Weston Lane in Avonmouth. The potential impact of the proposed development on the site has resulted in the production of the St Anthony's Park Enhanced Mitigation Plan [Doc 8.43.1] for the site. This shows the entrance to St Anthony's Park from the highway to be outside the Order limits. Part of the internal diversion feature immediately behind the entrance, which

prevents large vehicles gaining access to the site, lies within the Order limits but in an area noted on the Doc 8.43.1 drawing as an 'Above ground area within the DCO Order limits which would not be used during construction for any reason.'

- 5.13.128 Bristol City Council has expressed concern about the maintenance of access to the site. However, on the basis of the mitigation plan referenced above, the access would not be affected by the proposed development, albeit the works are very close to the boundary of the site.
- 5.13.129 Article 41 provides powers of traffic regulation concerning roads set out in Schedule 13, Part 1 of the draft DCO. With regard to Kings Weston Lane, prohibition of vehicular access is sought at any time between TRO39.1 and TRO39.2, points either side of the St Anthony's Park site [Doc 4.9.11, Drg.No.3]. The position of TRO39.1 is well south of the motorway over-bridge and, as the section of Kings Weston Lane south of the bellmouth accesses at St Anthony's Park is not to be a construction route, there appears to be no good reason for prohibitions to be taken this far south. However the TRO powers under Article 41 can only be implemented with the consent of the traffic authority which is Bristol City Council in this instance.
- 5.13.130 Because of this the Panel concludes that the security of access to the St Anthony's Park site sought by Bristol City Council is adequately protected by the mitigation measures proposed in the St Anthony's Park Enhanced Mitigation Plan [Doc 8.43.1] and secured in the recommended DCO.

Church Road and Factory Lane, East Huntspill

- 5.13.131 The Applicant proposes to access the haul road for the six pylons immediately north of the Huntspill River from Junction 22 of the M5 motorway via the B3141 through East Huntspill to bellmouth access AC11. Access to the 22 pylons to the north of these and as far as the A38 would be by means of the same route from the motorway and then via access AC21 onto Factory Lane, East Huntspill. These construction routes have been agreed with the local highway authority following discussions about route options and the completion of traffic counts and other assessments. The local highway authority raised no road safety concerns regarding the use of Factory Lane as an access to the haul road system.
- 5.13.132 Factory Lane is a relatively narrow road of which the first 200m approximately from its junction with Church Road has a tarmac surface and is an adopted highway maintainable at public expense. Beyond this, the stone track provides access to a number of commercial premises and to Riverview Farm. During the Examination, the use of this section of track as an access to the proposed haul road system was queried and the Applicant reviewed a number of alternatives which are set out in Highways and Transportation Matters Note Regarding Alternatives to the proposed use of Factory Lane [Doc

8.21.1]. Consideration of the potential impacts on Riverview Farm of its use as a haul road is set out in Section 5.3 above.

5.13.133 Pre-application discussions were held with highway authority staff to identify acceptable access routes. While a number of options were considered, Factory Lane was favoured because:

- it is an existing road access, thus minimising the disruption of new construction;
- it presents the shortest route to the proposed development from B3141 Church Road to the north of the River Brue;
- it does not involve bridging the river; and
- it accommodates the highway authority's desire to restrict HGV movements between Bason Bridge (the northern part of East Huntspill north of Factory Lane) and Woolavington to the south on the B3141.

5.13.134 Subsequently, post-submission of the DCO application, two further options were considered. Although these options would avoid the need to use Factory Lane, there would continue to be a requirement for construction vehicles to travel south along Church Road through Bason Bridge to access bellmouth C-LD-BM01. The two options considered are:

- (1) removing the Factory Lane access entirely by providing access off the A38 to the north in Rooks Bridge; and
- (2) routing all traffic through the village to the south and gaining access via AC11 and a bridge over the River Brue.

5.13.135 Following the Traffic and Transport ISH, the Applicant met highway authority representatives to discuss other feasible alternatives to the use of Factory Lane. No further alternative accesses beyond those discussed at the pre-application and post DCO application submission stage were identified. A summary of the Options Assessment is set out in the Applicant's Highways and Transportation Matters Note Regarding Alternatives to the proposed use of Factory Lane [Doc 8.21.1].

5.13.136 The Joint Councils have reviewed the Applicant's Highways and Transportation Matters Note Regarding Alternatives to the proposed use of Factory Lane [Doc 8.21.1]. They confirm in their letter for Deadline 7 responding to the EXA's request for further information [REP7-010 para 1.4.6] that "... *the detail provided in relation to options that have been considered is accurate.*"

5.13.137 The technical and environmental assessment carried out for the options reveals that the Factory Lane DCO option would result in a construction period of 168 days, Option (1) of 312 days and Option (2) of 195 days. However, for Option 2, the duration of use of bellmouth C-LD9-BM01 would increase from 68 working days to 195. The summary assessment outlines the differences between the options in terms of HGV traffic movements and impact on residential amenity.

Further details of the Options Assessment made under various topic headings are set out in Appendix 1 to the Note. The assessment concludes that Factory Lane remains the most appropriate access point for the haul road north of the River Brue, as it provides the shortest construction duration, would result in fewer effects on residential receptors than Option 1 and avoids effects on and the requirement to cross the River Brue. The Panel agrees with that conclusion.

- 5.13.138 As part of site specific mitigation measures, the junction of the B3141 Church Road and Factory Lane has been the subject of a design exercise carried out by the local highway authority for the Applicant and the design submitted to the Examination [Doc 8.21.3]. This is to ensure that the junction is capable of satisfactorily carrying the additional construction traffic generated by the proposed development. This design for improving the junction to national standards and the highway authority's approval should be put in place before use is made of Factory Lane for access to the haul road or other construction activities and would be secured by a Requirement in the DCO. This is explained further in Chapter 9 of this report.
- 5.13.139 During the Examination, a total of 61 representations were received concerning traffic matters in the Bason Bridge and East Huntspill area [eg REP7-026 onwards 'Other submissions']. The potential disturbance that would result from the construction of the proposed development is a legitimate concern to local residents since they all have occasion to use the B3141 through East Huntspill and Bason Bridge. The concerns expressed include:
- traffic safety with particular regard to the narrow carriageways and the use of the road by children, cyclists and horse riders;
 - damage to underground services;
 - traffic volume;
 - parking restrictions; and
 - noise and vibration.
- 5.13.140 The highway authority has been involved with the Applicant in a consultation process over the choice of construction traffic routes. The highway authority has not drawn our attention to any concerns relating to the safety of all road users or the ability of the local road network to accommodate the additional construction traffic both in volume and structural capacity, including appropriate cover and protection for underground services.
- 5.13.141 While the limited parking restrictions proposed in the B3141/Factory Lane improvement scheme would be inconvenient for some residents, it is possible that these may only be in place during the relatively short duration of the construction work. It might also be the case that future changes of use in premises on Factory Lane would make the continuance of these restrictions desirable. It is relevant to note that no vehicle owner has a specific right to park his or her vehicle on the highway.

- 5.13.142 The noise of the additional construction traffic is examined in detail in Section 5.11 of this report. It is assessed as having a minor adverse or negligible significance of noise impact. The DMRB does not contain a description of how to assess ground-borne vibration and for construction traffic travelling on roads it is assumed to be proportional to noise and so the significance of the vibration effect is considered to be minor adverse or negligible. It is to be noted that most vibration and much traffic noise is generated by traffic travelling over defective surfaces and the timely repair of defects by the highway authority would minimise these impacts.
- 5.13.143 While the construction period for the proposed development is anticipated to be six years, the works in the southern section of the route, including East Huntspill are expected to take place during a two year period between quarter 2 2018 and quarter 2 2020 [Doc 5.29.1.2, Appendix 3B]. In addition, working hours would be restricted to those defined in Requirement 7, so that overnight working would only take place in closely defined circumstances.
- 5.13.144 In weighing this matter, the Panel has been very aware of the impact of the use of the B3141/ Factory Lane junction on local residents. However, on balance the Panel concludes that the considerations of the highway authority, and the measures proposed by the Applicant as a result of these, sufficiently mitigate the effects of this use to allow this route as an access to the haul road network. However, Riverview Farm would suffer particular harm. This is considered in Section 5.3 of this report.

Bellmouths

- 5.13.145 It is proposed that bellmouth accesses are constructed at each access to the haul road or construction compound from the highway and at each crossing of the highway by the haul road. These would provide a safe means of access and egress for construction traffic and provide security for the site and for highway users. The locations of bellmouths have been a point of discussion between the Applicant and the Joint Councils and there is broad agreement on the location of all but AC46 and AC47 at A371 Banwell Road/Castle Hill [Doc 8.3.12A Table 4.9 ID 12.1] as shown in Access and Rights of Way Plans Section C- Mendip Hills [Doc 4.4.4 Sheet 3 of 5]. Doc 8.3.12A Table 4.9 ID 12.2 records the Joint Councils' concerns over whether the Order limits are sufficient to contain the proposed bellmouths and over the technical approval process for bellmouth designs.
- 5.13.146 The Applicant confirms that the Order limits cover sufficient land to accommodate all the proposed bellmouths [Doc 8.3.12A, Table 4.9, ID 12.2] while the bellmouth schedule [Doc 5.3.2, Appendix 3E] indicates that the outstanding difficulty at the A371 Banwell Road/Castle Hill bellmouths is a technical disagreement over vision splays in a location where statutory speed limits change. Inspection by the Panel of the drawings and other information supplied by the Applicant indicates that this is the case.

5.13.147 Article 14 of the recommended DCO would give the Applicant power *"...for the purposes of the authorised development and with the consent of the relevant planning authority, after consultation with the relevant highway authority, form and lay out such other means of access or improve existing means of access, at such locations within the Order limits as the undertaker reasonably requires for the purposes of the authorised development."* In addition Requirement 22(1) of the recommended DCO states that *"No work to construct or alter any permanent or temporary means of access to a highway to be used by vehicular traffic shall commence until written details of the design and layout of that means of access has been submitted to and approved by the relevant highway authority."*

5.13.148 The need to apply for technical approval for various aspects of the proposed development is embedded in the draft DCO, in the detail of the CEMP and in various statutory requirements such as the Highways Act. The process by which approvals are obtained is a matter for the Joint Councils to determine either as a body or individually. The Panel notes that the s106 agreement [Doc 8.4B, Schedule 11] includes a service level agreement for major and minor requirements. The definition of 'major requirement' in the s106 agreement includes Requirement 22 'Highway works' and this requires the Councils to provide the service within a defined time and the Applicant to meet the Councils' reasonable costs in doing so.

5.13.149 The Panel considers that the powers given to the highway authority by Requirement 22 ensure that the bellmouths will be located, laid out and constructed in such a way as to comply with the relevant technical standards and in accordance with the reasonable requirements of the highway authority. The Panel is satisfied with these arrangements and consider that the Joint Councils' concerns in this area have been met.

Moorland Park

5.13.150 The location of the bellmouth accesses from the A370 at Moorland Park and the use of the A370 to the east of this site as a construction route have been raised in a number of Representations.

5.13.151 The Applicant's Comments on Written Representations [Doc 8.5 para 1.19.2 et seq.] give a detailed response to these concerns. It notes that:

- A full assessment of traffic and transport impacts has been undertaken, Transport Assessment [Doc 5.22.1], and mitigation measures proposed for those impacts in the Construction Traffic Management Plan [Doc 5.26.5C].
- The A370 to the east of Moorland Park is intended as a major secondary construction traffic route only to be used in emergencies if the M5 Junction 20 is closed preventing access to the 132kV works at Nailsea.
- The means of access to Moorland Park is now agreed in principle with the local highway authority and an agreement has been

secured with the owners of Moorland Park. The new access would not now use the Moorland Park access track but be some 100m to the east. This would remove the difficulties anticipated from the shared use of the existing entrance road [Doc 8.21.6].

5.13.152 The Panel concludes that the repositioning of the bellmouth entrances at Moorland Park improves the safety of the scheme and is appropriate.

Mead Lane access

5.13.153 During the Examination concern was expressed over the maintenance of access to a farm at Mead Lane, Sandford. The Applicant has confirmed that arrangements would be made to maintain access to the farm at all times. The CTMP shows no proposed construction traffic routes on public roads in this area but a haul road crossing (bellmouths 440-UG-BM12 and BM13) of Mead Lane [Doc 5.26.5C, Annex C, Plan 5B]. The management of bellmouth crossings is defined by the CTMP [Doc 5.26.5C, Section 6.13] which requires highway authority agreement to any proposed temporary traffic management measures.

5.13.154 The Panel considers that the measures proposed adequately meet the concerns raised.

PUBLIC RIGHTS OF WAY

5.13.155 This section deal with issues relating to Public Rights of Way (PRoWs):

- completeness and accuracy of PRoW information;
- management of PRoWs during construction period; and
- need for disruption and adequacy of mitigation for PRoWs, particularly in relation to site accesses.

5.13.156 Many of the issues relating to PRoWs such as amenity, planting, visual and socio-economic matters are dealt with under other headings within this report. This section deals only with PRoWs as a means of pedestrian access to the countryside.

5.13.157 As local highway authorities the Joint Councils are generally responsible for the maintenance of PRoWs. In the Joint Councils' Local Impact Report Appendix I Public Rights of Way [REP2-116] 11 points concerning PRoWs are raised and those related to pedestrian access are:

- disturbance of paths and temporary closure;
- temporary fencing;
- pre-condition footpath surveys;
- additional diversions required as an alternative to the temporary coast path;
- diversion of the Mendip Way;
- strategic link surfacing to the Strawberry Line; and

- lack of mitigation for PRoWs where no temporary diversions are planned.

5.13.158 These points have been the subject of discussions between the Applicant and the Joint Councils, progressed through SoCG that have also identified matters of continuing disagreement. The issues on which there was a failure to agree at the end of the Examination or where matters are agreed subject to the provision and agreement of additional information were set out in the updated SoCG [Doc 8.3.12A] and are discussed below.

5.13.159 The Joint Councils assert that the Public Rights of Way Management Plan [Doc 5.26.6B] requires amendment and additional detail before it can be considered a robust document [Doc 8.3.12A, Table 4.9, ID 12.34]. The detail sought in relation to the traffic and transport aspects of PRoWs concerns the duration of proposed closures.

5.13.160 The Joint Councils assert that a CIM fund is required to address the potential effects of all PRoWs within the Order limits being closed using Temporary Traffic Regulation Orders and Stopping Up Orders, and also the closure of additional PRoWs not listed in the ES [Doc 8.3.12A, Table 4.9, ID 12.46].

5.13.161 Article 7 deals with the temporary stopping up of streets and PRoWs while Schedule 7 lists those streets and PRoWs to be so affected. While there are no timescales attached to the temporary stopping up of PRoWs, their management will be subject to the terms set out in the CEMP [Doc 5.26.6C].

5.13.162 This gives indicative periods for temporary closure for each of the affected PRoWs. Of the 109 PRoWs concerned the indicative closure period are:

- 34 for one day;
- six for two days;
- 30 for three days;
- three for five days;
- four for two weeks;
- 18 for one month;
- two for three months;
- three for six months; and
- one for two years.

No indicative period is given in eight cases.

5.13.163 It was established during the Examination that details of all the PRoWs likely to be affected have been included in the DCO Schedule 7 Streets or Public Rights of Way to be Temporarily Stopped Up. In the event that longer closures or closures of additional PRoWs are required, the Public Rights of Way Management Plan contains a process for discussion and agreement with highway authorities and landowners [Doc 5.26.6C, para 3.3.2].

5.13.164 The Panel considers it unreasonable at this stage of the proposed development to expect the Applicant to have advanced the project design to such an extent that the exact timing and duration of PRow closures can be accurately stated. The Panel concludes that the possibility of the extent of PRow closures contemplated by the Joint Councils is highly unlikely to occur and this situation requires no further mitigation.

England Coast Path

5.13.165 The Joint Councils are concerned that footpaths WL23/61 and WL23/71, which currently form part of the diverted England Coast path during the construction works at the Hinkley Point C power station, will be disrupted by the Hinkley Line Entries element of the proposed development. The current condition of WL23/71 means that many walkers use paths to the south to join Middle Moor Drove, taking that road to the north to re-join the diverted Coast Path. The Joint Councils' concern [Doc 8.3.12A, ID 15.3.1] is that since the Applicant is seeking access rights over parts of WL/23/71 to use as a haul road, and Middle Moor Drove is designated as a major primary construction traffic route, the safety of walkers using the diverted coast path would be compromised by having no dedicated footway to use on this section of the coast path. This would inevitably bring them into close proximity with heavy construction traffic over a prolonged period with a consequent increases in the likelihood of accidents occurring.

5.13.166 This concern has been maintained by the Joint Councils and is set out in their case for a further supplemental s106 agreement which also includes reference to the two other sections of footpath discussed below [REP6-009, Appendix 2, Schedule E].

5.13.167 The Applicant's PRow Management Plan [Doc 5.26.6C, Table 2.2] gives indicative periods of temporary closure of two days for WL23/61 and two weeks for WL23/71. The revised construction programme [Doc 5.29.1.2, Appendix 3B] gives a start date for the Hinkley Line Entries of quarter 3 2018 and a finish date of March 2022 so that the present route of the England Coast Path could be disrupted for up to 45 months.

5.13.168 In weighing this matter the Panel has had regard to the requirement in NPS EN-1 (para 5.10.16) that *"In considering the impact on maintaining coastal recreation sites and features, the IPC should expect applicants to have taken advantage of opportunities to maintain and enhance access to the coast. In doing so the IPC should consider the implications for development of the creation of a continuous signed and managed route around the coast as provided for in the Marine and Coastal Access Act 2009."*

5.13.169 The Panel considers that the proposed development would present a safety hazard to users of the path and have an adverse effect on the continuity of the England Coast Path over an extended period of time. The Panel therefore concludes that the mitigation measures proposed

by the Joint Councils in this instance should be put in place. These are considered to have met the tests in EN-1, para 4.1.8. Since the Applicant has not acknowledged the need for this mitigation, its provision will not have been taken into account in the calculation of the amount agreed under Schedule 9 Part D (Long Distance Routes and Public Rights of Way) of the s106 Agreement [Doc 8.4B]. The sum of £11,575 sought by the Joint Councils for this work is considered by the Panel to be reasonable and proportionate.

The Strawberry Line

- 5.13.170 The Joint Councils seek *"... a contribution toward the cost of carrying out works and activities deemed necessary by the County Council for the strategic link improvements to the PRow known as the Strawberry Line...."* [REP6-009 Schedule E para 1.2].
- 5.13.171 The Strawberry Line is an eight mile long walking and cycling route. It crosses the line of the proposed development near Sandford substation from Nye Road, which is considered hazardous for walkers and cyclists, to continue on the original line of the disused railway formation. The Applicant proposes to incorporate a section of the Strawberry Line into the works connected with the Sandford substation, providing a short section of path from its current junction with Nye Road, running parallel and to the west of Nye Road, and then following the line of the former railway to the south west.
- 5.13.172 The Joint Councils consider that improvements to the Strawberry Line should be continued by improving a 70m stretch owned by the County Council to the south west of the proposed Sandford substation which would connect the realigned Strawberry Line to the footpath network. This approach is supported by the Parish Council [RR-113] and the Chair of the Strawberry Line Society [AS-002].
- 5.13.173 The Applicant considers that monies already committed in the s106 agreement are sufficient to mitigate the visual and other impacts on the PRow in this area impacts in this area. Moreover, the sum determined in respect of PRowS allows the Joint Councils to apportion fund to individual PRowS as they see fit.
- 5.13.174 The Panel can see no grounds for requiring further financial mitigation relating to the Strawberry Line based solely on transport criteria.

Hallen Marsh footpaths

- 5.13.175 The Joint Councils seek *"...a contribution toward the cost of the diversion of PRowS away from over-sailed and most impacted routes to upgraded existing lanes at Hallen Marsh."* [REP6-009 Schedule E para 1.3].
- 5.13.176 The proposed development oversails a number of PRowS in the Hallen Marsh area but does not physically interfere with their use as a means of pedestrian movement.

5.13.177 The Panel can see no grounds for requiring further financial mitigation relating to Hallen Marsh based solely on transport criteria.

Portbury footbridge

5.13.178 Under Option A arrangements 400kV conductors would pass above a footbridge over the M5 motorway at Portbury and the issue of clearances was raised by a number of parties during the Examination. The PRow has been confirmed by the Joint Councils [REP7-010, para 1.4.8] as being a footway/ cycleway with the status of a public footpath although it appears to be used regularly and without restriction by horse riders.

5.13.179 The Applicant's response to the ExA's Q12.16 indicates that minimum overall clearance to live conductors above the bridge deck would be 7.4m which would allow for the minimum permitted 3.1m passing clearance over a 4.3m passing object which would be more than sufficient for a tall rider on a large horse.

5.13.180 The Panel is satisfied that this point has been properly addressed.

OPERATIONAL CONSIDERATIONS

5.13.181 The impact on traffic, transport and PRow issues of the proposed development in its operational phase will be minimal, with only maintenance and repair functions being undertaken during the life of the infrastructure.

5.13.182 Concerns are expressed in written representations [REP2-016 and REP2-021] about the retention of parts of the haul road and the use of existing tracks to gain access to overhead lines and pylons for future maintenance works. The Applicant states that all construction access tracks would be removed on completion and access maintenance gained through rights granted under the DCO or by negotiation with land owners.

5.13.183 The Applicant notes that access for maintenance purposes would be limited to annual inspections on foot. In the event of a fault a repair team of up to six people would be required but only for a short time. The physical access would be gained by means of temporary roadways or the use of tracked vehicles [Doc 5.3.1, para 3.7.96 to 3.7.101].

5.13.184 Access for replacement transformers would require new applications under the ESDAL procedure (or its successor) for AILs and this would involve discussions on routing with the local highway authorities. A dedicated access for this purpose has been included in the design of the Sandford substation and accesses are already available at the other existing substations.

5.13.185 The Panel concludes that the operation of the proposed development raises no long term issues relating to traffic, transport or public rights of way.

DECOMMISSIONING

- 5.13.186 The eventual decommissioning of the proposed development is considered to present no greater impacts in relation to traffic, transport or PRoWs than those identified for the construction process.

5.14 OTHER ISSUES, INCLUDING ALTERNATIVES

- 5.14.1 This section of the report covers a number of important and relevant matters which have arisen during the course of the Examination. Some of these matters were not initially included in our initial assessment of principal issues. Nevertheless, we have given consideration to them and taken them into account in our overall assessment of the application.

ALTERNATIVES

National policy

- 5.14.2 EN-1, section 4.4, gives consideration to alternatives. It states that applicants are obliged to include in their ES, as a matter of fact, information about the main alternatives they have studied. It explains that in some circumstances, there are specific legislative requirements for the decision-maker to consider alternatives and in some circumstances, the relevant energy NPS may impose a policy requirements to consider alternatives. EN-1 imposes such a policy requirement in sections 5.3, 5.7 and 5.9 which respectively relate to biodiversity and geological conservation, flood risk and landscape and visual. EN-1 provides that the consideration of alternatives in order to comply with policy requirements should be carried out in a proportionate manner.
- 5.14.3 EN-1, section 3.7, relates to the need for new electricity network infrastructure. It states, at paragraph 3.7.10, that there is an urgent need for new electricity transmission and distribution infrastructure (and in particular for new lines of 132kV and above) to be provided. However, in most cases, there will be more than one technological approach by which it is possible to make such a connection or reinforce the network (for example, by overhead line or underground cable) and the costs and benefits of these alternatives should be properly considered as set out in EN-5 before any overhead line proposal is secured.
- 5.14.4 EN-5, section 2.8, states that wherever the nature or proposed route of an overhead line proposal makes it likely that its visual impact will be particularly significant, the applicant should have given appropriate consideration to the potential costs and benefits of other feasible means of connection or reinforcement, including underground and subsea cables where appropriate. The ES should set out details of how consideration has been given to undergrounding or subsea cables as a way of mitigating such impacts, including, where these have not been adopted on grounds of additional cost, how the costs of mitigation have been calculated.

The Environmental Statement consideration of alternatives

- 5.14.5 The ES Project Need and Alternatives [Doc 5.2.1] gives an outline of the main alternatives to the proposed development studied by the Applicant, including alternatives to an overhead line solution, alternative overhead line routes and alternative sites for associated development. It also sets out the main reasons for the Applicant's choice of the proposed development taking into account environmental effects. It explains some pre-application modifications to the route which have been made in response to the consultation process with a view to minimising land use impacts. In addition it indicates that some possible modifications were rejected and gives the reasons for that. Further information on the question of alternatives was provided by the Applicant in response to the ExA's Qs3.15, 3.17 to 3.20, 3.30, 21.1 to 21.5 and 2.21.1 to 2.21.2 [Docs 8.1.1, 8.1.3 and 8.18.1].
- 5.14.6 The Strategic Optioneering Report (SOR) (2009) [Doc 5.2.2.1, Appendix 2A] gives consideration to a number of different strategic options, including subsea routing. An option evaluation summary is set out at Table 5.1 of that report. The report states that subsea cable options would be extremely expensive and it is uncertain whether such connections could be made to work in the timescales available. A Hinkley Point to Seabank route could also conflict with emerging proposals for a Severn Barrage and with the need to maintain a deep water channel for shipping to enter Avonmouth Docks. All works in the estuary would affect the European and internationally designated nature conservation sites. It is concluded that for none of these subsea options could an economic, technically feasible and system compliant solution be delivered in the available timescale. They are therefore discounted.
- 5.14.7 The Strategic Optioneering Report Additional Information (2010) [Doc 5.2.2.1, Appendix 2B], gives consideration to both underground cables and subsea cables in the light of consultation which had taken place in connection with potential route corridors. This report was prepared to provide additional information to interested parties on: National Grid's policy with regard to underground cables; the range of subsea options that National Grid considered during its technical assessment, including a cost breakdown of each option; a discussion of transmission losses associated with HVDC technology, and a discussion of the transmission network's carbon footprint.
- 5.14.8 Table 10 of the report provides a cost summary for the subsea cable options and the two overhead line options. It concludes that given National Grid's statutory duties, which in effect seek to ensure that it makes the most economic technically compliant infrastructure investments, the comparison of costs associated with each option led to its decision to discount these options prior to the consultation on the potential route corridors.
- 5.14.9 The Strategic Optioneering Report (2011) [Doc 5.2.2.1, Appendix 2C], takes account of the consultation feedback received from stakeholders

and the general public. The report reviewed the remaining Potential Connection Options, namely, PC1: Hinkley – Aberthaw (subsea); PC2: Bridgwater – Melksham; PC3: Bridgwater – Nursling; PC4: Bridgwater – Seabank (onshore); and PC5: Hinkley Point – Seabank (subsea). Section 5 describes a number of technologies which could be used to deliver the connection options, namely:

- (a) AC underground cables;
- (b) GIL;
- (c) Voltage source HVDC systems; and
- (d) AC overhead lines.

The most relevant technology alternatives are assessed taking account of the specific parameters of each Potential Connection option and consultation feedback. Table 21 of the report provides an options summary.

- 5.14.10 The report concludes that the option of constructing an overhead transmission line between Bridgwater and Seabank would best meet National Grid's technical, economic and environmental obligations. It should remain the preferred option to take forward for further investigation, taking its statutory obligations and its licence standards into account.
- 5.14.11 An M5 Routeing Study (2012) [Doc 5.2.2.2, Appendix 2E] was produced in response to a representation from Tessa Munt, who was MP for Wells at the time. She suggested that an overhead line route closely parallel to the M5 motorway could be achieved which would affect few residents and would maximise distance from properties (as compared to National Grid's route corridors on which it had consulted).
- 5.14.12 This study concludes that the presence of a number of environmental constraints close to the motorway means that a consistently close and parallel route to the M5 would be unacceptable. The optimised M5 route would avoid these constraints and would be technically achievable, but would require taller and larger pylons (heavy angle towers) in a number of areas to change direction and achieve the necessary clearances from raised motorway crossings. The optimised M5 route would also introduce an overhead line into parts of the Somerset Levels and Moors where views from settlements and properties are largely rural in character and there is no existing electrical infrastructure present. The preferred route corridor is therefore considered to be the least constrained option for achieving a new overhead line route between Bridgwater and the Mendip Hills Area of Outstanding Natural Beauty (AONB).
- 5.14.13 The Project Need and Alternatives Selection of Preferred Connection (2011) [Doc 5.2.2.3, Appendix 2F], concludes that the option of constructing an overhead transmission line between Bridgwater and Seabank should be confirmed as the basis for the Hinkley Point C Connection and to meet the need to enhance the electricity transmission network in the South West and South Wales and

Gloucestershire region for all identified future generation and demand requirements. It also finds that Corridor 1, Option 1A, should be selected as the basis for developing a scheme for an overhead line connection between Bridgwater and Seabank with certain specified exceptions. Corridor 1 follows the route of the existing 132kV overhead line which runs from Bridgwater to Seabank. Corridor 1 Option 1A would involve replacing the 132kV line with a 400kV overhead line on a similar alignment. However, in some sections, following the exact alignment might not be possible because development has taken place since the original line was erected.

- 5.14.14 The Update to the Strategic Options Report Cost Tables and Relevant Appendices [Doc 7.4], provides an updated cost estimate for the 2011 Preferred Connection Option which takes account of additional design considerations that have been identified as part of further development work. The review further considers the technology options that could be used for each of the potential connection options identified in the 2011 Strategic Options Report. The report concludes that the increase to the estimated costs of the preferred option is not of an extent that would suggest any other option should be progressed.
- 5.14.15 The Project Need and Alternatives Connection Options Report (COR) (2012) [Doc 5.2.2.4, Appendix 2G] makes recommendations on the route of the "*draft alignment*" including the extent and location of undergrounding which National Grid should take forward for the Hinkley Point C Connection. The report concludes that there is a justification for undergrounding part of the connection within Study Area C – Mendip Hills AONB. Where undergrounding is not considered to be justified, it would be prepared to build overhead lines on any of the alignments identified in this report. However, the report identifies a draft alignment for each study area and for the connection as a whole.
- 5.14.16 The Pylon Design Options Report (2013), [Doc 5.2.2.6, Appendix 2K] considers the use of a new pylon design, the T-pylon, as an alternative to the traditional steel lattice design for the overhead line sections of the connection. It recommends that, for consultation, the T-pylon is adopted in preference to the steel lattice pylon along much of the overall route where overhead lines are proposed.
- 5.14.17 The Cable Sealing End Siting Study (2012) [Doc 5.2.2.5, Appendix 2J], considers the feasibility of options for siting two 400,000 volt (400kV) CSE compounds in the vicinity of the Mendip Hills AONB. It concludes that south of the Mendip Hills AONB Area B is considered to be the least environmentally constrained area for a CSE compound. A CSE compound within Area B would also be preferred with respect to proximity to settlement and individual properties (including Listed Buildings). North of the Mendip Hills AONB Area E is considered to be the least environmentally constrained area for a new CSE compound. A CSE compound within Area E would also be distinctly preferred to

one within Area D with respect to proximity to settlement and individual properties.

- 5.14.18 The Local Electricity Network Substation Siting Appraisal (2012) [Doc 5.2.2.9, Appendix 2N] sought to identify the least environmentally constrained zone for a new 400,000 volt (400kV)/132,000 volt (132kV) Grid Supply Point substation within an Area of Search West of Nye Road in the Sandford area of North Somerset. It concludes that Land adjacent to Nye Road in the north east of the Area of Search has been identified as the least environmentally constrained zone for the substation.
- 5.14.19 The Consultation Report [Doc 6.1.1 -6.2.10] which accompanied the application, led to a number of modifications to the proposed development in the light of consultation feedback. This also concludes that the acquisition of land and interests in land belonging to third parties could not be avoided. A structured change request process was implemented to consider all requests for changes to the scheme. The process is described in full in the Project Need and Alternatives chapter of the ES [Doc 5.2.1]. Whilst it was not possible to accept all of the suggestions put forward, in a number of instances the route of the overhead line and the position of pylons was amended. These changes are explained in the Project Need and Alternatives Chapter of the ES and the Consultation Report.

The Consideration of alternatives during the Examination

- 5.14.20 The Consultation Report [Doc 6.1.3] notes that a recurring theme during each stage of consultation was the desire of consultees to see the connection completely underground, constructed in the sea using subsea cables or constructed with an alternative technology that did not require overhead transmission infrastructure. The use of alternatives such as subsea and Gas Insulated Lines (GIL) was also a recurring theme of representations and objections made during the Examination. These matters were explored further at the OFHs, ISHs, and the Compulsory Acquisition Hearing (CAH). The ExA also asked a number of questions specifically concerning alternative options including various underground options, subsea and GIL. The Applicant's response to Q21.1 [Doc 8.1.3] summarises the available information relating to its consideration of alternatives.

The methodology used in the Applicant's assessment of the benefits of the overhead line option

- 5.14.21 At the OFH held at Nailsea on 18 March 2015, Dr Pratt outlined the benefits of a GIL option, and Cllr Chris Ambrose, representing Wraxall and Failand Parish Council, also spoke in support of alternative technology [EV-038]. During the afternoon session of that OFH, Dr Liam Fox MP was critical of both the choice of technology and the process whereby the overhead line option had been chosen for the majority of the route [EV-037], including a perceived lack of clarity in the weighted assessment of the various relevant factors. From the

information provided by the Applicant, he had been unable to ascertain the exact reasoning and assessment process which led to the rejection of alternatives.

- 5.14.22 Other IPs have raised similar points, for example, Nailsea Against Pylons [REP2-044] submits that there has been no proper analysis of socio-economic issues such as loss of amenity, health/medical costs, loss of tourism revenues, property blight, and the like. Badgworth Parish Council does not feel that the potential costs and the benefits of other feasible means of connection (undergrounding by a redefined route, undergrounding by GIL or subsea) have been adequately identified and explored [REP7-017].
- 5.14.23 Wraxall and Failand Parish Council [REP2-074] submit that alternatives should have been properly and fully considered in technical, financial and environmental terms, including a detailed assessment of the welfare and well-being of the general public. They request that we recommend to the Secretary of State that she require further and better technical and cost information to a substantive and comparable level for both the M5 tunnel route, with GIL or cable, and the subsea route, in either HVDC or HVAC, so that all the proposals include countryside value and socio-economic costs to provide real comparators to overhead lines and pylons.
- 5.14.24 The Applicant's response to the ExA's Q21.2 [Doc 8.1.3], provides further information relating to its rejection of underground/subsea options for additional parts of the proposed route. It gives an explanation of its statutory duty under section 9 of the Electricity Act 1989 and the need to balance its technical and financial obligations. The various studies undertaken had led it to the conclusion that PC4P was the option which best met its statutory duties and the relevant policy background.
- 5.14.25 In response to the ExA's Q21.3 and Q3.18, the Applicant provided further details to support the decision to reject undergrounding for parts of the route other than the AONB, including Tickenham Ridge, and explained its assessment of localised benefits of undergrounding. The Applicant's response to Q21.4 sets out the reasons why GIL was discounted as a strategic option. It also points to the consideration given to both HVDC and AC undersea cable in the SOR [Doc 5.2.2.1].
- 5.14.26 The ExA pursued the matter of the Applicant's assessment of the localised effects of undergrounding in Q2.3.11. The Applicant's response identifies the factors that were considered to differentiate between the technologies and route options, namely, landscape, visual amenity, historic environment, ecology, socio-economic and costs. It also identifies the role that professional judgement played in the conclusions reached. It did not apply a scoring or weighting system to each criterion considered in each study area. Instead, a range of criteria were used to consider effects of the various routing options and professional judgement was used to balance that information to

identify the project most consistent with its licence duties, statutory duties and the policy framework.

- 5.14.27 A detailed explanation was also provided as to how social impact had been assessed. This explains the approach adopted by the Applicant with the definitions of significance and receptor sensitivity presented in ES Tables 15.6 and 15.7 [Doc 5.15.1]. The likely socio-economic effects were identified and considered alongside other environmental effects during the iterative routing process and the environmental assessment. The COR identified potential effects on the historic environment using baseline data. That report identified a number of key issues in relation to heritage assets with archaeological interest and potential, and balanced historic environment considerations with other environmental and technical matters.
- 5.14.28 The question of alternatives was discussed at the ISH in connection with Landscape and Visual Impact including aboriginal matters held on 22 and 23 April 2015. The Applicant's summary of oral case [Doc 8.13.3.1] put forward at that hearing, explains further how the extra economic, social and environmental impacts of undergrounding were assessed.
- 5.14.29 The Applicant's assessment did not include a cost benefit analysis, as national policy contains no specific requirement for applicants to undertake such an exercise when determining whether the benefits from the non-overhead line alternative would clearly outweigh any additional economic, social and environmental impacts. The Applicant does not consider that a monetary value can properly be given to the effects of the proposed development on the environment.
- 5.14.30 Following a query from Compton Bishop Parish Council, the Applicant confirmed that the Natural Environmental White Paper is considered in the Ecology chapter of the ES [Doc 5.8.1]. The second document referred to by Compton Bishop Parish Council was the State of Natural Capital report. This is an emerging government-endorsed initiative which has not yet produced guidance for decision-makers on how to quantify and apply values to eco-system services pertaining to a particular project. Whilst National Grid is aware of the document, it used professional judgement, the approach normally used in these matters, to assess different benefits and, indeed, impacts of schemes.
- 5.14.31 The Panel has given serious consideration to points raised by IPs in relation to the Applicant's assessment of the extra economic, social and environmental impacts of undergrounding. We are nevertheless satisfied that the approach which has been adopted is reasonable, robust and proportionate. The balance to be struck between the Applicant's statutory and licence duties are appropriately considered as matters of professional judgement.
- 5.14.32 Whether the correct balance has been struck in this case is ultimately a matter for the Secretary of State's decision in determining whether development consent should be granted for the proposed

development. We do not consider that the adoption of a method to apply 'economic value' to social considerations, and the like, would bring any greater clarity to the process, nor does national policy require such an approach. We therefore find no reason to question the methodology of the Applicant's ES assessment of the preferred option, the localised effects of undergrounding, or the conclusions reached in that respect.

The technical feasibility of alternative options

- 5.14.33 Criticism has been made of the consultation process by many IPs. Compton Bishop Parish Council's Deadline 7 submission contains a detailed critique of the consultation process [REP7-008]. Wraxall and Failand Parish Council assert that at the start of the public consultation in 2009, National Grid had already established which overland route was most beneficial to them. Both the Parish Council and Dr Pratt are critical of information that was provided by National Grid at that stage. At a meeting held at Nailsea in November 2009 chaired by Dr Liam Fox MP, when questioned about the possibility of subsea, National Grid quoted the cost as being 17 times more expensive than overhead line and stated that the need to reverse the system in less than 200 milliseconds would make it technically impossible.
- 5.14.34 Dr Pratt has submitted a video recording and summary of the clip extract [REP5-032 and REP5-033]. He expresses the view that, had the information held by National Grid been passed to everyone at the start of this project, then the reluctant support of statutory bodies would have evaporated. He submits that statutory body decision-makers voted on the basis of incorrect facts given out by a monopoly supplier. The Deadline 7 submission of Nailsea Against Pylons [REP7-020] also raises concerns as regards the information provided by National Grid, in relation to alternative technologies.
- 5.14.35 Notwithstanding the information supplied in earlier years, at the ISH held on 22 and 23 April 2015, the Applicant confirmed that it does not believe the technical difficulties of a non-overhead line alternative, including GIL or a subsea line, would be insurmountable. An assessment of feasible alternative technology options is presented in Project Needs and Alternatives Appendix 2C [Doc 5.2.2.1]. Thus, when assessed purely in terms of their technical feasibility there can be no doubt that the GIL, or subsea options could physically be undertaken. It is therefore necessary to have regard to all other relevant factors.

The current costs of the proposed development

- 5.14.36 At the ISH, the Applicant was asked to comment on the current project costs. The Update to the SOR [Doc 7.4, Table 8.1 p.23] sets out the costs of the proposed development (PC4P) in 2014 prices. In that document, the cost of PC4P is stated to be £678m. This cost estimate includes the Mendip Hills undergrounding (£189m), T-pylon costs (£51m) and the WPD Works (£45m) but does not include any

risk/contingency adjustments. Weather risk can be quite substantial, causing delays to the programme.

- 5.14.37 Other costs not included within the update to the SOR, but for which there is an estimate, comprise: Land Rights Costs estimated to be £50.2m (Funding Statement [Doc 3.2]) which covers land acquisition, incentive payments, disturbance, injurious affection and professional fees; and s106 agreement costs. Discussions are on-going for the latter, but an estimate of the broad value of s106 mitigation is in range of £7 – 20m. Adding these costs to those of PC4P increases the cost estimate for the proposed development to between about £735-748m.

The subsea option

- 5.14.38 This option has broad support from many IPs. For example, Nailsea Against Pylons [REP2-044] points to there being existing subsea interconnectors between the UK and France, Netherlands, Ireland and Northern Ireland, with new interconnectors planned with Norway, Belgium, France/Alderney, Denmark as well as Scotland and offshore windfarms. They submit that it is inconsistent for the Applicant to justify undersea lines connecting West Scotland to England, but not connecting Hinkley to Avonmouth in the Bristol Channel, when the shortest straight line solution for both is subsea.
- 5.14.39 The supplementary and explanatory notes relating to the ISH on Landscape and Visual [Doc 8.13.3.2] include Note 1 which contains information on the environmental constraints to a HVDC link between Hinkley and Seabank. In summary, the Severn Estuary is afforded protection as an SPA, SAC, SSSI and Ramsar site. Although it may be possible to route the subsea cable largely outside of the SPA and Ramsar designations, the cable would need to travel through the SAC designated area and would come on-shore through the SPA/Ramsar designations to the Hinkley Point Power Station and through the Severn Estuary SSSI to make a connection to Seabank. Such a proposal would have a likely significant effect on the integrity of the designated areas which would require appropriate assessment under the Habitats Regulations. There is no guarantee that the appropriate assessment would conclude that there would be no adverse effect on the integrity of the European site.
- 5.14.40 The Applicant acknowledges that other HVDC cables have been routed through areas with similar designations to the Severn Estuary. The subsea and underground cables of the proposed interconnector between Belgium and England called the "*Nemo Link*" will pass through designated sites in the Pegwell Bay area. Another example, is the Western Interconnector from Hunterston in Scotland to Deeside in Wales, which was specifically routed around the Dee Estuary, SPA and Ramsar site, even though a longer route, to avoid those types of constraints.

- 5.14.41 At the ISH on Landscape and Visual matters, the question of the difference in costs of the PC4P option compared to the Hinkley Point - Seabank HVDC option was raised. The Applicant explained that the update to the SOR [Doc 7.4] reassessed the estimated capital costs of PC4P. These increased to £678 million through the inclusion of 400kV underground cables through the Mendip Hills AONB, the T-pylon and the mitigation works on the WPD network. These additional costs have arisen from the more detailed engineering work conducted on the proposed development. The alternative options have not been worked up to that level of detail and the assumptions that underpin those costs are based on straightforward installations with no obstacles. For the HVDC subsea option, a straightforward deployment has been assumed which does not take into consideration the particular challenges arising from laying submarine cables in the Severn Estuary.
- 5.14.42 The ExA's Q2.21.4 also asked whether the increased capital costs of the PC4P scheme compared to what was originally envisaged meant that the Hinkley Point to Seabank (HVDC) scheme might have warranted further consideration. In the Applicant's view, the engineering challenges associated with this option would add significant time and cost to the installation of the HVDC option [Doc 8.18.1].
- 5.14.43 The Panel considers it likely that the installation costs of an HVDC option between Hinkley Point and Seabank would, in practice, be significantly greater than the generic costs presented in the Update to the SOR Cost Tables [Doc 7.4]. Even on the basis of the figures provided in that report, the costs associated with the subsea option would be far greater than those of the proposed development. There are also a number of environmental constraints posed by the Severn Estuary. We are satisfied that the Applicant has given proper consideration to the costs and benefits associated with this alternative and the benefits of the subsea alternative would not clearly outweigh the extra economic and environmental impacts.

The GIL option

- 5.14.44 The written representations of Wraxall and Failand Parish Council [REP2-074] and Dr Pratt [REP2-057], strongly support the alternative GIL option routed in a tunnel adjacent to the M5. The Parish Council explains that because of frustration with the consultation process, it commissioned a report from Professor Claus Neumann, an expert in the design and installation of GIL. The Neumann report was published in June 2013. This majored on the comparison of GIL with other solutions. It presents a range of cost information which concludes that the cost difference between the "*Hybrid*" overhead and undergrounding solution and GIL would be between 3.3 and 3.6 times greater for GIL on a lifetime basis.
- 5.14.45 At the OFH held at Nailsea on 18 March 2015, Dr Pratt provided a helpful explanation of GIL technology. At Deadline 3, he submitted three appendices in support of his oral case at the hearing which

provide further detailed information relating to that system including photographs demonstrating the laying procedure; details of maintenance requirements; and reports from Claus Neumann and Siemens [REP3-039, REP3-040 and REP3-041].

- 5.14.46 Dr Pratt's speaking note submitted in advance of the ISH held on 22 April 2015 [EV-058] sets out his case for the use of GIL and highlights various parts of EN-1 and EN-5 from which he derives support. At Deadline 4, Dr Pratt submitted additional documents and scientific papers relating to GIL mentioned at the ISHs on 22, 23 and 30 April, including various quotes for inflatable pylons; the correspondence trail for the Neumann Report; and the effects of electric and magnetic fields on pacemakers [REP4-029 and REP4-030]. There were also additional submissions, plans and photographs provided by Wraxall and Failand Parish Council at Deadline 4 [REP4-036 and REP4-037]. The latter give updates on the matter of the cost of GIL compared to overhead lines, and the Applicant's concern as to whether there would be sufficient time to install GIL alongside the M5 in a formed tunnel.
- 5.14.47 In response to the ExA's Q21.4 and Q21.5 [Doc 8.1.3], the Applicant sets out its comments in relation to the GIL option and the Neumann report. It explains why GIL was discounted by it as a strategic option and its concerns in relation to the analysis and conclusions set out in the Neumann report.
- 5.14.48 At the ISH on Landscape and Visual Impact, the Applicant indicated that it did not accept the calculation of lifetime costs set out in the Neumann Report which was commissioned by Wraxall and Failand Parish Council. However, it acknowledged that comparing a fully GIL solution with the proposed development using National Grid's unit costs [Doc 7.4, Table D.3], and those in the Electricity Transmission Costing Study (IET Report), show that the range of lifetime costs for a GIL solution would be between 3 and 4.2 times more expensive than the application scheme.
- 5.14.49 In response to the ExA's Q2.21.2 [Doc 8.18.1], the Applicant confirmed its calculation that a like-for-like comparison would give a range of 3.0 to 4.2 times higher for the comparative cost of a GIL alternative. It accepts that the cost ratio described in the Neumann Report falls within this range. The Applicant recognises that there are aspects of the Neumann Report that are consistent with its own findings, including that overhead lines are the most economical solution, and that undergrounding of both GIL and cables are expensive in capital terms. Therefore, hybrid solutions should be used with undergrounding incorporated as part of the connection in the most sensitive areas.
- 5.14.50 The Deadline 6 submission of Dr Pratt on behalf of Wraxall and Failand Parish Council [REP6-015], puts forward a direct comparison of key components of the proposed development and the Pratt/Ambrose alternatives. The Deadline 7 submission of Wraxall and Failand Parish Council [REP7-025] requests that the Secretary of State require the

Applicant consider the alternative proposal of GIL in a formed tunnel adjacent to the M5. It sets out its estimated costs for GIL in comparison to the PC4P scheme and 40 year transmission losses and the impact benefits which it states would arise through the use of GIL compared to the proposed development. The key conclusion presented is that the PC4P design would produce an extra 40,558t of CO₂ and would be more expensive than undergrounded GIL when National Grid's 40 year transmission losses are reworked and various impact benefits taken into consideration.

- 5.14.51 The Applicant's letter of the 17 July 2015 [REP8-012], comments on the latest cost submission prepared by Wraxall and Failand Parish Council. The Applicant states that these costs do not correlate with any other industry standard costs, or with its most recent discussions with the GIL manufacturer Siemens in May 2015. At the ISH on Landscape and Visual Impact, the Applicant also drew attention to the M5 Routeing Study, and submitted that whilst this study was undertaken to explicitly consider an overhead line, similar constraints would affect the feasibility of an underground cables route close and parallel to the M5 motorway.
- 5.14.52 The Panel has noted the most recent figures provided by Wraxall and Failand Parish Council, and in particular its calculation of lifetime transmission losses, which have been derived from the Applicant's figures [Doc 7.4]. Those submissions do not dissuade us from the view that, overall, overhead lines represent the most economical solution given that undergrounding of both GIL and cables are likely to be capitally expensive in comparison. That is the inevitable conclusion that we reach from our consideration of the evidence as a whole, including the findings of the Neumann Report.
- 5.14.53 The supporters of GIL also point to benefits in terms of the impact on health. At the ISH held on 30 April 2015, on behalf of the Applicant, Dr Swanson explained that magnetic fields generated by GIL are lower than those generated by overhead lines and discussed whether GIL was safer than overhead lines. He confirmed that although GIL produces lower magnetic fields, the magnetic fields produced by overhead lines, underground cables and GIL all complied with the relevant exposure guidelines. He also confirmed that underground cables and GIL do not produce any electric fields due to the earth shielding and the protections applied to the conductors. Given the conclusions reached by the Panel in Section 5.7 of this report in relation to the impact on health of electric and magnetic fields, we do not consider this to be a material factor in support of GIL, or in choosing between different technology types.
- 5.14.54 We conclude that the technical feasibility of the GIL option is not in question, although the practicalities of routing alongside the M5, as suggested by some IPs, would require further consideration. Although untested over the lengths involved, there would also be a realistic prospect of the GIL alternative delivering the same infrastructure capacity in at least the same timescale as the proposed development.

There would undoubtedly be benefits associated with the use of this technology, including in visual impact terms. Furthermore, it has emerged that the costs of such an option would be far less than was originally considered to be the case. Nevertheless, the capital costs associated with this form of technology are likely to be significantly more than for the overhead line solution. We have given consideration to the benefits of GIL but do not find that they would outweigh the significant additional capital costs that would be incurred, even when the additional transmission losses associated with overhead lines are taken into account.

Tickenham

- 5.14.55 The supplementary and explanatory notes relating to the ISH on Landscape and Visual including aboriginal matters [Doc 8.13.3.2] Note 2, explains the consideration given to undergrounding at Tickenham Moor. The additional costs associated with undergrounding in this location would be about £83.2m. The earlier Section 5.8 of this report concerning Historic Heritage considered the option of undergrounding at Tickenham.
- 5.14.56 The Panel concludes that the adverse effects on ecology and buried archaeology, and the increased costs of undergrounding, mean that the benefits from the localised use of underground cables as an alternative to an overhead line at Tickenham Moor would not be justified within the policy context set by EN-1 and EN-5.

Other localised undergrounding options

- 5.14.57 The Applicant explains that, in accordance with paragraph 2.8.9 of EN-5, an assessment was undertaken on a study area by study area basis to determine whether the benefits of the non-overhead line alternative would clearly outweigh any additional economic, social and environmental impacts. Also that the technical difficulties would be surmountable. This was documented in the COR [Doc 5.2.2.4, Appendix 2G].
- 5.14.58 At the ISH, the Applicant was asked to provide further information on the cost of undergrounding in various sections of the route. It confirmed that the average cost of the underground cabling works at £22.18 million per kilometre, and it provided the costs of undergrounding in each Section using the route lengths of the proposed development. The figures are for Section A - £58.8m; Section B - £328.7m; Section D - £314.3m; Section E - £88.1m; Section F (Option A) - £34.4m; Section F (Option B) - £63.9m; Section G (Option A) - £234.0m; Section G (Option B) - £227.3m [Doc 8.13.3.1].
- 5.14.59 The Panel has had regard to the various benefits that would result from undergrounding additional sections of the route. We nevertheless conclude that these would be clearly outweighed by the factors identified in the COR.

Conclusions

- 5.14.60 The Panel has considered the question of alternatives in the light of the relevant policy and legal requirements.
- 5.14.61 In Section 5.9 of this report, concerning Landscape and Visual Impact issues, we conclude that the Applicant's approach to the use of the Holford Rules and consideration of alternatives is proportionate and that its routing appraisals meet the tests set out in EN-5. The Biodiversity Section 5.2 concludes that there would be no significant harm to biodiversity and geological conservation interests that would require further consideration to be given to reasonable alternatives. For Flood Risk, Section 5.4 has also given consideration to alternatives and the need to direct development away from areas at highest risk. In Section 5.8, Historic Heritage, we have given specific consideration to the prospect of undergrounding part of the route in the vicinity of Tickenham Church, but reach the conclusion that having regard to various factors, including the costs associated with such an alternative, undergrounding would not be justified in this location.
- 5.14.62 The Panel has borne in mind that from a policy perspective, EN-1 does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option. There can be no doubt that the proposed development represents an efficient and economical means of connecting the new electricity generating sources to the electricity transmission and distribution network to supply current and anticipated future levels of demand.
- 5.14.63 The Applicant acknowledges that the alternative options such as subsea and undergrounding, including GIL, would be technically feasible. There is therefore more than one technological approach by which it would be possible to make the necessary connection. However, the ES provides information about the main alternatives studied. The ES has included an indication of the main reasons for the Applicant's choice, taking into account the environmental, social and economic effects. Further information has been provided by IPs and the Applicant during the course of the Examination. We are grateful for the information submitted by all parties on this topic allowing the matter to be fully explored. The Panel is satisfied that the costs and benefits of these alternatives have been properly considered.
- 5.14.64 In relation to undergrounding, either the whole or part of the route, we have taken into account the landscape in which the proposed development would be set, the additional cost of undergrounding or subsea cabling and the environmental and archaeological consequences. We have also had regard to other relevant matters including socio-economic, historic heritage and flood risk issues. Whilst the technical difficulties associated with a non-overhead line alternative are surmountable, we are not satisfied that the benefits of such an option would clearly outweigh any extra economic, social and environmental impacts.

- 5.14.65 The Panel conclude that there are no policy, or legal, requirements that lead us to recommend that consent be refused for the proposed development in favour of another alternative.

CLIMATE CHANGE

- 5.14.66 EN-1, section 4.8, sets out how the effects of climate change should be taken into account when developing and consenting infrastructure. It explains that if new energy infrastructure is not sufficiently resilient to the possible impacts of climate change, it will not be able to satisfy the energy needs as outlined in Part 3 of EN-1. It requires that applicants consider the impacts of climate change when planning the location, design, build, operation and where appropriate, decommissioning of new energy infrastructure. The ES should set out how the proposal will take account of climate change.
- 5.14.67 The Planning Statement [Doc 7.1, paragraphs 3.3.44 to 3.3.55], explains the Applicant's approach to the demands of climate change. It has investigated whether future climate change might require new designs of overhead lines, but found there is more likely to be a reduction in the risk of a simultaneous occurrence of ice on the wires and intense wind gusts.
- 5.14.68 The impact of flooding has been assessed through Flood Risk Assessments (FRAs) which have considered the route, CSE compounds and Sandford substation. The risk of flooding has informed the location of the Sandford substation by identifying a site which was outside of the high risk flood zones and informed the design of these components through confirming the height of water sensitive equipment above ground level. The Applicant has also developed sustainable drainage principles as part of its substation design in order to minimise surface water run-off from this site.
- 5.14.69 All topic chapters within the ES include an assessment of the potential effects of climate change on the results of the general assessment, taking into account the possible change to future baselines. The Panel is satisfied that the ES climate change assessment undertaken by the Applicant is in accordance with the requirements of section 4.8 of EN-1.

RADAR/ AIR NAVIGATION

Civil and military aviation and defence interests

Radar and air navigation

- 5.14.70 The overarching EN-1 identifies at Section 5.4 civil and military aviation and defence as a topic that should be considered in the assessment of any nationally significant energy infrastructure project.
- 5.14.71 Because of the proximity of Bristol International Airport and the presence of a number of helicopter landing sites in the general area of

the proposed development this topic is identified as a Principal Issue at Appendix C of the ExA's letter of 28 November 2014.

- 5.14.72 Answers to the ExA's first written questions Q13.1 to Q13.6 to the Applicant about various aspects of the potential impact of the proposed development on radar and air navigation detail consultations with the Civil Aviation Authority and others required by Paragraph 5.4.11 of EN-1 [Doc 8.1.2, Section 13.1].
- 5.14.73 A relevant representation received from the Airspace Regulator of the Civil Aviation Authority [RR-010] notes that the proposed development would not constitute aviation en-route obstructions for civil aviation purposes. It notes that aerodrome safeguarding responsibilities lie with aerodrome operators and asks that Bristol International Airport and a number of heliport operators be consulted. It also states that the Ministry of Defence should be notified of the construction of any power lines over 80ft (24.4m approximately) in height.
- 5.14.74 As a result of this Representation further consultations were undertaken with:
- National Air Traffic Service
 - Ministry of Defence (through the Defence Infrastructure Organisation)
 - Bristol International Airport
 - Avonmouth Heliport
 - Berwick Lodge Heliport
 - Great Western Ambulance Service National Health Service Trust
 - Great Western Air Ambulance charity
 - Avon and Somerset Constabulary
- 5.14.75 Some of these consultations elicited no response. In the case of organisations that responded on other matters, no mention was made of aviation or radar issues.
- 5.14.76 No requirement to fit warning lights to pylons is identified. The Applicant confirms [Doc 8.1.2, Section 13.4] that the Defence Geographic Authority would be informed of the exact location and height of proposed pylons when a detailed design is developed.
- 5.14.77 On the basis of the evidence gathered the Panel considers that the proposed development has no impact on aviation or radar interests.

THE CROSSING OF THE FORMER GOVERNMENT PIPELINE AND STORAGE SYSTEM

- 5.14.78 At Deadline 7, a submission was made on behalf of CLH Pipeline System Ltd (CLH) [REP7-038] the new owner of the relevant parts of the former Government Pipeline and Storage System (GPSS) assets and business. Where the Hinkley Point C connection would cross CLH's pipe-line or run close enough to potentially interfere with the safe operation of CLH's high pressure fuel pipe-line, CLH requires protective works to be undertaken.

- 5.14.79 CLH seeks a separate schedule in DCOs to deal with protective provisions for its pipe-line network. They indicate that they have not made as much progress with the agreement and protective provisions with National Grid as should have been made at this stage in the process. They are continuing to negotiate terms to allow the development envisaged by the draft DCO to be constructed safely and to allow the continued operation of CLH's important piece of infrastructure.
- 5.14.80 The Applicant's letter of 17 July 2015 [REP8-012], indicates that the terms of a legal agreement, including protective provisions, have been agreed between the parties and the documentation to give effect to that agreement is expected to be completed shortly.
- 5.14.81 Since the CLH submission was made at Deadline 7, shortly before the close of the examination, the ExA did not have time to seek further information about the CLH pipeline and the basic requirements for the protective provisions. The Panel respectfully suggests that this is a matter upon which the Secretary of State may wish to seek further information before any development consent is granted.

WASTE MANAGEMENT

Policy and legislation

Overarching National Policy Statement EN-1

- 5.14.82 The requirements of EN-1 are summarised in Table 2.1 of the Applicant's Waste Management Plan (WMP) [Doc 5.26.2C, para 2.1].
- 5.14.83 EN-1's requirements for Waste Management (para 5.14.6) are:
- (a) Proposals for managing any waste produced and preparation of a Site Waste Management Plan.
 - (b) Information on the proposed waste recovery and disposal system for all waste generated by the development.
 - (c) An assessment of the impact of the waste arising from development on the capacity of waste management facilities for at least five years of operation.
 - (d) Measures taken to minimise waste produced and waste disposal.
- 5.14.84 Requirements on the decision-maker include consideration of the extent to which the applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction, operation and decommissioning of the proposed development (EN-1, para 5.14.7).
- 5.14.85 EN-1 para 5.14.7 also states that the decision maker should be satisfied that:
- (i) Any such waste would be properly managed, both on-site and offsite, and that the waste from the proposed facility could be

dealt with appropriately by the waste infrastructure which is, or is likely to be, available.

- (ii) Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and that adequate steps have been taken to minimise the volume of waste arisings, and of the volume of waste arisings sent to disposal, except where that is the best overall environmental outcome.

Revised EU Waste Framework Directive (2008/98/EC)

- 5.14.86 In summary, the Waste Framework Directive requires Member States to take appropriate measures to encourage the prevention or reduction of waste production and the recovery of waste by means of recycling, re-use or reclamation or the use of waste as a source of energy. Hazardous waste is defined and various types of waste are classified through a List of Wastes [LoW].

Waste Management Plan for England

- 5.14.87 The Waste Management Plan for England, December 2013 (WMPE) provides an overview of waste management in England and complies with Article 28 of the revised Waste Framework Directive for Member States. One of the objectives of the WMPE is that by 2020 at least 70% by weight of construction and demolition waste is subjected to material recovery.

National Planning Policy for Waste (October 2014)

- 5.14.88 National Planning Policy for Waste (NPPW) requires that waste planning authorities use a proportionate evidence base in preparing local plans, to identify the need for waste management facilities and to identify suitable sites and areas for those facilities. In identifying needs, authorities should drive waste management up the waste hierarchy and away from disposal.
- 5.14.89 In determining planning applications for non-waste development, waste planning authorities are asked (para 8) to ensure that:
- the likely impact on existing waste management facilities is acceptable;
 - the development makes sufficient provision for waste management; and
 - it promotes good design to ensure that waste management facilities are integrated with the rest of the development and with the local landscape.
- 5.14.90 Authorities must also ensure that waste handling from construction and operation maximises recovery opportunities and minimises off-site disposal (para 8).

Other legislation

- 5.14.91 The WMP states that other relevant legislation should be taken into account including:
- Hazardous Waste Regulations 2005;
 - Environmental Protection Act 1990 (Duty of Care);
 - The Waste (England and Wales) Regulations 2012; and
 - Waste (England and Wales) Regulations 2011 as amended.
- 5.14.92 The Environmental Protection Act states that a Duty of Care is owed by any person who produces, carries or disposes of controlled waste.
- 5.14.93 The Waste Regulations 2011 impose a duty on all persons who produce, keep or manage waste, to apply the waste hierarchy. The principles of the waste hierarchy are also known as 'Sustainable Waste Management Principles'.

Regional and local policy

- 5.14.94 Regional and local policies are said by the Applicant to set core strategies and as such are not directly relevant to the proposed development's WMP [Doc 5.26.2C, para 2.2.2].

The Waste Management Plan

Compliance with EN-1 and national policies

- 5.14.95 The WMP sets out in Table 2.1 how it addresses the requirements of EN-1 [Doc 5.26.2C, para 2.1.1]. The remainder of Section 2 explains in outline how various policy and legislative requirements are addressed.

Sustainable Waste Management Principles

- 5.14.96 Section 3.2 of the WMP sets out how there would be policies and procedures to promote the beneficial use of waste material. The WMP embodies principles of the waste hierarchy:
- waste prevention;
 - waste re-use;
 - waste recycling;
 - waste recovery; and
 - as a last resort - waste disposal.

Policy and good practice

- 5.14.97 The Applicant and WPD have established corporate policies and procedures for waste management and the WMP states that a set of listed standards would be employed to limit the environmental effects arising from waste. As all wastes are governed by the legislation, a duty of care is imposed on the producer of waste and has to be transferred formally through an authorisation process. [Doc 5.26.2C

Section 3.3] Procedures for waste storage are also prescribed (para 3.3.24).

- 5.14.98 Non-hazardous waste would be accompanied by a Waste transfer Note when passed to a registered waste carrier for removal from site (para 3.3.13 to 3.3.15).
- 5.14.99 Hazardous waste would be identified by reference to LoW. If not listed it would be examined and analysed (para 3.3.16) and, if identified, hazardous waste would be disposed of appropriately (para 3.3.17 to 3.3.23).

Site Waste Management Plan

- 5.14.100 Requirement 6 of the recommended DCO provides for Site Waste Management Plans (SWMPs) to be produced for each of the major project components: overhead lines, cables, substations and CSE compounds. These comprehensive plans would include identification, classification, estimation of volumes and transfer procedures [Doc 5.26.2C para 3.3.25 to 3.3.30). The WMP also sets out in section 5, an example of the format for a SWMP.

Volumes of waste

- 5.14.101 Section 4 of the WMP addresses the types and volumes of waste that might be expected to arise from the proposed development. An electricity transmission connection of this magnitude is rare so example data from other major cables and overhead lines projects were used to formulate estimates of likely waste volumes.
- 5.14.102 Table 4.1 of the WMP predicts that the proposed development has the potential to generate about 203,000 tonnes of waste. However, this is an indicative figure pending preparation of the SWMPs at the detailed design stage.
- 5.14.103 Although this might seem to be a significant quantity, the panel notes the extreme length of the project and the steps that would be taken within the SWMPs to minimise the production of waste. The SWMPs would seek to minimise waste in accordance with the waste hierarchy i.e. adopting the principles of reduction, re-use, recycling and recovering value from materials before disposing of them. This would accord with the general principles set out in National Policies and legislation.

Examination

- 5.14.104 In the ExA's first round questions the Applicant was asked to explain how waste arising from vegetation clearance would be dealt with [PD-007, Q9.22]. It also asks whether the waste arisings would be burnt on site or taken away, as no references had been found at that time in the CTMP or elsewhere in the ES.

- 5.14.105 The Applicant's response [Doc 8.1.2] explained in detail how the WMP and Biodiversity Mitigation Strategy (BMS) would come in to play and referred also to the need to fit in with the EA 2010 position statement on the use of wood. Additionally burning of waste on site would be prohibited and waste journeys had been accounted for in traffic estimates.
- 5.14.106 The WMP (para 3.2.13) indicates that stripped vegetation will be recovered for re-use which might include being taken to a composting, anaerobic digestion or biomass plant. Generally the re-use of plant material would follow the principles of sustainable waste management (para 4.3.7).
- 5.14.107 Another question (Q15.83) referred to the waste from demolition and site clearance and in answer the Applicant pointed to the WMP saying that disposal would be a last resort and that disposal sites had not yet been proposed.
- 5.14.108 In the LIR the Joint Councils asked for improvement in the WMP requirements for waste container labelling and management. This has now been covered in the final version of the WMP.

Panel's conclusions on waste management

- 5.14.109 With reference to table 2.1 and the remainder of the WMP, the Panel concludes that the methods and systems set out are adequate to meet the requirements of EN-1 with respect to waste management. With respect to the NPPW the Panel acknowledges that it is not possible as yet to identify sites for disposal of waste but in any event disposal is a last option and the WMP objectives are designed to drive waste up the waste hierarchy. The WMP is therefore in conformity with NPPW.
- 5.14.110 The Panel is therefore satisfied that the WMP makes adequate provision for waste management in accordance with policy guidelines and objectives.

5.15 PORTBURY/ PORTISHEAD - ROUTE OPTIONS A AND B

INTRODUCTION

- 5.15.1 We explained in Chapter 2 of this report that, in relation to the Portishead/ Portbury area, the Applicant has included two options within the DCO application, namely, Option A and Option B. An ISH concerning the Portbury/ Portishead optional connection alignments was held on 22 May 2015 and continued on 15 June 2015. During the Examination, the Applicant submitted separate draft DCOs for both Option A and Option B. The latest versions were provided at Deadline 7 [Docs 2.1.1E and 2.1.2E].
- 5.15.2 In this Section of the report, we shall give separate consideration to the generic impacts of the proposed development that we consider to be relevant for this part of the route. We shall assess the adverse impacts and benefits of each option under the various topic headings

in order to make an appropriate comparison between them. Then, we shall weigh all important and relevant matters on this issue in the balance, before we conclude upon the question of which option should be preferred. Finally, we shall set out our recommendation on this matter to the Secretary of State.

- 5.15.3 The Design and Access Statement provides an outline of the proposed development [Doc 7.2]. The new 400kV overhead line between Bridgwater, Somerset and Seabank substation, near Avonmouth, would be in three parts. The third part would comprise the construction of a 400kV overhead line from the proposed Sandford substation to Seabank substation.
- 5.15.4 It explains that in the Portishead/ Portbury area, two options are included within the DCO application: the Applicant's preferred route (Option A); and an alternative route (Option B). It sets out the different elements of the proposed development and the differences between the two routes. The total length of the 400kV overhead line from Sandford substation to Seabank substation would be about 29.8km (Option A) and the alternative route is about 31.2km (Option B) [Doc 5.3, Table 3.6].
- 5.15.5 The proposed development would also involve the construction of a short section of 132kV underground cables of about 170m for Option A, and 620m for Option B, to allow the 400kV overhead line to cross an existing 132kV overhead line to the north east of Portishead.
- 5.15.6 The Planning Statement [Doc 7.1] indicates that, in Section F, after crossing the M5, Option A would run broadly parallel and to the north of the motorway, crossing the A369, the Portbury Hundred. It would then run adjacent and parallel to the route of a disused railway before entering the Portbury Docks complex. It would pass through part of Portbury SNCI, remaining close to the motorway, and would cross the A369 at the cross roads with Station Road/ Sheepway. A short traverse across fields to the east of Sheepway would bring the overhead line to the disused railway which forms the southern boundary of the Portbury Docks.
- 5.15.7 Option B would largely follow the alignment for the existing W Route 132kV overhead line (which would be removed from the south western extent of Nailsea to Portishead substation and replaced by 132kV underground cables). The 400kV overhead line would run to the east of the present alignment of the W Route, crossing Sheepway at a point west of Sheepway Gate farm and continue north until it reaches the southern-most extent of the drain 'Old Sea Bank', which forms the western boundary of Portbury Wharf residential area. It would then turn to the north east and would be at its closest to Portbury Wharf about 250m to the east, before turning slightly east. The proposed route continues north east, passing to the south east of Portishead substation, turns slightly east again and then sharply south east to run parallel and to the north of the alignment of the existing G Route, crossing The Drove Rhyne (SNCI) into the Portbury Docks complex. In

Section G, the two possible routes meet at a common point south of the Portbury coal stock yards.

- 5.15.8 The ES Project Needs and Alternatives [Doc 5.2.1], states that the least expensive option would be Option A, at £3.02m, with the estimated cost for Option B being £5.12m. The lifetime costs for Option A would be about £9.01m with Option B being some £15.26m.
- 5.15.9 The Applicant undertook detailed environmental and technical studies to inform the decision on the route and technology to be taken forward in the Portbury/ Portishead area which resulted in the identification of the Option A and Option B routes. This appraisal is set out in the Connection Options Report (COR) [Doc 5.2.2.4, Appendix 2G]. The Applicant's response to Q2.10 indicates that the COR, and the recommendations on the draft route contained within it, formed the basis of a public consultation between 6 November and 18 December 2012. During this consultation, the Applicant received a considerable amount of feedback which expressed opposition to the draft route in the Portbury area.
- 5.15.10 In response to feedback received from both statutory consultees, and members of the community, during the statutory Stage 4 consultation, the Applicant reviewed its proposals in Section F. Whilst the Applicant does not consider that any new information came to light that would alter its original judgements, as presented in the COR, it recognises the issues raised in representations, and the strength of local feeling regarding the proposals, and as a result included both options (together with any development associated with each of these options) within its DCO application. The Applicant considers it preferable to allow the public engagement in the debate as to which option is better to continue into the examination stage of the application, with the Secretary of State making the ultimate decision on which option should be built.
- 5.15.11 In response to the ExA's Q12.9 [Doc 8.1.2], the Applicant explains that the draft DCO was originally set out so that the powers sought would apply, in any event, to either option save for the provisions in Schedule 1 'authorised development', and the works to be authorised by the DCO in respect of either Option A or Option B. The Applicant intends that one of the options, and not both, may be constructed. In order to achieve greater clarity, the Applicant submitted at Deadline 4, an Option A Version, and an Option B version of the draft DCO. The latest versions of the Option A and Option B draft DCOs were submitted at Deadline 7 [Doc 2.1.1E and Doc 2.1.2E].
- 5.15.12 We shall now consider the benefits and impacts of the two options under the relevant topic headings.

LANDSCAPE AND VISUAL

Introduction

- 5.15.13 Landscape and visual matters relating to the two route options in Sections E, F and G (the route sections in which the route option is proposed) were raised in a number of RRs, OFH comments, followed with WRs and evidence at the OFH on 22 May and 15 June 2015.
- 5.15.14 The Applicant submitted the assessment of the two route options in its ES, contained in separate volumes on landscape and visual effects [Doc 5.6.1 and Docs 5.7.1 to Doc 5.7.3]. During SoCG discussions between the Applicant and the Joint Councils, a comparative review of the anticipated visual effects on receptor views between route Options A and B was recommended by the Joint Councils. This was provided by the Applicant at Deadline 3 [Doc 8.6.2, Appendix E]. The Applicant also submitted a table of comparison of residual effects for the two route options in response to our first round questions, which was updated before the Portbury/Portishead ISH [Doc 8.2.27A] and after the ISH to include some additional Portbury residential properties in the assessment [Doc 8.2.27B]. The visual receptor plans for the area were updated to incorporate these changes [Doc 8.27.8] and consolidated in a reassessment of visual impact for Portbury receptors [Doc 8.27.7].
- 5.15.15 A number of unaccompanied site inspections (USIs) and one accompanied site inspection (ASI) were undertaken in the Portbury and Portishead area. During the ASI, we viewed the proposed alignment from within Elm Tree Park generally and specifically from the photomontage viewpoints (VPF8, VPF10, VPF11, VPF12). During USIs we walked from Sheepway to a position on footpath G1.F5 on the River Avon beyond VPG8, following the proposed alignment of Option A, visited locations in Portbury, Portishead, Portbury Wharf Nature Reserve and walked part of the Gordano Round through Prior's Wood (including visiting all the photomontage viewpoints and those viewpoints suggested by Portbury Parish Council) [EV-166].
- 5.15.16 We heard landscape and visual evidence at the Portbury/Portishead ISH from the Applicant, the Joint Councils, Portbury Parish Council, Portbury Women, Dr Liam Fox, a number of residents from Portbury, and two residents from Portishead. Mr Legge, resident of Village Quarter, Portishead, commented on the perception that he felt had arisen from the Application use of 'preferred' in describing Option A and how this could have led to an assumption that Option A would be selected, and hence lack of engagement from Portishead people. The lack of engagement was mentioned by a former Portbury Parish Councillor, and was backed up with copies of Portishead Town Council minutes, showing no further action was taken by the Town Council because it was considered proposals would not affect the town [REP2-005].

- 5.15.17 The Joint Councils stated in an LIR appendix on route options in Section F: *"During the consultation process leading up to October 2012, there was little comment, let alone opposition, from residents in Portishead, to the route remaining in the existing route corridor i.e. Option B. There is no evidence that Portishead Town Council have received significant representation from local residents about this issue."* [REP2-116, Appendix H]. However, the Applicant assured us that consultation meetings had taken place in Portishead as well as Portbury in 2009 and 2010 and that there had been considerable feedback and objection to the overhead line [EV-136].
- 5.15.18 Both Mr Legge and the chair of Portbury Parish Council indicated during the ISH, that they respected the other's position, but had different opinions on the merits of the route options. We listened to evidence from Portbury Parish Council and a number of local residents and represented groups, who considered the landscape and visual evidence backs Option B; and mainly from Mr Legge from Portishead, who considered the landscape and visual evidence backs Option A. The Joint Councils presented evidence in favour of Option B.

Options A and B – landscape and visual effects: methodology and compliance with Holford Rules

- 5.15.19 In this section, we report on some methodology items, which are of relevance to both options for landscape and visual effects. We may refer to, but will not detail matters covered previously in Section 5.9 of this report.

Rationale for selecting the preferred option

- 5.15.20 The Design and Access Statement (DAS) sets out the rationale for the Applicant's preferred route; which is based on detailed route corridor studies, which are set out in the ES project need and alternative documents [Docs 5.2.1, 5.2.2 and 5.2.3]. The landscape and visual, reasons which were restated at the Portbury/Portishead ISH are set out below (the Alternative Blue Route is Option A):

"Within Study Area F all overhead line options would result in effects on landscape character, however the Alternative Blue Route (parallel to the M5 Motorway) would result in the lowest negative effects as it is shorter, more direct, minimises sharp changes in direction and contains landscape effects to the corridor of the M5 and the A369. As a result of this, and its avoidance of the Portbury Wharf Nature Reserve, this option was also considered to be most compliant with the Holford Rules. All overhead line routes would also result in negative effect on views, particularly from the settlements of Portishead and Portbury. However, the Alternative Blue Route offered the potential to have the most positive effects on views from the largest number of high sensitivity receptors. This route was also considered to minimise effects due to its shorter length and more direct route along the existing infrastructure of the M5." [Doc 5.2.1, para 2.6.58].

Holford Rules

- 5.15.21 We have reported on and quoted the Holford Rules earlier in commenting on alternatives in Section 5.9 on landscape and visual effects. EN-5 requires developers to follow the Holford Rules for routing approaches for new overhead lines (para 2.8.5). The Applicant has referred us to the fact that the Holford Rules are for route planning purposes and were one of the factors used in assessing the differences between Option A and Option B. A number of IPs submitted written evidence regarding the applicability of the Holford Rules to the process of assessing a preferred option. Evidence was also given at the Landscape ISH, when we heard from the Applicant about the iterative process used for route selection, which utilised the Holford Rules [EV-059 to EV-062].
- 5.15.22 Differences of opinion are expressed by IPs regarding the way in which the Applicant has applied the Holford Rules in coming to its recommended preference for Option A. The Applicant helpfully set out its position in response to points made by Portbury Parish Council's WR [Doc 8.5, para 3.5.4 to 3.5.15]. As well as the Applicant, Mr Legge and Portbury Parish Council were the main IPs making comments on compliance with the Holford Rules in this location. The Joint Councils also made reference to them in their LIR [REP2-116, Appendix H] and at the ISH. We report points of view below. We include comments that are applicable to other topics in this section such as biodiversity and heritage and historic assets in the way in which they relate to the Holford Rules.
- 5.15.23 The Applicant stated at the ISH that in its view Rules 1, 4 and 7 and Supplementary Notes 2 and 3 do not assist in differentiating the routes because the differences in compliance are very minor [Doc 8.13.11 para 5.8] and the key rules that apply are Rules 3 and 5 [EV-137]. Mr Legge states in his opinion that Rules 1, 5 and 7 are not applicable [RR-103]. We disagree with Mr Legge's contention that Rule 5 is not applicable and agree with the Applicant's case for Rule 5, and we consider Rule 2 also carries some weight. There are no representations on Rule 1, other than the Applicant who confirms that both routes avoid any major areas of highest amenity value.
- 5.15.24 In relation to Rule 2, the Applicant sets out which SNCIs are affected by Option A and Option B (which we cover in more detail under biodiversity, below) and states that Option A would pass closer to St Mary's Church, Portbury (a listed building which is covered in more detail under heritage assets). In summing up both options at the end of the ISH, the Applicant stated that the one factor that weighs in favour of Option B is the effect on St Mary's Church, Portbury, adding that these effects are assessed as minor adverse [EV-141]. Mr Legge made the point that Option B is damaging to the Portbury Wharf Nature Reserve and indeed makes a deviation to go through the Nature Reserve. The fact that Option B has more impact on the Portbury Wharf Nature Reserve is not in question. The matter, as reported in the biodiversity part of this section, is the degree to which

the impacts for Option B are greater than for Option A, as the dismantling and undergrounding effects of the 132kV lines through the Nature Reserve are the same for both options. We agree with the Applicant that Rule 2 would favour Option B, the degree to which the Panels considers this is the case is set out in the heritage and biodiversity sections.

- 5.15.25 The statistics the Applicant provides for demonstrating Option A's greater compliancy with Rule 3 are: Option A is approximately 1.4km shorter than Option B, and would require two fewer pylons and is predominately straight whereas Option B requires a number of changes of direction and uses more angle pylons. Mr Legge pointed out that even the supporters of Option B agree that the Option A route is shorter and straighter.
- 5.15.26 The Joint Councils made the point in their LIR and at the ISH that in considering the Applicant's justification based on Rule 3, it should be noted that Option A requires five more lattice pylons (which are taller than T-pylons). For Option A the transition from T-pylon to lattice pylon takes place at Pylon LD101, which is northeast of Portbury Church, north of the motorway. For Option B the transition takes place at Pylon P-LD106, in the Port Area west of the M5 bridge over the River Avon.
- 5.15.27 At the ISH, we asked the Applicant about selection of pylon design for Sections F and G of the route (another point which is required to be considered in mitigation under EN-5, para 2.8.10). The Applicant explained that T-pylons had been selected because of their lower height, so they are less visible and there would be less structure visible against skylines in this area (relevant to Rule 4), reducing public and private views of them. Receptors benefitting from this reduced effect are set out in the Applicant's written summary of oral case [Doc 8.13.11, para 4.7.2] and also in the pylon design options report [Doc 5.2.2.6]. In terms of the decision about where the transition takes place from T-pylon to lattice along Option A, this had been driven by potential effects on existing businesses and the possible railway reinstatement scheme because lattice pylons occupy a narrower corridor than T-pylons. In terms of Option B, the Applicant explained that use of the T-pylon would result in one less pylon in the Portbury Wharf Nature Reserve.
- 5.15.28 The Panel's attention was drawn during the ISH and in the Joint Councils' LIR to the words "*other things being equal*" at the start of Rule 3. Mr Legge referred to this, as did Portbury Parish Council and some Portbury residents, asking us to consider whether in fact other things are equal. Mr Phipps (writing in his own capacity, prior to election as Parish Council chair) pointed out that in his view the Rules are intended to help limit landscape effects, thus the general principle of running in a straight line can be modified, dependent on 'other things' [REP2-054]. Another Portbury resident's opinion was that Rule 3 should not be used as a mantra for following the motorway. The Joint Councils' view was that the curve on Option B is quite gentle and

is a sympathetic solution as it would not require many angle pylons. The Applicant pointed out that T-pylons LD97 to LD101 are angle pylons.

- 5.15.29 We have given consideration to the statement 'other things being equal' and whilst there is no question about the length and directness of Option A, this Rule should not solely sway the decision as to which route is preferred because, as IPs have pointed out, there are other points to consider such as the use of the taller lattice pylons; and other factors covered under different Rules. The Joint Councils express the view that containing adverse landscape effects in one corridor is not necessarily beneficial when considering impacts on Portbury village and users of the M5 [REP2-116, Appendix H, para 5.9]. We agree that the significance of other adverse landscape and visual effects needs to be considered in parallel.
- 5.15.30 For Rule 4, the Applicant made the case that both route options would be visible against the sky in places: Option A for receptors in Portbury and Option B for receptors in Portishead [EV-135 to EV-137]. Mr Legge stated Option A follows this rule more closely because of its position in relation to the base of a hill and that Option B is more exposed to the skyline because of the flat nature of the ground all the way across to Avonmouth. A Portbury resident pointed out that the backdrop for views from Portbury village across the M5 would be skyline, as it would be from Elm Tree Park. Another resident from Portbury considered that, at the very least, the compliance is neutral. We are persuaded by the Applicant's point of view, as residents from both Portbury and Portishead pointed out areas from their local knowledge where the proposed overhead line would be seen against skyline from views in their respective settlements.
- 5.15.31 In terms of Rule 5 and its associated notes, the Applicant reported that Option A would result in slightly greater tree loss, but less hedgerow loss than Option B. The figures were confirmed and are reported below under landscape effects. We asked about the quality and function of trees as well as tree numbers and were assured that this had been taken into consideration in the assessment of landscape effects. However the qualitative assessment of the trees removed for Option B was not included in the Application version of the Arboricultural Impact Assessment (AIA). We asked for this and it was provided in an update to the AIA at Deadline 6 [Doc 5.21.1A, Doc 5.21.2A and Doc 5.21.3.1A to 5.21.3A] and we asked for the Joint Councils' comments for Deadline 7. The Joint Councils found the arboricultural impacts of the two route options are quite similar, but considered the loss of trees specifically planted along The Portbury Hundred to be unfortunate, which leads to their preference for Option B [REP7-010]. We think the qualitative evidence provided is indeed persuasive towards better compliance by Option B because of the difference in value categories of tree groups to be removed now shown. This reinforces views based on local observation expressed from Portbury residents at the ISH. We report more on this below under landscape effects.

- 5.15.32 The Applicant considers Option A complies with Rule 6 more than Option B, because Option A avoids other overhead lines and Option B crosses the BW 132kV route in the vicinity of the Portishead substation. Mr Legge made a similar point. No-one disagreed. Nor do we, but we think this is marginal. However we note that in the case of Option A, the existing BW 132kV route would remain in place all the way to the Portishead substation, resulting in lattice pylons supporting the BW 132kV line being closer to Portishead residential properties than for Option B, where the section of 132kV line from the substation to just south of T-pylon P-LD101 would be undergrounded. This is assessed as minor beneficial in the landscape assessment. We would also point out that both options would remove two lines and replace them with one. The Applicant did not cite Rule 6 as a key one in terms of compliancy for differentiating the options, and we agree with that position.
- 5.15.33 The Applicant states that both routes approach the urban area of Avonmouth through the industrial zone of Portbury Docks. A number of points are made regarding the note on Rule 7, which refers to alignments with regard to the effects of amenity on existing development and the Supplementary Note to the Rules on avoiding routing close to residential areas as far as possible on grounds of general amenity. In this regard the Applicant pointed out that Option A passes approximately 130m from the edge of the main village of Portbury at its closest point, separated by the M5 motorway and The Portbury Hundred [Doc 8.5, para 3.5.13].
- 5.15.34 We think the reference to the edge of the village misses the point. Portbury is a settlement bisected by a motorway and the Applicant's dimensions fail to acknowledge that Option A passes closer to properties such as Cole Acre (F1.H43), (30m), Elm Tree Park (F1.H40b), (60m), and three other residential property receptors north of the M5 (F1.H40a, F1.H41, F1.H42) ranging from 60m to 80m from the nearest point of the development [Doc 5.7.2.2, Appendix 7F]. It also seems to overlook properties E1.H43 and E1.H44, south of the M5, which are stated as 65m and 70m respectively from the nearest part of the proposed development [Doc 5.7.2.2, Appendix 7E].
- 5.15.35 The Panel also notes in the Applicant's consideration of the Holford Rules during an earlier route corridor appraisal, that the village of Portbury was found to be one of a number of significant obstacles to a route following the eastern side of the M5.

"In accordance with National Grid's guidance on the siting and routing of infrastructure and a supplementary note to the Holford Rules (guidelines on overhead line routing), route corridors were chosen which seek to avoid residential areas as far as possible on grounds of general amenity. They also sought, as far as possible, to keep high voltage overhead lines away from smaller lines, distribution poles and other masts, wires and cables in order to avoid the creation of a 'wirescape'...."

"A route to the east of the M5 motorway was investigated and one of National Grid's initial route corridors (Corridor 2) followed this route within and north of the Mendip Hills wherever possible. However, there are significant obstacles that do not make it feasible to closely follow the eastern side of the M5 motorway all the way, including:

- *[other settlements and]*
- *the village of Portbury."* [Doc 5.2.1 para 2.5.9 to 2.5.10].

5.15.36 Mr Legge argued that because Option A runs close to Portbury with a population of 827, whereas Option B runs close to Portishead with a population far in excess of 20,000 (or 8,000 in just the Village Quarter), the number of residents impacted by Option B is roughly ten times greater than Option A. There was some discussion about the way in which the Applicant has aggregated residential receptors, but as reported in Section 5.9 we are satisfied with the Applicant's approach in this regard. We queried some aspects of the Applicant's assessment which we report below. These queries were also raised by IPs.

5.15.37 The Joint Councils referred to the number of receptors which would experience adverse effects of moderate significance in Portbury, compared with none in Portishead [REP2-116, Appendix H]. This is indeed the case, although the Applicant has referred to Option B resulting in fewer moderate adverse effects on Portishead [Doc 8.13.12, para 18.6]. We think this must refer to four properties on Sheepway and the footpaths through the Nature Reserve as there are no moderate adverse effects during operation shown for receptors on the edge of the main settlement of Portishead.

5.15.38 The Panel has a number of concerns about the way the Applicant has used the visual assessment to reach conclusions, which we report below.

Major significance of effects

5.15.39 At the Portbury/ Portishead ISH, we asked the Applicant to compare the visual assessment of major adverse significance of effect at Droveaway Farm with locations in Portbury. The Applicant explained that Droveaway Farm had been wrongly assessed and later confirmed the assessment there is moderate adverse significance for visual receptors [EV-135 and Doc 8.13.11, para 4.2]. We have explained in the landscape and visual Section 5.9 of this report that we accept the Applicant's position with regards no residual major adverse effects on landscape and visual receptors, based on its description of major at this ISH. However, we consider there have been moderating influences in reaching assessment outcomes and that this has led to under-assessment in what is a very wide moderate category. We report specific examples where we and other IPs consider assessments are incorrect or anomalous in the Portbury/ Portishead locations further under the topic headings below.

Reliance placed on existing trees and vegetation

- 5.15.40 At the Portbury/ Portishead ISH, we asked the Applicant about reliance on existing trees in the landscape and visual assessments. The Applicant explained that the assumption was that existing trees would remain unless they were required to be removed for the proposed development or where the Applicant was aware of other development that would result in tree removal. The Applicant also explained that the assessment in Portbury had been undertaken in the winter when the trees had no leaves, so it presents a worse-case scenario in terms of screening effects from trees [EV-135].
- 5.15.41 There was some discussion about the possible re-opening of the railway line that runs close to the M5 which, it was considered by locals, would result in more tree removal in the area close to the proposed route for Option A. The Applicant explained that no allowance had been made because there was no information on what the effects might be and this project, as another NSIP, would need to go through examination, when any tree removal would be assessed in a similar way [EV-135 to EV-137]. We agree with the Applicant's position in this regard, although we appreciate the points made by the local residents in terms of the screening function the existing vegetation is performing, particularly between the M5 and The Portbury Hundred as we observed on USIs.
- 5.15.42 The matter of reliance on existing vegetation in the assessment also arose later in the Portbury/ Portishead ISH, in a point made by the Joint Councils. They consider the Applicant has under-assessed residual effects for residential receptors F1.H24 to F1.H27 (development along the edge of Portbury Wharf Nature Reserve) in Option B because these houses have structure planting which was installed at the time the houses were built and has not yet reached its full height and screening potential. The Joint Councils argue that the effect after 15 years in the Applicant's assessment should have taken the effect of this vegetation into account, reducing the significance of residual effect from minor adverse to negligible [EV-136]. In this regard we give some weight to the Joint Councils' case, having undertaken a further USI after the ISH.

Photomontages

- 5.15.43 Photomontages of predicted views from receptors in and around both Portbury and Portishead were included in the Application ES. We asked for a further photomontage that would represent views from Portishead based on a request from Avonmouth CPRE (VPF9) and further photomontages were also requested to give more views of St Mary's Church, Portbury to assist the heritage assessment.
- 5.15.44 Evidence provided by the Applicant to confirm matters raised by some IPs about the photomontages allayed concerns of any inaccuracies. In response to Q2.8.7, Portbury Parish Council wondered, as did we, why the Applicant had chosen not to use one of the Parish Council's

recommended viewpoints for a photomontage from the eastern gateway to the village where Portbury High Street meets footpath E1.F23 north and the west to the Church [REP5-017]. This view was observed on more than one occasion on USIs. We agree with the Parish Council, it is an important panoramic view, in which proposed Option A pylons would be visible. However we note that users of the footpath, E1.F23 are predicted to experience moderate adverse effects on views during operation for Option A and negligible for Option B. We are satisfied therefore that the assessment considered the effect from this vantage point for Option A (although we are not convinced anything would be visible for Option B).

Options A and B – landscape and visual effects: assessment

The Landscape Character of Portbury and surrounding area

- 5.15.45 'The Landscape Character of Portbury and surrounding area', is a preliminary report forming the basis of an emerging Parish Plan for Portbury. It was submitted in evidence by Portbury Parish Council to support the case for Option B [REP2-092 and REP2-093] in response to our first round questions. The Applicant confirmed it had received a copy well in time to take into account in the LVIA, it had been considered and the assessment of likely significant effects of the proposed development is that Option A would not cause great harm to the landscape objectives identified by the Parish Plan [Doc 8.36].
- 5.15.46 The Applicant pointed out at the ISH and in response to comments made by Portbury Parish Council that *"for the purpose of a nationally significant infrastructure project, the emerging Portbury Parish Plan has no statutory status or function and, although not immaterial, it carries no weight as a planning policy document."* [Doc 8.36]. We accept that planning argument. Reviewing the response to Q12.2, the point of difference between the Applicant and Portbury Parish Council is whether the pylons proposed along Option A are tall industrial structures and whether they would be prominent on the skyline. The Applicant referred us to the visual assessment tables [Doc 5.7.2.2, Appendix 7E].
- 5.15.47 The Parish Council argued that the tree removal necessitated by the proposed development would take away some of the current vegetation backdrop, planted for visual buffering purposes between the village and the Port. Therefore the structures would be more prominent against the skyline. The lattice pylons are visible in the photomontage from VPE7. We have not given weight to the 'The Landscape Character of Portbury and surrounding area' document because of its planning status, but we think the Parish Council's points regarding tree removal are valid and relevant to the visual assessment and Holford Rules.

Tree removal

5.15.48 As described in Section 5.9, the AIA provides detailed information on trees to be removed and trees which may be affected. A qualitative assessment of the vegetation for removal is provided for Section F, Option A [Doc 5.21.1, Section 7.12]. There were some queries about the tree removal numbers at the ISH, which were subsequently confirmed by the Applicant to be:

- Option A: trees removed (581), trees pruned (279), tree groups removed (7.66ha); and
- Option B: trees removed (545), trees pruned (266), tree groups removed (8.47ha) [Doc 8.27.2].

The Applicant also provided information extrapolated for the effects from the parts of Section F affected by Option A and Option B only. This is as follows:

- Option A: trees removed (94), trees pruned (51), tree groups removed (0.85ha); and
- Option B: trees removed (57), trees pruned (38), tree groups removed (1.70ha) [Doc 8.35.1 and Doc 8.2.27B, top of page 28].

5.15.49 At the ISH (22 May 2015), the Applicant stated that numbers of trees to be removed simply provided a useful numerical differentiator, but that the LVIA findings reflect the quality and function of existing trees. At the adjourned Portbury/ Portishead ISH on 15 June 2015, when discussing biodiversity, we heard from two Portbury residents who had walked the Option B alignment and had concluded that whilst the numbers of trees might be similar the quality of those shown for removal was different. They thought the trees proposed for removal in Option B were lower in quality. In response to this submission by Portbury Parish Council, the Applicant's response was that there is no significant difference in species, designation or quantum of losses; Option A has a greater number of individual tree losses, which are generally larger trees and would therefore take longer to replace and Option B has a greater number of tree group losses [Doc 8.35.1]. A comparison of effects from the AIA on both route options is provided [Doc 8.2.27B].

5.15.50 We disagree with the opinion that there is little difference. We do not think that this finding is borne out by the evidence submitted elsewhere for landscape and visual assessments as described in the ensuing paragraphs.

- (a) We have compared the photomontages showing tree removal which were submitted at Deadline 2 [Doc 8.2.16 to 8.2.19]. Taking those views representative of residential views from Portishead (VPF4, 5 and 6), there is very little difference between Option A and Option B and those tree groups which differ are all identified in green as "*Proposed tree removal not distinguishable in the view*". In the main this is because the trees to be removed

are part of larger tree groups. The Portishead photomontages do not have any blue lined tree groups "*Proposed tree removal within the view but would be difficult to recreate the background*". Looking at the viewpoints represented by photomontages from Portbury, the significance of the trees in the blue line category can be seen from residential views and those from the footbridge over the M5.

- (b) A comparison of the visual assessments [Doc 5.7.2.2, appendices 7E and 7F] of properties included in the summary of visual effects of greatest significance [Doc 8.6.2, Appendix E] identifies more properties affected by tree removal in Option A than Option B.
- (c) The role the trees perform in particular between the M5 and The Portbury Hundred and around the property Cole Acre was emphasised by Portbury residents and the Parish Council in opinions given at the ISH. The property Cole Acre (F1.H43) is particularly affected by tree removal and if the 'may be affected' tree belt needs to be removed, views from and to this property would be opened up further.
- (d) Comparing the value categories of trees and tree groups, available in the updated AIA [Doc 5.21.1B, inset 7.19A, 7.19B, 7.20A, 7.20B], it can be seen that Option A affects two veteran trees, which the Joint Councils consider should be an important consideration because of their scarcity value. The Applicant argues that this loss is counterbalanced in Option A by the need to re-pollard four veteran willow trees which would be a benefit and increase their longevity. However comparing the value categories of the tree groups to be removed, it can be seen that for Option B all the tree groups to be removed are Category B, whilst for Option A well over half are in Category A (category definitions are set out in the AIA [Doc 5.21.1B, Table 3.1 and Doc 5.21.2A, Appendix 21B]).
- (e) We agree with the Joint Councils' view that hedgerow loss, which is greater for Option B is of lesser concern because the scope for replacement is greater than for trees [REP7-010, section 2].

5.15.51 Taking into consideration the views expressed and the points listed above, the Panel considers that Option A would result in the greater adverse effects of tree removal when the qualitative and functional aspects of the trees to be removed are considered together.

Portbury Wharf Nature Reserve

5.15.52 The biodiversity effects are reported in the biodiversity section below. Regarding landscape, both options have an impact in terms of the undergrounding and removal associated with the two 132kV lines. In respect of effects on landscape character, we agree with the Applicant's assessment that the construction activities for both options would have moderate adverse effects, which reduce to minor adverse with distance from activities. In visual terms, the representative receptors of greatest significance identified by the Applicant are the footpaths that run across the Reserve and the bird hide. Whilst we

agree with the Applicant's assessment that there would be some moderate adverse effects during operation in the case of Option B and some beneficial effects for Option A, we disagree with the residual effect for footpath F1.F9 being moderate adverse. This footpath runs close to the existing overhead lines, so it seems to us that the beneficial effect of their removal has not been factored in.

- 5.15.53 Mr Legge was keen to point out that the effects of the proposed development on the Nature Reserve affect a large number of people because of the levy towards its upkeep which is currently paid by residents. However we heard that the local authority is in discussion with the landowner to acquire the land and remove the levy. Mr Legge also pointed out that the Reserve is used by large numbers of visitors. Being public, the Applicant has assessed the views as having high susceptibility to change.
- 5.15.54 The Panel agrees Option B would have greater adverse effects than Option A in terms of landscape and visual effects on the Portbury Wharf Nature Reserve.

Footpath adjacent to the Portbury Docks

- 5.15.55 The Applicant's summary of visual effects of greatest significance includes those to users of three sections of the footpath which runs from Sheepway north of Elm Tree Park and then along the dock edge (G1.F1, G1.F2 and G1.F3 [Doc 8.2.27B and Doc 8.27.8]). The assessment concludes the visual effects would be of moderate adverse significance during construction and operation. The Applicant's summary does not mention that this route is also National Cycle Route 26 (F2.S4.6). The cycle route is assessed in the visual assessment tables [Doc 5.7.2.2, Appendix 7I], but not in the summary for the route options.
- 5.15.56 We walked this route in both directions and observed that it is well used by pedestrians and cyclists. If, as we have mentioned in the landscape Section 5.9, the Applicant had used a more fine-grained method for assessment, we consider the effects on this footpath and cycle track would have been at the upper end of the moderate category. It is assessed as moderate adverse significance of effect during operation for both footpath and cycle track under Option A. Notwithstanding the industrial backdrop (which the Applicant considers reduces the magnitude of effect [Doc 5.7.2.2, Appendix 7G]), we consider the scale of change with the introduction of the overhead line and pylons in a very narrow footpath corridor, both T-pylons and lattice pylons being visible in the same view and the removal of vegetation at road crossings would be significant [Doc 5.6.1, para 6.4.245].
- 5.15.57 We agree with the Applicant's inclusion of users of these footpaths in the summary of visual effects of greatest significance. We are not persuaded that appropriate weight has been given to this adverse effect in reaching the preference for Option A, as clearly there would

be no effect for Option B and the national cycle track was not considered.

Portbury Village, including properties north of the M5

- 5.15.58 The Applicant's visual assessment is contained in Application ES descriptions for both Sections E and F because the M5 which bisects the village forms a Section break. For Option A the majority of the visual effects during construction are predicted to be of minor adverse significance and for Option B they range from minor adverse to negligible [Doc 5.7.1.2, para 7.5.366 to 7.5.440 and Doc 8.27.8]. Much of Portbury Village along Station Road and High Street, some footpaths, the playing fields, allotments and the property Cole Acre are assessed as experiencing moderate adverse effects during operation. We agree with the Applicant's assessment of significance of effect on views during operation for Option B of minor adverse, negligible or no change [Doc 8.6.2, Appendix E, Section 4]. We speculate whether construction effects would err more towards negligible and no change than the Applicant's assessment.
- 5.15.59 There was discussion at the ISH regarding Elm Tree Park (F1.H40b), which we visited on our ASI, and for which photomontages were provided. We disagree with the Applicant's assessment that the effects during operation would be minor adverse for Elm Tree Park for Option A. This was raised in our Q12.4, based on RRs we had received from local Portbury residents. The Applicant argued that the magnitude of effect would be low adverse, based on views being masked by intervening properties and contained by mature trees, and views from the site boundary being heavily filtered [Doc 8.1.2, response to Q12.4]. This was assessed from outside Elm Tree Park (it being private land) and using VPE10 as a supportive representative view. VPE10, looking south from the footbridge does not take in any of the boundaries of Elm Tree Park.
- 5.15.60 Once access was granted, photomontages were provided. Based on the views shown in VPF8 and VPF10, we think it is clear that the T-pylon is quite visible and is above existing vegetation and not contained by vegetation. We felt the side-on view of the T-pylon means the insulator array is less obvious, but the Applicant is satisfied with the angle of view and considers views of more insulator array would be reduced by intervening park homes and vegetation [Doc 8.18.1, response to Q2.12.5]. Points were also made by the Parish Council about the number of residents represented as one receptor. We are content with the methodology of using one representative receptor for Elm Tree Park, but we think the assessment outcome should be moderate adverse significance of effect for views during operation.
- 5.15.61 At part 1 of the Portbury/ Portishead ISH on 22 May 2015, the Applicant was asked to review its visual assessment to include the property, Old Dairy. We had noticed during a USI that the property was being renovated, and the Parish Council confirmed it had planning

permission for residential use. The assessment was submitted [Doc 8.27.6] and the property was added to the updated assessment table and plans [Doc 8.27.8 and Doc 8.2.27B]. We agree with the Applicant's assessment of moderate adverse significance of effect during operation. Following comments from local residents, the Applicant was also asked to reconsider some areas initially assessed as having no views. This was done, and a block of three-storey flats in the village was added to receptors with views [Doc 8.27.8 and Doc 8.2.27B]. We agree with this updated assessment, having undertaken a further USI to view the areas in question.

5.15.62 There was some criticism at the ISH by Portbury Parish Council, supported by the Joint Councils that the assessment had not considered streetscape. The Joint Councils' view is that the proposed pylons for Option A would have an impact on the streetscape because they are very close to the village, where currently no tall structures such as motorway lights are visible.

5.15.63 The Panel is not content that the full impact of adverse significant visual effects of the proposed development on Portbury Village has been assessed for Option A. We consider that the village and surroundings represent a pinch-point, for which there are no obvious enhancement or softening opportunities. We also believe that the ES assessment had missed a couple of properties which would have views of the proposed development. These have now been included by the Applicant, but have not changed the overall outcome. Also we think that the impact on Elm Tree Park is under-assessed.

Gateways to Portbury

5.15.64 The footbridge (F1.F4) over the M5 is a well-used crossing, linking the two sides of Portbury, which are bisected by the motorway. It was described to us as a gateway to Portbury and the effects of Option A on bridge users were considered by Portbury residents to be under-assessed. It does provide panoramic views up and down the motorway and the overhead line would cross it, which Portbury residents were keen for us to appreciate. We walked over the footbridge numerous times. In the context of the Applicant's terminology for moderate adverse effect, we are content with the assessment.

5.15.65 However, we consider this is the most severe of the moderate adverse effects on public footpaths of those considered under the comparison between Option A and Option B. This is because of the elevated position from which walkers, cyclists and horse-riders (all of whom we observed on the footbridge) would experience the views of the overhead line above and the T-pylons north and south. We consider the effects footbridge users would experience should be given more weight in the balancing of the options. In our opinion this effect is at the upper end of the continuum of moderate adverse effects and there would be no opportunity for softening or enhancing these effects.

5.15.66 The eastern gateway to the village of Portbury would also experience adverse effects during operation from Option A. The Applicant predicted minor adverse effects would be experienced from the High Street and moderate adverse from footpath E1.F23. As stated earlier, we agree with this assessment, especially as it includes views of St Mary's Church. However the experience for users of this footpath would be somewhat different from those using the footbridge, which is also assessed as moderate adverse. This comparison between effects within the moderate category provides a relevant example of how we feel the moderate category is too widely drawn. In the context of the amenity of the settlement and the views of the settlement from important approaches, the Panel considers these gateway viewpoints would be significant.

The M5 motorway

5.15.67 The significance of visual effects during operation on this section of the M5 is assessed by the Applicant as moderate/minor adverse for Option A and minor adverse for Option B. This is for construction and operation within 1km of the proposed development's LoD, and is rated negligible for views between 1km and 3 kms for both options [Doc 8.2.27B, Table 1].

5.15.68 We are not persuaded by this assessment. We reported earlier that the Applicant told us in response to first round questions Q9.4 and Q12.3 that although the assessment tables [Doc 5.7.2.2, Appendix 71] state the susceptibility to change is low, this is in error. It has been assessed as medium (this is updated in the ES consolidated errata and changes [Doc 5.30B.1]), but this still results in medium sensitivity. However at the Landscape ISH, the Applicant said it had been asked by the Landscape and Visual Thematic Group to consider the M5 users as particularly sensitive, even though those using roads are not usually considered of high sensitivity.

5.15.69 As described elsewhere the Joint Councils clarified that they had meant the high sensitivity rating to relate only to specific sections of the M5, the Gordano Valley section being one of them. Whilst changes to sensitivity could affect assessments for Options A and B, we lack confidence in the accuracy of the assessment for the M5 receptor. This is exacerbated by comparison of the assessments and relevant photomontages for Option A for two sections of the M5, where VPF1 represents views that are of moderate to minor adverse significance during all stages and VPE8 and VPE10 (from the Portbury footbridge) represents views that are of negligible significance during construction and minor adverse during operation. We consider that the assessment of the effects presented by the Applicant is not supported by the proposed views of the development shown on the photomontages, which in our view indicate an over assessment for VPF1 and an under assessment for VPE8 and VPE10.

5.15.70 The Joint Councils' LIR had questioned the Applicant's assessment in terms of views from the M5, suggesting their importance had been

downplayed. They consider that Portbury is the gateway to North Somerset for southbound drivers, that there are currently virtually uninterrupted views of countryside including Tickenham Ridge and that T-pylons would be visible in the distance for Option B and would be dominant for Option A.

- 5.15.71 We would add here that views from the M5, if Option B were taken forward, would remove two existing 132kV lines and replace them with the one 400kV line. The Joint Councils consider Option A would have an urbanising effect, whereas the Applicant considers that motorways and pylons, whilst man-made are much more common in rural areas than urban [EV-136]. There were more views expressed by residents of Portbury and Portishead about the impact of views from the motorway which supported their preferred route options [EV-136].
- 5.15.72 There were also representations about the benefits or otherwise of containing adverse effects on the landscape character along the M5 corridor. The Joint Councils consider this is not entirely beneficial [REP2-116]. The Applicant explained that the effects of the M5 were assessed in the visual assessment, but we agree with the Joint Councils, this is a landscape character matter as well, which has not been included.
- 5.15.73 The Panel is not convinced by the assessment put forward by the Applicant because the methodology and findings of the assessment seem particularly muddled, because of the opinions developed by the Joint Council regarding the importance of views southbound particularly for socio-economic reasons of attracting inward investment and tourists. Moreover, from driving this route many times ourselves, we consider weight should be given to the significance of the adverse effects that would result from Option A.

Portishead

- 5.15.74 The significance of effect on views for Option A from residential properties on the eastern edge of Portbury Wharf Nature Reserve during operation is assessed as moderate beneficial because of the removal of 132kV overhead lines from view and the very small proportion of distant views that would be taken up by the new 400kV overhead line as it crosses Tickenham Ridge. The significance of views for Option B is assessed as resulting mainly in minor adverse effects, with moderate adverse effects for some of the footpaths across Portbury Wharf Nature Reserve and for four residential receptors on Sheepway and Wharf Lane.
- 5.15.75 The Joint Councils agree the benefit for properties on the edge of Portishead from Option A would be the absence of pylons in the (near) view, but they consider there would also be benefits arising from removal of two lines and replacement with one resulting from Option B [REP2-116, Appendix H]. The Applicant's argument regarding Option A offering the potential to have the most positive effects on views from the largest number of high sensitivity receptors (which is one of the

reasons stated for preferring Option A) was challenged by the Joint Councils in their LIR. *"This seems to disregard that the current environment there is dominated by the two 132kV lines and that the single proposed 400kV line further away from these receptors could be viewed as an improvement."* We note that the T-pylon 400kV line would be taller than the removed 132kV lines, but it would also be further away from views from properties on the edge of Portishead, as shown in photomontages from VPF4, VPF5 and VPF6.

- 5.15.76 Persimmon Homes suggested some alternative routes across the Nature Reserve, which are further away from residential properties in Portishead, should Option B be considered [REP2-091]. The Applicant indicated that routes not dissimilar to those put forward by Persimmon Homes had been considered during the core options stage [Doc 8.9, response to Persimmon Homes' response to Q12.7].
- 5.15.77 Mr Legge set out his arguments described above under the Holford Rules regarding the number of receptors affected adversely by Option A compared with a greater number under Option B.
- 5.15.78 The Joint Councils questioned the Applicant's assessment of effects after 15 years on the residential properties on the southern edge of Portishead (F1.H24 to F1.H27) for Option B. This is because they felt that the structure planting installed by the house builder would deliver screening in the longer term and would change the outcome of the assessment [EV-136]. Having visited this area on USIs, we agree there would be planting in locations with the potential to achieve this. We also note that the minor beneficial effects on landscape character of removal of the part of the BW 132kV route adjacent to the Portishead substation would also apply to some views from footpaths and residential receptors.
- 5.15.79 We give some weight to the points set out in the Joint Councils' LIR. We agree that the removal of the two 132kV lines and the greater separation between residential properties and overhead lines gives some benefit, which needs to be offset by the increased height of the 400kV lines. We do not think the Applicant's assessment treats the benefits and adverse visual effects on residential properties in Portisbury in an even manner. For receptors F1.H24, 25, 27, 28, the beneficial effects are described and for F1.H24 they are stated to be moderate beneficial (in other cases beneficial). The magnitude of effect, taking into account the adverse effects of the replacement 400kV line, is low adverse, leading to overall minor adverse significance of effects during construction and operation. When it comes to the assessment of those properties for Option A, for which there would still be long distance views of T-pylons on the skyline over Tickenham Ridge, the magnitude of effect and the significance of effect during operation are assessed as moderate beneficial.
- 5.15.80 The Panel considers the beneficial effects are either overstated for Option A or downplayed for Option B (which is the case made by the Joint Councils). We therefore do not agree entirely with the Applicant's

assessment of residential properties on the edge of Portishead and therefore the way in which the argument over quantum of beneficial effects is used in making the case for preferring Option A.

The comparison between the two options of landscape and visual effects

Landscape effects

- 5.15.81 In summing up at the ISH, the Applicant's points on landscape were that Option A would have the lowest negative effect on landscape because it is shorter and more direct, it minimises sharp changes in direction, the landscape effects are concentrated along a corridor with existing infrastructure and it avoids Portbury Wharf Nature Reserve and land to the east of Portishead [EV-141].
- 5.15.82 The ES comparison of residual effects of the two route options on landscape effects has been undertaken at a landscape character area scale [Doc 8.2.27B, Table 1]. This demonstrates that landscape effects during construction would be mainly the same for both options. The main difference during operation would be on the character area that includes Portbury Wharf Nature Reserve. Here Option A would result in moderate beneficial effects from overhead line removal and long term neutral effects from undergrounding effects and Option B would result in moderate adverse effects from the proposed overhead 400kV route across the character area, with further minor beneficial effect from removal of the part of the BW 132kV route adjacent to the Portishead substation.
- 5.15.83 We do not question the overall assessment, but we do not agree that this scale of receptor picks up the nuances of the effects from the two options in a way that brings out some more fine-grained, but relevant adverse effects, to which we consider weight should be given. We are also not convinced that, at this scale, the distinctions between tree numbers, quality and function, which we were told were included in the landscape assessment can be realistically incorporated.
- 5.15.84 In their LIR the Joint Councils do not agree with the Applicant's approach, that restricting landscape effects to the M5 corridor would be beneficial in terms of weight given to selecting the preferred route [REP2-116]. We think lack of consideration by the Applicant of the effects on landscape character of the proposed overhead line along the M5 in Option A is an omission, which should have been considered.
- 5.15.85 We stated above that the Panel disagrees with the view that effects of tree removal are marginally more severe for Option B. In our opinion, overall, taking account of quality and function of trees and tree groups, Option A has marginally greater adverse effects than Option B.
- 5.15.86 This links to our findings on the Holford Rules. From the point of view of compliance relating to landscape matters, we agree with parties that Rule 1 is not relevant in these circumstances, Rule 3 is more a

matter of visual impact (covered below), the effect from both options is neutral in compliance with Rule 4 and there is marginally more compliance with Rule 6 from Option A (again a matter for visual as much as landscape).

- 5.15.87 Rule 2 involves avoiding areas of high amenity value or scientific interest. This comes down to greater adverse effects on the Portbury Wharf Nature Reserve and related SNCI from Option B and effects on the settings of the listed St Mary's Church Portbury and other listed buildings resulting from Option A. In summing up, at the ISH [EV-141] the Applicant cited the effects on the Church, which are assessed as minor adverse, as the one factor which weighs in favour of Option B. We don't agree it is the only factor, but we do agree it is a factor to which weight should be given (details to be found below and in the earlier section on heritage and historic assets).
- 5.15.88 The Panel considers this weighs in favour of Option B having greater compliance with Rule 2. Whilst Option B would undoubtedly have greater effect on the landscape character and biodiversity at Portbury Wharf Nature Reserve, we think this needs to be taken in the context of both options having adverse effects from undergrounding. Again, we acknowledge Option B would have more angle T-pylons than Option A, but Option A would include additional taller lattice towers in views involving the setting of the listed Church.
- 5.15.89 In connection with Rule 5, as we have mentioned earlier, we disagree with the Applicant's assessment of the impact of tree removal, although we do agree that the differences are slight. The Panel does not query the quantum of any of the vegetation removed, and we agree Option B involves more hedgerow removal. However, we consider hedgerow would be more easily and quickly replaced so have given less weight to its removal. Where the Panel differs is in the weight given to the quality and function of the existing trees and tree groups in particular. The Panel considers Option B would have marginally less adverse effect on landscape character as a result of tree removal and is therefore marginally more compliant with Rule 5.
- 5.15.90 Rule 7 is not deemed relevant by the Applicant. However the Panel's view differs, because of the additional note which requires the amenity of existing developments to be considered, and because of how this links to Supplementary Note 1's requirement to avoid routing close to residential areas. We are less persuaded by arguments about numbers of people affected and balancing benefits than we are by the adverse effects and the proximity of the proposed development to residential properties and public views in Portbury (north and south of the M5). We also are mindful that at an earlier stage in the corridor study, Portbury village was considered a significant obstacle. As set out in our section on living conditions, we consider there to be better compliance with Supplementary Note 1 by Option B.
- 5.15.91 The Panel's concluding opinion on landscape grounds which includes the setting of St Mary's Church Portbury, the landscape character of

the M5 corridor and compliance with the relevant Holford Rules, is that Option B is marginally more compliant and results in marginally fewer landscape adverse effects than Option A.

Visual effects

- 5.15.92 In summing up, the Applicant initially failed to mention visual effects. On prompting, it mentioned that Option A does have more negative effects, although it does not consider that there are significant differences between the options with regard to their effects on visual amenity. It argued that weighing in the balance is the fact that Option A's moderate adverse effects on private views in Portbury would be balanced by a number of moderate beneficial effects on views in Portishead. Meanwhile, Option B results in fewer overall positive effects, as well as fewer moderate adverse effects on Portishead. In summary, the Applicant feels that there is a slight advantage to Option B in terms of visual effects, but not to the extent of tipping the balance overall in favour of Option B.
- 5.15.93 The Panel disagrees with this in a number of ways, reported above. In summary we think the Applicant's assessment process lacks transparency and has not treated beneficial effects in the same way for the two options when assessing views from Portishead. The summary overstates the moderate adverse effects in Portishead, which we acknowledge are for public views. The assessment of the M5 also lacks clarity and we disagree with the part of the Applicant's case for Option A which rests on balancing the quantum of visual beneficial effects on Portishead, rather than placing weight on the moderate adverse effects in Portbury. Our general concerns regarding the Applicant's use of a very broad moderate category for adverse effects also comes into play here, as we consider some of the moderate adverse effects on Portbury are at the upper end of the moderate continuum and are not given adequate weight.
- 5.15.94 The Panel's view differs from that of the Applicant. Taking into account the significance of effects on the views from properties and public viewpoints within and around the settlement of Portbury, north and south of the M5, including footpaths and the national cycleway adjacent to the M5 and from the M5 itself, we consider the case would be found for taking forward Option B.
- 5.15.95 In terms of compliance with relevant Holford Rules, the Panel considers Option B meets the requirements of Rule 7 and Supplementary Note 1 better than Option A. Views close up to pylons would be most prevalent in Portbury with Option A and in the Portbury Wharf Nature Reserve with Option B. The Panel acknowledges that public views are weighted in LVIAs, however when assessing the options for compliance with Holford Rules, the statement is clearly different; *"Avoid routeing close to residential areas as far as possible on grounds of general amenity"*. Visual effects are one aspect of amenity. Although none of the dwellings would become unattractive

places to live because of changes to outlook, it is one aspect we consider tips the balance strongly in favour of Option B.

- 5.15.96 In terms of Rule 3, the Panel does not think 'other things are equal' as explained above and therefore we do not consider that the unquestionably shorter, straighter alignment should be argued in terms of compliance with this Rule. We particularly do not agree with the Applicant's case for containing visual effects within the motorway corridor. Moreover, we note that this conflicts with the earlier route option study which found that the village of Portbury was one of a number of significant obstacles to a route following the eastern side of the M5.

Conclusions on landscape and visual matters and Holford Rules

- 5.15.97 The Panel considers Option B results in fewer significant adverse landscape and visual effects and complies better with the Holford Rules and its Supplementary Notes than Option A.

HERITAGE AND HISTORIC ENVIRONMENT

- 5.15.98 Section 5.8 of the report considers the impact as a whole of the proposed development on the heritage and the historic environment through which it passes. It describes the effect of route Option A on the Grade I St Mary's Church Portbury, and other assets in Portbury.
- 5.15.99 In particular, it notes, the significance of St Mary's Church (LB129) would be harmed by the presence of the power line and pylons, and the loss of tree canopy, reinforcing the harmful separation of St Mary's Church from its wider setting caused by the motorway. This would be experienced in views westwards from the churchyard; views from the east, approaching the settlement where the line and pylons would intrude into the backdrop of the Church and tower; and views from the High Street and Church Lane with similar effect on the backdrop.
- 5.15.100 Mitigation, through OSPES planting, would be of minor effect even if achieved. The residual harm would be serious but less than substantial. Most of the listed buildings and other heritage assets in Portbury, such as the Grade II listed Portbury Hotel (LB1099) and Portbury Priors (LB1100) are embedded in the settlement and their setting relates more narrowly to the streetscape. Also, the Grade II listed Old Mill (LB1093) to the south, is cut off from the influence of Option A by the higher ground of Conygar Hill.
- 5.15.101 The univallate hillfort scheduled monument on Conygar Hill (SM251) would have had a historic relationship with much of the surrounding countryside. Because of that connection, its setting contributes to the significance of the asset, and would be harmed to a small degree by the intrusion of the Option A power line, despite the existing harmful presence of the motorway.
- 5.15.102 Also, the tower of the Grade II listed Portbury Priory (LB1096) sits in a commanding position within a wide setting. It would be experienced

from the footbridge over the motorway on one side with the Option A high voltage line on the other. The asset's significance would suffer to a small extent.

- 5.15.103 Court House Farm, Grade II listed (LB1122), lies further to the east, between the motorway and the line of Option A. It has a 17th century core, but is largely inward looking and flanked by newer buildings. Moreover, a screen of tall trees separates it from Route A. The setting, contributing to the significance of the asset, would be affected only to a minor degree, if at all.
- 5.15.104 Elm Tree Farmhouse, Grade II listed (LB1117), a little to the north of Option A, is isolated by a tree screen, which would be effective against harm to the setting as long as it is retained. There are also railway remains (AR205, 272) which would be affected very little by Option A.
- 5.15.105 A historic landscape Celtic field system of banks and lychets (HL63), would be clipped by either Option A or Option B at the point where they branch going north. The agreed mitigation measures comprise controlled strip of the working area, giving rise to a minor adverse residual effect, but this would occur whichever route were taken.
- 5.15.106 The setting of the Grade II listed Lower Caswell House (LB1092) would benefit from the intended removal of a 132kV line to the west and the undergrounding a line to the east. Some of the benefit would be lost under Option B, with the proposed 400kV line a little further to the east.
- 5.15.107 Moving north, Option B would pass through a ridge and furrow field system ((AR204) and a possible post medieval deserted farmstead (AR206) which would be disturbed in any event by undergrounding of the 132kV line. The ES assessment of significance of effect is minor for both and, after mitigation of watching brief during topsoil strip (AR204) and excavate in advance of construction (AR206), the residual effect is rated neutral. The Panel agrees.
- 5.15.108 Option B would then curve eastwards, through a scattering of World War II searchlight and battery platforms (AR219, 221, and 222). They would be avoided and the effect on their significance would be negligible.
- 5.15.109 Overall, in the Panel's view, much greater aggregate harm to heritage and the historic environment would arise from Option A than from Option B. This adds to the Panel's view that Option B complies better with Holford Rule 2 than Option A.

CONSTRUCTION

Construction traffic and site access

Introduction

- 5.15.110 In this subsection the construction access aspects of the two options have been considered in so far as they are discriminating factors between the two parties.
- 5.15.111 The most contentious aspect of construction access relates to the siting of individual pylons within the Bristol Port Company (BPC) site and the route that might be taken to reach the site from the LRN. The road network within the BPC landholding is addressed separately under highways and transportation and also within the relevant Protective Provisions within the recommended DCO.
- 5.15.112 As air quality is a function of construction activities and construction access, a sub-section on this topic is also included under the overall heading of construction traffic.

Construction access

The Bristol Port Company comments on construction access

- 5.15.113 The BPC objections relating to construction access are to be found in sections 8 and 9 of its WR [REP2-065]. The references to Option A are at para 8.31 and this paragraph is used as a benchmark in later representations.
- 5.15.114 In the Applicant's record of oral evidence presented at the 15 June 2015 ISH on options at Portbury/Portishead [Doc 8.13.12, para 16.1], the Applicant stated that it and the BPC were in agreement or very close to agreement on the question of haul roads and access in Bristol Port under either Option. Issues of access to pylons BW29A, LD104, LD105, and LD106 in Option A had been resolved between the Applicant and the BPC. This was confirmed by the BPC at the hearing.
- 5.15.115 For Option B the Applicant confirmed that issues around pylon P-LD105, P-LD106, P-LD100, P-LD101, P-LD102A, P-LD104 were all either resolved or very close to being resolved [Doc 8.13.12, para 17.1]. This was not confirmed by the BPC whose representatives were present, but there was no demurral from the BPC.
- 5.15.116 In a WR at the end of the Examination period [REP8-002], the BPC said that, the Applicant and the BPC have now agreed, subject to contract, all substantive terms of the legal documentation to be concluded between them, the only outstanding matters being the preparation of the associated plans and arrangements for signature. In addition to the covering letter, there was a red-ink annotated copy of the Applicant's Position Statement in respect of the BPC [Doc 8.34.8]. All notations related to construction access were related back to para 8.31 of REP2-065 referenced above. In the notation related to para

8.31, and hence ensuing paragraphs on construction access, the BPC comment was:

"BPC's concern in relation to the accesses referred to forms part of its significant larger concerns set out at length in its WR concerning the Applicant's proposed scheme for construction access to the dock estate. None of those concerns have been resolved by the Applicant. Therefore the Agreed Protective Provisions provide that the Applicant must not use these construction accesses unless BPC agrees (para 52(1)). The Agreed Protective Provisions must therefore be included to deal with BPC's concerns and enable alternatives to be agreed."
[REP8-002]

Panel's conclusions in relation to construction access

5.15.117 Taking into account the evidence from the hearing that the parties were agreed or close to agreeing on this matter and the covering letter to REP8-002, then, as the relevant Protective Provisions have been put in place within the Recommended DCO, the Panel concludes that the matter of construction access is not a discriminating factor in choosing between Option A and Option B.

Air quality

Paragon Vehicle Services Ltd (Paragon)

5.15.118 At the 19 May ISH on Bristol Port matters, Paragon raised the matter of dust impacts, if Option B were to be adopted. Discussion centred on the construction of Pylon P-LD103 which is close to the Paragon paint shop. The Applicant responded [Doc 8.13.9] by stating that dust deposition on surfaces had been assessed, and effective mitigation measures had been proposed. These measures would include water sprays to damp-down dust, minimising cutting activities, wheel washing, and road cleaning where appropriate. Black-topping of the road surfaces could also be implemented where appropriate. Dust deposits could be monitored and mitigation measures could be applied more frequently if necessary.

5.15.119 The Applicant suggested that an appropriate 'alert' level for dust deposits would be 140mg per m² per day, and that with appropriate mitigation measures in place, that limit should not be exceeded. The generally accepted guideline annoyance limit for dust deposits is 200mg per m² per day, and the alert level suggested had been set at a 70% of this, as a precaution.

5.15.120 At the request of the ExA, the Applicant agreed to submit a note on dust and air quality impacts at the port under Option B, particularly with reference to the impacts on the car painting shop that Paragon operates at the port. A response entitled ASEA and Bristol Port Matters Note on Air Quality Mitigation in Bristol Port was prepared and submitted [Doc 8.25.9].

- 5.15.121 The response included a marked up aerial photograph as drawing no G1979.2607 and showing the positions of Pylons P-LD103 and P-LD104. The Paragon paint shop is clearly defined and just to the north-east there are large mounds of coal and a conveyor system.
- 5.15.122 The response pointed to the provisions of CEMP and proposed locally specific, enhanced mitigation. The measures would include:
- clear vehicles from the working area and immediate surrounds to a distance to be agreed with the BPC;
 - use existing hard standing for construction access;
 - where haul roads are necessary they will be covered with bituminous material;
 - special care in demolishing the existing 132kV overhead line;
 - daily site inspections; and
 - additional dust suppression where necessary.
- 5.15.123 In addition the Applicant was to engage further with Paragon and would meet at the paint shop to review activities and to discuss whether any additional mitigation may provide further reassurance.

Other Interested Parties comments on dust

- 5.15.124 Portbury Parish Council [REP7-076] drew attention to recent and proposed changes in Bristol Port and said the dust nuisance issues raised in the issue specific hearings are overstated when compared to the dust created by construction of other projects already completed and also the dust associated with new operations on the site.
- 5.15.125 In reply [REP8-001], the BPC stated that none of the examples quoted is a valid comparator.

Panel's conclusions on Paragon

- 5.15.126 The Panel considers that should Option B be chosen, a site specific mitigation scheme is necessary to secure the mitigation measures that would be required over and above those set out in the CEMP. This will be achieved by way of an additional requirement in the recommended DCO.
- 5.15.127 With these measures in place, this matter ceases to be a discriminating factor between the two options.

Portbury traffic and transport and Public Rights of Way

Introduction

- 5.15.128 Major primary construction traffic routes for both options are shown in the Construction Traffic Management Plan [Doc 5.26.5C, Annex C Drg No G1979.2504.11B]. Much of the work proposed in the Portbury and Portishead areas is common to both options and these works are listed in both versions of the DCO [Docs 2.1.1E and 2.1.2E, Schedule 1]. It comprises dismantling, removal and undergrounding of 132kV lines

and works at Portishead substation. Access from major primary construction traffic routes would be required under both options to carry out these works.

- 5.15.129 The options are included in the ES Transport Assessment [Doc 5.22.1, Section 5.7]. Only one of the junctions identified for further assessment by the local planning authorities during a scoping process lies within this area [Doc 5.22.1, para 8.2.9 et seq. and Table 8.1]. The junction of The Portbury Hundred and Station Road was one of 47 junctions throughout the length of the scheme which was identified for further assessment including turning count and queue length surveys.
- 5.15.130 The analysis of that junction indicates that there is significant capacity in the junction with a greatest ratio of flow to capacity (RFC) of 0.11 and negligible queuing [Doc 5.22.1A, para.12.2.102 et seq.]. Although no separate analysis has been carried out for the two options it is apparent from Drg No. G1979.2504.12B [Doc 5.26.5C, Annex C] that the junction would be in use whichever option is selected.

Option A

- 5.15.131 Access would be required to construct the 400kV overhead line alongside the M5 motorway [Doc 2.1.1E, Schedule 1 Work 1F]. This will consist of 11 T-pylons.
- 5.15.132 Bellmouth accesses which would be needed for the construction of the Option A route are shown in Access and Rights of Way Plans Sections F and G [Docs 4.4.11 and 4.4.12]. These indicate that the following bellmouths would be required:

- Caswell Lane (AC95 and AC96);
- A369 The Portbury Hundred (AC97 and AC98); and
- Sheepway (AC99 and AC100).

These six bellmouths would all provide access to site haul roads from major primary construction traffic routes.

- 5.15.133 The Option A works would affect a number of Public Rights of Way (PRoWs) as shown in the Access and Rights of Way plans [Docs 4.4.11 and 4.4.12A]. These are:

- LA/15/13: crossed by 132kV dismantling works
- LA/15/15: crossed by 132kV dismantling works
- LA/15/22: crossed by 132kV dismantling works
- LA/15/21: adjacent to 400kV lines part within Order limits
- LA/15/2/20: crossed by construction of the 400kV lines
- LA/15/2/40: crossed by construction of the 400kV lines
- LA/15/2/60: crossed by construction of the 400kV lines
- LA/8/66: adjacent to 400kV lines, part within Order limits
- LA/8/67: adjacent to 400kV lines, part within Order limits

5.15.134 Indicative closure periods are given in the Public Rights of Way Management Plan [Doc 5.26.6C, Table 2.2]. These show likely closure periods as follows:

- LA/15/13: One day
- LA/15/15: One day
- LA/15/22: Three days
- LA/15/21: Three days
- LA/15/2/20: One month
- LA/15/2/40: One month
- LA/15/2/60: One month
- LA/8/66: One day
- LA/8/67: One day

Option B

5.15.135 Access would be required to construct the 400kV Option B route [Doc 2.1.2E, Schedule 1 Work 1F]. These would consist of 13 T-pylons.

5.15.136 Bellmouth accesses which would be needed for the construction of the Option B route are shown in Access and Rights of Way Plans Sections F and G [Docs 4.4.13 and 4.4.14A]. These indicate that for Option B the following bellmouths would be required:

- Caswell Lane (AC94, AC95 and AC96);
- Sheepway (AC99 and AC100);
- Un-named Road (perpendicular to Marsh Lane) (AC101);
- The Drove (AC102); and
- Wharf Lane (AC103 and AC104).

These nine bellmouths would provide access to site haul roads from major primary construction traffic routes although two of them lie within the confines of the Royal Portbury docks.

5.15.137 The Option B route crosses a number of Public Rights of Way (PRoWs) as shown in the Access and Rights of Way plans [Docs 4.4.13 and 4.4.14A].

- LA/15/13: crossed by 132 kV dismantling works;
- LA/15/15: crossed by work on 132 kV and 400kV lines;
- LA/15/22: crossed by work on 132 kV and 400kV lines.

5.15.138 Indicative closure periods are given in the Public Right of Way Management Plan [Doc 5.26.6C, Table 2.2]. These show likely closure periods as follows:

- LA/15/13: One day
- LA/15/15: One day
- LA/15/22: Three days

Comparison

- 5.15.139 The Transport Assessment [Doc 5.22.1] makes no distinction between the two options. The scale of traffic and transport operation would be the same for each, with many of the same bellmouths to be used for either option.
- 5.15.140 For Option A bellmouths on the A369 Portbury Hundred would be used while for Option B these are not needed. For Option B two additional bellmouths in the Royal Portbury dock estate are proposed. While all bellmouths would be designed and constructed to the approval of the local highway authority the avoidance of this feature on the A369, a principal road carrying a considerable volume of commuter traffic between Portishead and M5 junction 19 at Portbury, provides a marginal advantage to the Option B route in traffic and transport terms and particularly in terms of road safety.
- 5.15.141 The Option A section of the route is crossed by nine Public Rights of Way (PRoWs) of which three run closely adjacent to or partially within the Order limits. These PRoWs, with access for all classes of user, are part of National Route 26 of the National Cycle Network. The Option B section of the route is crossed by three PRoWs none of which run parallel with the proposed 400kV overhead lines.
- 5.15.142 The footbridge over the M5 between the main village of Portbury and the portion of the village to the south severed by the M5 motorway carries footpath LA/15/2/60. The Transport Assessment [Doc 5.22.1 para 5.7.28] notes that *"The pedestrian footway to link Station Road over the M5 was also surveyed to provide an indication of usage along LA 15/1, LA 15/2 and LA 15/3 [sic]. The survey found that 38 adult pedestrians, 12 child pedestrians, 58 adult cyclists and five adult dog walkers totalled 113 users. The survey showed that the bridge across the M5 is well used."*
- 5.15.143 The closure of PRoWs LA/15/2/20, LA/15/2/40 and LA/15/2/60 under the Option A proposal for an indicative period of one month means that the footbridge would be closed for that period. Option B would not require this closure.

Conclusion

- 5.15.144 The balance of advantage with regard to Traffic and Transport issues lies marginally with Option B on grounds of road safety. With regard to PRoWs the balance lies more securely with Option B because of the disruption to the use of the foot-bridge across the motorway at Portbury that would result from the use of Option A.

GROUND CONDITIONS AND FLOOD RISK

Ground conditions

Description of likely ground conditions

- 5.15.145 For both overhead route options, superficial ground conditions are not good [Doc 5.9.3, Figure 9.1.6 and 9.1.7 and Doc 8.2.1, Appendix 1.1.1.1]. Option A is routed through areas of Head, Peat, Landfill, Tidal Flat Deposits and River Tidal Deposits. Option B is routed through and close to areas of landfill and through Head and Tidal Flat Deposits.
- 5.15.146 The proposed 132kV underground route is common to both options and passes through the historic Central Electricity Generating Board landfill near to Portishead substation. This however is not a distinguishing factor between the two route options.
- 5.15.147 There is useful information in the BPC report entitled Foundations - a commentary by the Bristol Port Company [REP5-020, Appendix 4]. This also refers to a topographical trench or trough feature along which the existing 132kV G line is routed and which would include the alignment of the proposed 400kV overhead line if Option B were to be chosen.
- 5.15.148 The proposed Option B alignment along the trough would pose some problems in constructing the pile cap but these are not insurmountable. Although this routing would add to the cost and time of foundation construction we do not believe that it presents an overwhelming difficulty.
- 5.15.149 In summary, we consider that topographically, Option A is more straightforward than Option B. In terms of ground conditions at depth there is little specific ground investigation on which to base an opinion but it is likely that in the case of both options, deep piled foundations would be needed particularly to the eastern end of both routes. The depth required for the foundation piles is not yet known but would be confirmed after site specific investigation as outlined in CEMP.
- 5.15.150 In considering near surface ground conditions, there is little to choose between the options except that Option A, being shorter, would not be exposed to so many potential unrecorded hazards as Option B.

Panel's conclusions on choice of options with respect to ground conditions

- 5.15.151 In summary, we find that there is a marginal advantage in choosing Option A but its advantages are not significant enough to rate this as a major factor between options.

Use of T-pylons in the Bristol Port area if Option B is adopted

Representations

5.15.152 If Option B were to be adopted, the BPC considers that it would be better to adopt lattice pylons in the Portbury Dock area. It has a general concern regarding the adverse impacts of T-pylons both during construction and operation/maintenance. In addition, while the BPC does not doubt the Applicant's ability to construct the sub-structure for T-pylons, it is concerned that the superstructure of T-pylons has yet to be proven through long-term use in estuarine environments [REP6-005, REP6-016].

5.15.153 In an earlier written representation, [REP5-004] the BPC asserted that T-pylons take longer to build and, during operation, take more land and:

- *"the Port's ground conditions are alluvial – described as a "soup" – and a T-pylon's loading regime would potentially require significant direct and raked piles with a large pile cap;*
- *as a result, construction would take longer, be more intrusive, cause greater air (dust) pollution and generate more debris;*
- *after construction, settlement will extend the area of sterilised land around a T-pylon's base;*
- *once completed, a sterilised land corridor would be created which would be wider than that needed for conventional lattice pylons;*
and
- *T-pylons cannot be climbed so, for maintenance, special plant and equipment would have to cross the Port's land and interfere with its port operations."*

5.15.154 The BPC has referred several times to the extra time that would be needed to construct the T-pylon foundations vis-à-vis the time required to construct lattice pylons. There have been three submissions on this issue:

- (a) Note Providing Information on Piling Works [Doc 8.27.5];
- (b) The BPC response to National Grid's document 8.27.5 concerning piling works [REP6-016]; and
- (c) Note relating to assessments and calculations made in Volume 8.27.5 [Doc 8.45].

Applicant's responses

5.15.155 The Applicant provided additional information stating that although the T-pylons would take slightly longer to construct than the lattice equivalent, overall there are not anticipated to be significant differences in respect of construction effects and duration [Doc 8.34.8 para 6.7].

5.15.156 The Applicant re-affirmed the T-pylon technology had been thoroughly tested and that extensive construction trials were underway.

Panel's views on the use of T-pylons in the Dock area if Option B were to be chosen

- 5.15.157 We have dealt elsewhere (Section 5.6) with the adequacy of foundation design and construction and also with the issues relating to pylon structures. We do not believe that these issues should be discriminating factors *per se* and the BPC does accept that the T-pylon can be built.
- 5.15.158 We now address the point made by the BPC that *"after construction, settlement will extend the area of sterilised land around a T-pylon's base"*. The BPC in its response to Q2.16.7 [REP5-019] followed up on its WR [REP5-004] and identified as a key issue in the choice of route options *"the inevitability of differential settlement of the large pile caps compared to the surrounding ground, in an area where land is currently used as surfaced motor vehicle compounds, and the resulting further costs and disruption which will be caused to BPC in the longer term"*.
- 5.15.159 We accept that a degree of differential settlement could reasonably be expected to occur over time. We have not been provided with any technically based predictions as to the extent of any settlement that might occur. However, we find no reason to believe that differential settlement in this area would significantly impact upon the present use of the land. Furthermore, in our professional experience, it is likely that such features could be repaired simply in an open storage area in order to maintain the area in service without significant disruption to the operation.
- 5.15.160 In addressing the foundation construction time, we acknowledge the experience and expertise of the BPC in carrying out developments within the port area. However, there is no specific ground information on which to prepare outline designs for the two alternatives and it is likely that ground conditions would be very variable. In our view, therefore, the programme assessments that have been made by the two parties have to be considered indicative. We accept that it may take longer to construct the foundations for T-pylons but we consider that the likely extra time involved cannot be predicted with any certainty. Having considered the available evidence, we find no reason to believe that any extra construction time would be of such a magnitude as to amount to a factor of significance between the two pylon options.
- 5.15.161 If Option B were to be chosen, we do not consider that there is a convincing case on structural or foundation grounds for rejecting the submitted scheme in favour of lattice pylons.

Flood risk

General assessment

- 5.15.162 The Applicant's update of responses to first round questions [Doc 8.2.27B] conveniently compares the flood risk in each of the route options.
- 5.15.163 Option B is predominantly in Flood Risk Zone 3 and Option A is part in Flood Risk Zone 1 and part in Flood Risk Zone 3. The analysis states that whilst the flood hazard is greater in Option B, the risk can be managed to the extent that there is no material difference between the options during construction.
- 5.15.164 Evidence was also provided in the Applicant's oral evidence presented at the ISH on Portbury/ Portishead options. The Applicant explained that with the proposed mitigation there would be no significant difference between Options A and B in terms of flood risk [Doc 8.13.12].

Panel's conclusions on flood risk in the choice of options

- 5.15.165 The Panel accepts the evidence provided by the Applicant and considers that there is no significant difference between the two options in terms of flood risk.

NOISE AND VIBRATION, WATER QUALITY, POLLUTION PREVENTION

Noise and vibration

Introduction

- 5.15.166 Noise and vibration as a topic is addressed elsewhere in this report. This section deals specifically with the differences between the noise and vibration effects of the Option A and Option B alternative routes.
- 5.15.167 Much of the dismantling, undergrounding, and construction work in this area is common to both options as is work on the Portishead substation. These works are listed in both versions of the DCO [Docs 2.1.1E and 2.1.2E, Schedule 1].

Option A

- 5.15.168 The Applicant's calculations for construction noise [Doc 5.14, Appendix 14A Table 3] give lists of receptors lying within the minimum threshold distances for the various construction activities. These define an area outside which noise levels will be below the 65dB(A) threshold level that may in some circumstances trigger mitigation measures. The threshold distance is given as 131m in the case of 400kV overhead line construction and end of life decommissioning although the distance for T-pylon construction is given as 108m. [Doc 5.14, para.14.4.2]

- 5.15.169 The list of receptors affected by 400kV and 132kV overhead line construction and end-of-life decommissioning includes The Meadow and 18 Elm Tree Park and others. These are properties close to the Option A route immediately to the north of the motorway at Portbury and include Cole Acre which lies at the junction of Station Road and The Portbury Hundred. The Portbury children's play area discussed in Section 5.11 above, and referred to in REP2-015, lies immediately to the south of this section of motorway.
- 5.15.170 Vibration from the construction of T-pylons may impact these receptors although the magnitude of these effects is not predicted to be perceptible beyond 100m with significant effects only expected at distances of less than 10m, and only during piling [Doc 5.14, para 14.2.28].
- 5.15.171 The Applicant's analysis of operational noise has been discussed elsewhere in this report and the Panel finds the methods used and the conclusions reached to be acceptable. In the case of all but four receptors this analysis indicates that the significance of the effects of operational noise from the 400kV overhead line would be minor adverse or negligible in both wet and dry conditions. None of these four receptors is adjacent to the Option A route [Doc 5.14, Table 14.23 and 14.25]. The Portbury children's play area is further away from the Option A route than any of the properties considered in this analysis.

Option B

- 5.15.172 There are no receptors lying within the minimum threshold distances for the various construction activities for the Option B route. [Doc 5.14, Appendix 14A Table 3].
- 5.15.173 As in the case for Option A, there are no cases where operational noise is greater than minor adverse or negligible in either wet or dry conditions adjacent to the option B route.

Comparison

- 5.15.174 For Option A a number of receptors would be impacted by noise and possible vibration from the construction of the 400kV overhead lines. Operational noise is assessed as 'minor adverse' or 'negligible' in all conditions. [Doc 5.14, Table 14.23].
- 5.15.175 For Option B no properties would be impacted by noise and possible vibration from the construction of the 400kV overhead lines. Operational noise is again assessed as minor adverse or negligible in all conditions [Doc 5.14, Table 14.23] but in this case the overhead lines would be considerably further away from receptors.

Conclusion

- 5.15.176 A slight balance of advantage with regard to noise and vibration lies with Option B because the 400kV overhead line does not run near any

receptors and so would cause no disruption or inconvenience to residents during construction, operation or decommissioning.

Water quality

5.15.177 As a convenient reference, the Applicant's update of responses to first round questions [Doc 8.2.27B] indicates that there are no groundwater issues that would distinguish between the two options. From the available documentary evidence, the Panel considers that the issue of water quality has no bearing on the choice between the two options.

Pollution prevention

5.15.178 In either choice of route, there would be excavation through old landfills and potential undetected landfills. In all of these cases there is the possibility of construction works releasing contaminants from the landfill. The obligation within CEMP to carry out specific geotechnical investigation and the embedded mitigation proposals are considered by the Panel to be adequate to deal with these potential hazards. It is considered that pollution prevention is not a factor in choice of route options.

SOCIO-ECONOMIC MATTERS

Royal Portbury Dock

5.15.179 Section 5.12 of the report considers the socio-economic effects of the proposed development as a whole. The Bristol Port Company's (BPC) case for the use of T-pylons for Option B, rather than lattice pylons is dealt with under the Royal Portbury sub-heading.

5.15.180 Regarding the merits of the two routes, the BPC tells us that Option B would have a considerably greater intrusive and disruptive effect than Option A. It would penetrate the Dock far more deeply, directly affecting access to, and use and operation of, the Port's motor vehicle compounds and other cargo handling areas. On the other hand, disruption arising from Option A would be confined principally to the south east boundary of the BPC's land [REP2-065, Section 3].

5.15.181 The BPC argue that construction of Option B would be much more difficult than Option A, many of the pylons being in grassed wildlife areas, posing access and construction difficulties. Six of the ten pylons would be located along the top edge of a significant change in ground level and would involve further complications in construction and additional time. By way of contrast, Option A pylons would lie on flat, level land with established vehicle access. Only one pylon would be located in soft landscaping, but even that pylon would be near to hard surfacing which could be used for access [REP6-016].

5.15.182 The Applicant expresses a marginal preference for Option A. From a socio-economic point of view this is because it would reduce the amount of the BPC land affected. It would also reduce the effects on

the Port's operations during construction since Option B would involve greater use of roads within the Port and hence interaction with Port traffic [Doc 8.13.12, para 18.4.2].

- 5.15.183 The Panel notes that the construction of Option B would be more complex, perhaps take longer than Option A, and might involve greater disruption to car handling and other Port operations during the construction phase. Although access routes for construction might be longer, we understand there is agreement with the BPC on strategy and that programmes of works would be agreed.
- 5.15.184 Turning to the operational phase of the proposed development, Option B would follow wildlife corridors over much of its length, avoiding interference with the working of the Port. However, its transition over the middle of some areas might inhibit flexibility of use, albeit the remaining working areas would be broad and extensive, giving good opportunities for future development.
- 5.15.185 Being confined to the south east boundary, Option A might have less impact on Port operations and future development potential. However, a representation from the Yearsley Group [RR-026] points out that the Route occupies the site of a planned new cold store chamber strategically critical to expansion plans and job creation. The Applicant acknowledges that the route of Option A might constrain future expansion of the Yearsley Group's activities at the site, although it notes that there are no current permissions in place [Doc 5.15.1, para 15.5.51]. Following discussions between the Applicant and the Yearsley Group, it appears that a form of cold store construction more restricted than the Yearsley Group might wish for could take place on the site [Doc 8.31, Appendix 2.3.15.1].
- 5.15.186 Overall, the Panel acknowledges that, during the construction phase, the impact of Option B on the BPC's operations would be greater than that of Option A. However this would be for a limited period of time. For the reasons given, during the operational phase, the Panel is less persuaded that there would be significant differences of impact on the efficiency of the Port's operations or, apart from the effect on the Yearsley site, its potential for future development. Moreover, maintenance of the system would not be a frequent occurrence and there appears to be little evidence to show significant differences of effect between the routes that would be used.

Other considerations - Option A

- 5.15.187 Speakers at the ISH held on 15 June 2015 developed points made in written representations on the effect of Route A in discouraging community use of St Mary's Church [REP2-067] and use of the playing field between the Church and the motorway [REP2-015]. The Panel considers these points carry some significance but of a minor nature.
- 5.15.188 Option A would give rise to a dense avenue of pylons alongside a stretch of the M5 motorway often seen as a gateway into the West

Country and experienced by very many travellers. This feature might act in subtle ways to discourage choice of the region by visitors. The use of cycle routes might also be discouraged in a similar way, especially Route 334 which crosses the motorway via the footbridge, and Route 26 which follows the line of the pylons alongside the motorway.

Other considerations - Option B

- 5.15.189 The socio-economic consequences of the use of Portbury Common and Portbury Wharf Nature Reserve would be adversely affected in the construction phase by the 132kV undergrounding works, whichever route were adopted. However, during operation, benefit would arise from the removal of the existing lines. That benefit would remain with Option A but, to an extent, be lost with Option B.

Conclusions

- 5.15.190 There is no simple outcome to the weighing up of the socio-economic effects of the alternative routes. Option A might benefit the BPC to a degree, especially during the construction phase, and the socio-economic benefits to Portishead gained from removal or undergrounding of existing lines would be fully retained under Option A. However, the harm to development potential at the Yearsley Group's site, to community use of St Mary's Church Portbury, to tourism potential through impact on users of the M5, and to the use of cycle routes, all count against Option A. The Panel regards the outcome as neutral.

HEALTH, WELL-BEING AND ELECTRIC AND MAGNETIC FIELDS

- 5.15.191 Section 5.7 of the report considers the general implications of this subject area. With regard to health, and electric and magnetic fields (EMFs), there do not appear to be any circumstances which would lead to a conclusion of effects in the Portbury and Portishead area differing from those assessed in Chapter 5.7, or that the effects varied depending on the route option chosen. However, turning to well-being, effects can be compared between route Option A and Option B.

Well-being - Option A

- 5.15.192 The outlying northern parts of Portbury, along Station Road, were severed with the coming of the M5 motorway. One is constantly aware of the presence of the motorway from most locations in Portbury, on either side of the motorway, including from Elm Tree Park and from the eastern parts of Sheepway. This partly accounts for the ES amenity assessment of the effects of the proposed development reaching a description of only minor adverse [Doc 5.15.1, Table 15.46], since much background degradation already exists.
- 5.15.193 The Panel is of the view that the ES assessment does not justify compounding the present harmful situation through the adoption of Option A. There would be a very visible wirescape from both sides of

the motorway (VPE5, VPF10 and VPF12) and the run of pylons would be very evident as a further visual intrusion from the pedestrian bridge over the motorway (VPE10 and VPE8). The effect would be exacerbated by the loss of a significant amount of mature background tree canopy along the route of the overhead power line, perhaps even more so were the Portishead to Pill railway reinstated in the future with necessary clearances along the track.

- 5.15.194 The very close presence of pylon LD98, and the line generally, together with the loss of tree cover, would harm the character of Cole Acre (F1.H41, F1.H43) and the sense of well-being of its occupants. The Applicant's amenity assessment, made in response to second question 2.7.10 concludes minor to moderate adverse effects on amenity during construction and operation for Option A [Doc 8.18.2.1, Appendix 2.7.10.1]. The Panel considers this to be an underestimation.
- 5.15.195 To a lesser extent, the proximity of the line and pylon LD99 would have a similar effect on the well-being of Elm Tree Park (F1.H40b) residents. The Applicant's amenity assessment in this case is minor adverse during construction and negligible during operation [Doc 15.5.1, Table 15.46]. Again, the Panel disagrees.

Well-being - Option B

- 5.15.196 Whichever route option is adopted, the outlook of those living on the eastern fringes of Portishead, with a view eastward, would benefit from the removal of the existing 132kV overhead power lines. There would also be some disturbance during construction with either route, because of the undergrounding and substation modification operations common to both.
- 5.15.197 The installation of a single, slightly larger scale, but significantly more distant line with Option B would reduce but not remove entirely this benefit (VPF4, VPF5 and VPF6). It would also involve some disturbance during construction.
- 5.15.198 The outlook of those dwellings to the west of Sheepway, which lie near the route of Option B power line, would suffer to an extent, but they are few in number.

Conclusions

- 5.15.199 The Panel concludes that route Option B would give rise to the least harm to well-being by some margin. This is because of the harm to well-being arising from the significant visual intrusion of the line under Option A, compounded by the loss of foliage, and its proximity to dwellings at Cole Acre and Elm Tree Park. In comparison, there would be a reduced gain in terms of outlook for those dwellings on the eastern fringes of Portishead under Option B, and some loss of outlook for those dwellings to the west of Sheepway.

BIODIVERSITY

Introduction

5.15.200 Consideration of biodiversity effects other than for the areas covered by Option A and Option B are reported in Section 5.2 of this report. Where we have already concluded on species or habitat type, we do not repeat that here other than in the context of how the effects on the two options compare.

Option A and Option B effects

County and locally designated sites

Portbury Wharf nature reserves SNCI and Portbury Wharf SNCI

- 5.15.201 Portbury Wharf Nature Reserve SNCI is managed by the Avon Wildlife Trust (AWT) and also referred to in Application documents as the Portbury Wharf Wildlife Trust Reserve and the Portbury Wharf Local Wildlife Site. The two SNCIs together are referred to as the Portbury Wharf nature reserves. We shall use this terminology and refer to the Portbury Wharf Nature Reserve as the Nature Reserve.
- 5.15.202 Portbury Wharf Nature Reserve SNCI is predicted to experience temporary habitat loss and permanent loss of tree canopy and scattered trees, and terrestrial great crested new habitat and potential effects on water vole and invertebrates through ditch work during construction from both route options relating to undergrounding and removal of the existing 132kV lines. Additional impacts if Option B is taken forward would include further temporary loss of grassland and scrub habitat and hedgerows and further permanent loss of tree canopy and scattered trees, including two with bat roosts and some limited permanent habitat loss to T-pylon bases. Effects during operation are predicted to be loss of scrub for Option A and loss of scrub and disturbance of 17 trees with bat roosting potential in or close to the SNCI for Option B. The significance of all effects during construction and operation are assessed as minor adverse [Doc 8.2.27B, Table 1]. We cover matters to do with birds on Portbury Wharf nature reserves below under the section on birds.
- 5.15.203 The Portbury Wharf SNCI would experience temporary habitat loss and loss of nesting bird habitat, terrestrial great crested new habitat and potential effects on water vole and invertebrates through ditch work during construction from both route options relating to undergrounding and removal of the existing 132kV lines. There would be additional effects from Option B including additional temporary and permanent habitat loss as more cable undergrounding and more pylons are proposed. Residual construction effects are predicated to be minor adverse for both route options. There would be some loss of scrub, which would change bird nesting opportunities during operation [Doc 8.2.27B, Table 1].

- 5.15.204 At the start of the Examination and in response to our first round questions the AWT raised concerns about the effects on a number of species and habitats within the Nature Reserve [REP2-078]. The updated SoCG between the Applicant and the AWT indicates continued disagreement over the baseline assessment, based in part on the potential that works at the reserve would last up to seven years. At the ISH, the Applicant explained that although works would take place through the entire construction period, they would be limited in extent and location, (the process of digging a trench, ducting and backfilling would take no more than two weeks) and would be required to avoid the bird wintering season (see below) [EV-141]. We asked the AWT at the ISH if it felt that the mitigation now proposed was fit for purpose. At that stage the AWT had not input to the updated Biodiversity Mitigation Strategy (BMS), but the updated SoCG confirmed agreement on methods of embedded mitigation for construction [Doc 8.3.2A, ID 8.7].
- 5.15.205 The Joint Councils expressed the opinion that there should be a bespoke mitigation plan for the Nature Reserve because it is a complex site with different protected species with overlapping issues and constraints, a view shared by the AWT [EV-141]. The next version of the BMS, submitted at Deadline 7 included a commitment by the Applicant to meetings and the collation of a mitigation statement for the Nature Reserve [Doc 5.26.3C, para 2.4.69 to 2.4.73]. This was agreed, with the other provisions in the BMS as satisfactory by the AWT [Doc 8.3.2A, ID 8.7.1]. Funding is also proposed by the Applicant for a Portbury Wharf Nature Reserve Ecological Clerk of Works (ECoW) during periods of construction activity in both Portbury Wharf Nature Reserve SNCI and Portbury Wharf SNCI.
- 5.15.206 It was confirmed at the resumed Portbury/Portishead ISH on 15 June 2015 that the agreed s106 financial provision for local wildlife sites includes a figure for Portbury Wharf Nature Reserve [EV-141]. The Panel is content this matter is addressed through the s106 agreement and it would be for the relevant local authority to handle discussions with the management organisation. The Panel has placed some weight on the contribution to local wildlife sites in reaching our recommendation.
- 5.15.207 The AWT did not feel the impact of the proposals on use of the site as a community-focused nature reserve had been properly considered and was concerned about the effects on local community and visitors during periods of closure during construction, especially as local residents paid a levy towards the reserve's upkeep [REP2-078]. This was still shown as a point of disagreement in the updated SoCG between Applicant and the AWT [Doc 8.3.2A, ID 8.22]. However the Joint Councils advised us at the Portbury/Portishead ISH that the levy will be disbanded and landownership is planned to transfer to the local authority [EV-135 to EV-137].
- 5.15.208 We also note that the updated BMS provides for interpretation boards to aid public understanding about the site and the proposed works and

to liaise with the landowner or manager to minimise disruption to footpath use [Doc 5.26.3C, para 2.4.74]. The Panel considers that the Applicant has made efforts to allay these concerns and the commitment to the bespoke mitigation statement and funding of an ECoW for the Nature Reserve would also address matters if they arise during construction. We consider this would be the same for either route option.

- 5.15.209 The Panel notes that overall effects for both options are minor adverse, but agrees that the effects would be more extensive and thus more detrimental if Option B is taken forward. The comparison provided by the Applicant sets out the impacts from this and from the pylon bases, which amounts to less than 0.001ha of permanent habitat loss [Doc 8.2.27B, Table 1]. Having regard to the AWT's and the Joint Councils' views that the effects can be mitigated, the Panel considers that the effects on the Portbury Wharf nature reserves do vary between options; but not to such a degree that would sway the decision over which option should be recommended. This includes the potential collision risk for birds during operation which we report on below, which is assessed as not significant when mitigation is adopted.

Other SNCIs

- 5.15.210 Portbury Dock Wood SNCI is assessed to experience permanent habitat loss on the edge of woodland, therefore with no fragmentation effect, during construction from Option B and no effects from Option A. Reduced woodland cover would change bird nesting and foraging opportunities, assessed to be not significant with the adoption of mitigation as set out in the BMS [Doc 8.2.27B, Table 1]. The BPC suggested that funding for woodland management at Portbury Dock Wood SNCI should be included [REP2-065].
- 5.15.211 The Fields on Caswell Moor SNCI and the Fields between Railway Line and A369 Portbury SNCI (which includes the Priory Farm Avon Wildlife Trust Reserve) would both experience permanent and temporary habitat loss during construction if Option A is taken forward. The residual effects on both these sites are assessed as not significant through the implementation of the mitigation measures secured in the BMS [Doc 8.2.27B, Table 1].
- 5.15.212 The Drove Rhyne and Adjacent Fields SNCI is predicted to experience very similar temporary and permanent habitat loss during construction from both route options. The residual effects on both these sites are assessed as not significant through the implementation of the mitigation measures secured in the BMS [Doc 8.2.27B, Table 1]. The BPC had concerns regarding the Applicant's water vole method statement in this area [REP2-065]. In our view this was satisfactorily addressed and is reported under the biodiversity Section 5.2.
- 5.15.213 As described in the biodiversity Section 5.2 of this report, the signed s106 agreement with the Joint Councils includes provision for contributions to the local wildlife sites with different sums set out for

North Somerset Council, depending on which route option is decided [Doc 8.4B, schedule 4]. The ES lists possible works such as habitat creation, for which the funds could be used [Doc 5.8.1, para 8.9.23] and the s106 agreement gives a fairly wide definition for works to support habitats in LWSs which would be disturbed during construction.

- 5.15.214 Addressing concerns raised by the Joint Councils at the ISH, the Applicant indicated that it would provide management advice for landowners of SNCIs; and this is covered by Requirement 10. From the comparison between options provided by the Applicant the adverse effects do not appear to be greater for one option than the other, just in different locations [Doc 8.2.27B, Table 1].
- 5.15.215 As stated in Section 5.2, with all the BPC representations on biodiversity matters, we are unaware as to whether the disagreements were sustained or resolved through the agreement with the Applicant after close of the Examination, to which the BPC's final comments refer [REP8-002, para 11.2]. Addressing points made by the BPC; the Panel considers that funding for the Portbury Dock Wood SNCI could be made available from funds in the s106 agreement and mitigation for the Portbury Wharf SNCI is set out in the BMS. The updated BMS makes provision for the project ECoW to meet with the BPC as well as the owners or managers of the Portbury Wharf Nature Reserve six months prior to work commencing in the Nature Reserve or Portbury Wharf SNCI.
- 5.15.216 We are not convinced of the need for a bespoke ECoW for the Port Areas, as requested by the BPC. Whilst we fully appreciate there would be a need for liaison between contractors delivering the proposed development and the BPC's ecology consultants, we do not consider that special arrangements other than those secured through the CEMP and BMS which set out the roles, responsibilities and communication channels that would be adopted by the contractors [Doc 5.26.3C, Section 1.5] are necessary in the Port Area. This is because the works on these SNCIs are not as extensive or overlapping as in the Nature Reserve.
- 5.15.217 The Panel is satisfied that mitigation is secured in the BMS, which covers each of these sites individually and cross references to the relevant species method statements and general provisions in the CEMP. The Panel therefore considers that the effects on SNCIs do not vary significantly between options; and finds the outcome to be neutral.

Habitats

- 5.15.218 Effects on trees and groups of trees have been considered above under landscape and visual effects. The Applicant's assessment also predicts that there would be construction stage effects of minor adverse significance on the following habitats: semi-natural broadleaved woodland, broadleaved plantation, hedgerows (temporary

loss of 19.83km for Option A and 20.38km for Option B - including all 'could be affected' hedgerows), semi-improved neutral grassland and marshy grassland. Additionally effects assessed as not significant are predicted for poor semi-improved grassland and wet ditches. None of the effects predicted vary in significance between Options A and B [Doc 8.2.27B, Table 1].

- 5.15.219 The Panel considers that the effects on habitats, other than trees and groups of trees, do not vary significantly between options; and finds the outcome to be neutral.

European protected species

- 5.15.220 During construction, a total of six bat roosts would be lost under Option A and seven bat roosts would be lost under Option B. It was confirmed at the Portbury/Portishead ISH that bats in this area are not bats from SACs [EV-141]. The residual effects are predicted to be not significant based on the implementation of measures set out in the ES and BMS [Doc 5.26.3C, Section 4.2]. The ES states that bat boxes are known to have been installed in the Portbury Wharf nature reserves and the BMS sets out the need for consultation with the AWT to obtain the most up to date locations prior to pre-construction surveys being undertaken [Doc 5.26.3C, para 4.2.12 to 4.2.14].

- 5.15.221 The ES predicts there would be one additional great crested newt population affected under Option A than under Option B, but works in this area would be confined to hardstanding, so no additional affect would arise [Doc 8.2.27B, Table 1]. Construction works for Option B would cover additional habitat associated with great crested newt. Measures for mitigation as described in the method statement in the BMS, and reported in the earlier Section 5.2 on biodiversity would result in effects being not significant [Doc 8.2.27B, Table 1].

- 5.15.222 The Applicant's ES assessment predicts that the residual effects on otter would not be significant through the adoption of measures set out in the method statement in the BMS and ES. There are no differences in effect between the two route options [Doc 8.2.27B, Table 1].

- 5.15.223 The AWT is satisfied on issues to do with the European protected species described above [Doc 8.3.2A, ID 8.7.4, ID 8.7.6, ID 8.7.7]. The Panel considers that the residual effects on any European protected species do not vary significantly between options and finds the outcome between options to be neutral.

Nationally protected species

- 5.15.224 The construction effects predicted for badger and reptiles do not vary between route options and residual effects are assessed to be not significant based on implementation of measures in the BMS and ES [Doc 8.2.27B, Table 1].

- 5.15.225 The ES sets out that construction would include two culverts along Option A and seven culverts along Option B, in addition to those required for the undergrounding sections, which are common to both route options. Therefore Option B potentially would affect more water vole as water vole activity is recorded as abundant and widespread in Portbury Wharf nature reserves. Residual effects for both options are assessed as minor adverse and mitigation would be secured through measures set out in the BMS and ES. The AWT is satisfied with water vole issues [Doc 8.3.2A, ID 8.7.5] and it is reported in the biodiversity Section 5.2 of this report that NE is satisfied with the measures proposed. As also explained in Section 5.2, the BPC retained its objection which included points on water vole, but we have given weight to advice from NE and are satisfied appropriate mitigation is secured.
- 5.15.226 The ES and BMS report that there is one barn owl box in Portbury Wharf Nature Reserve which would need to be removed if Option B is taken forward. The Applicant has included specific measures associated with this and other barn owl boxes where breeding is confirmed in the Nature Reserve in the method statement for barn owl in the BMS [Doc 5.26.3C, Table 4.1]. This is agreed with the AWT [Doc 8.3.2A, ID 8.6.3].
- 5.15.227 The Panel considers that the residual effects on any nationally protected species do not vary significantly between options and finds the outcome between options to be neutral.

Other mammals, ditch invertebrates, reptiles and fish

- 5.15.228 The Panel considers that the residual effects as assessed by the Applicant on any other mammals such as brown hare, and hedgehog or ditch invertebrates or fish do not vary significantly between options and finds the outcome between options to be neutral [Doc 8.2.27B, Table 1].
- 5.15.229 The Applicant has included additional wording in the BMS method statement for reptiles, to make specific provision for minimising fragmentation at Portbury Wharf Nature Reserve [Doc 5.26.3C, para 4.10.54]. This satisfies the AWT along with other provisions in the BMS [Doc 8.3.2A, ID 8.6.7]. The Applicant assessed the effects on reptiles as not significant and there is no difference between the two route options. The Panel is satisfied that the residual effects on reptiles do not vary between options and finds the outcome between options to be neutral.

Birds

- 5.15.230 Construction work in the Portbury Wharf nature reserves would avoid the wintering bird season to avoid disturbance to birds associated with the Severn Estuary SPA and Ramsar site. This is set out in the BMS [Doc 5.26.3C, para 2.4.71] together with specific arrangements for Portbury Wharf Nature Reserve [Doc 5.26.3C, para 2.2.17 to 2.2.19],

which are agreed by the AWT [Doc 8.3.2A, ID 8.6.2]. Residual effects are assessed as not significant.

5.15.231 At the time of Application there were differences of opinion regarding the need for installation of bird flight diverters (BFDs) at Portbury Wharf nature reserves. The final positions of parties at the close of Examination were that:

- the AWT had withdrawn its request for BFDs at Portbury Wharf Nature Reserve [REP2-078];
- the Joint Councils, which had argued the case for BFDs from the outset maintained their position for Option B because although the number of overhead lines would reduce, the route of Option B would be further south and east of the existing lines, which would be more in line with the water bodies, to and from which mute swan (the species about which they had concern) might be flying [EV-139 to EV-141];
- NE confirmed that as far as HRA issues are concerned, it is content with the mitigation as proposed, but that any sensitive site with a power line crossing should consider mitigation for EIA reasons; and this could be the case here for mute swan [EV-139 to EV-141]; and
- the Applicant argued it is highly likely that there would be a reduction in bird collision risk; that it does not consider it necessary to fit BFDs because the Option B proposed development would remove/underground three existing 132kV overhead lines as well as a short span of the 132kV BW route, illustrated with a useful diagram [Doc 8.39.2, Figure 2] and that the NGET Bird Diverter Protocol would suffice as this would kick in if sustained patterns of collisions were brought to National Grid's attention.

5.15.232 At the DCO hearing on 17 June, we asked the Applicant to provide suitable wording for inclusion in the DCO should the Secretary of State decide that either BFDs or site-specific monitoring was required and should Option B be recommended. The Applicant provided us with the requested wording for inclusion in the DCO if required [Doc 8.39.2].

5.15.233 On consideration, we have decided to recommend inclusion of the post construction bird monitoring clause in the DCO. This would be required to be agreed with the local planning authority. We have considered the points made by all parties and reflected on NE's view that consideration should be given to sensitive sites with power lines crossing. Having also considered the Applicant's point about reduced number of overhead lines, the diagram [Doc 8.39.2, Figure 2] clearly illustrates the point the Joint Councils made with regards the position of the proposed Option B line and the water bodies. The Panel therefore recommends as a precautionary measure that Requirement 13 of the recommended DCO has an additional sub clause as a mechanism to secure the necessary monitoring.

- 5.15.234 Through the adoption of measure outlined in the BMS and ES, the residual effects during construction and operation on other geese, ducks and waders are assessed as not significant during construction and minor adverse during operation. There are no differences identified between Options A and B [Doc 8.2.27B, Table 1].
- 5.15.235 Residual construction effects on herons and egrets are assessed as minor adverse; and for farmland birds and kingfisher as not significant, for both route options. Residual construction effects on Cetti's warbler, raptors and owls, including barn owls are assessed as not significant under Option A and minor adverse under Option B. Mitigation is secured through species-specific method statements set out in the BMS [Doc 8.2.27B, Table 1].
- 5.15.236 The Panel finds there are some minor differences between the residual effects predicted on bird species during construction, with marginally greater effect for Option B. However the Panel is content that mitigation is secured through the BMS for both options. For residual operation effects, more potential for collision risk for swan, geese and duck from Option B than from Option A is argued as possible by the Joint Councils, whereas the Applicant makes the case that there may be less collision risk. If Option B is taken forward, the Panel recommends that the Secretary of State includes provision for monitoring in the recommended DCO in Requirement 13. The Panel does not consider this is a factor to sway the recommendation to Option A, as the monitoring would establish if there is a collision mortality issue and if it reached an agreed trigger BFDs would need to be installed.

The comparison of the effects between the two options

- 5.15.237 The two route options affect some common areas of habitat, as both options include undergrounding and dismantling of existing 132kV overhead lines which cross Portbury Wharf nature reserves. There are also different habitats affected by the 400kV installations for Options A and B. The main area of difference is at Portbury Wharf Nature Reserve where Option B affects more land and therefore more habitats than Option A. Our consideration of trees, tree groups and hedges is contained in the earlier section on landscape and visual matters.
- 5.15.238 The Joint Councils' LIR acknowledged there was a small amount of additional undergrounding associated with Option B, but felt the landscape benefits of Option B outweighed the negative effects [REP2-116, Appendix H]. The Joint Councils' summary of the case put at the Portbury/Portishead ISH again acknowledged the additional effects on biodiversity from Option B [REP6-003].
- 5.15.239 It appears to the Panel that considerable progress was made after the resumed Portbury/Portishead ISH with discussions between the Applicant and the AWT regarding Portbury Wharf Nature Reserve. There are a number of additional site-specific references which have been added to the BMS. The AWT expressed satisfaction with the BMS

including the additions in the SoCG [Doc 8.3.2A, ID 8.7.1]. The AWT still disagrees with the assessment of baseline construction effects, indicating it would assess these as high, not moderate. However as all parties agree that the effects are greater from Option B, but equally agree mitigation is appropriate, the Panel does not consider what is in effect a difference in professional judgement of the baseline assessment for the Nature Reserve is of material concern in reaching a decision over which route option should be taken forward.

Panel's conclusions on biodiversity

5.15.240 The Panel concludes that route Option B would give rise to marginally more harm to biodiversity receptors. The residual effects for Portbury Wharf nature reserves, where the main differences between options occur, are assessed as minor adverse for both options [Doc 5.8.1, Table 8.30: Residual Effects]. The Panel considers that little weight should be attributed to the slight difference in impact between the two options on this topic.

CONCLUSIONS

5.15.241 As part of the Applicant's pre-application assessment of route options, the COR [Doc 5.2.2.4] identified Option A as the preferred route in this location. In response to consultation, and the considerable amount of feedback which expressed opposition to the draft route in the Portbury area, the Applicant has chosen to leave the ultimate decision on which option is to be preferred to the Secretary of State.

5.15.242 At the ISH on the Portbury/ Portishead Optional Connection alignments held on 15 June 2015 [Doc 8.13.12], the Applicant summarised its view of the comparison of the two Options. It has a preference for Option A, but this preference is a marginal one. The Applicant considers that both options are acceptable in planning and environmental terms and this is why it was appropriate to put both options into the draft DCO, and allow the debate to continue into the Examination.

5.15.243 The Applicant puts forward four factors that it considers support its preference for Option A:

- Option A is shorter and more direct;
- Option A is preferred from a socio-economic perspective as it would reduce the amount of the BPC land that would be affected by the development and it would also reduce the effects on Bristol Port during construction;
- Option A offers the lowest negative effects on the local landscape of all the overhead line route options; and
- Option A would avoid effects on ecological habitats and species to a greater extent than Option B.

5.15.244 The Panel has given consideration to these factors, and various others, under the relevant topic headings in this section, and we shall now summarise our findings.

- 5.15.245 As regards Option A being shorter and more direct, whilst this is undoubtedly true as a statement of fact, we have considered the weight to be attributed to this matter in the context of the Holford Rules as a whole. Option A would be about 1.4km shorter than Option B; it would require two fewer pylons and is predominantly straight whereas Option B uses more angle pylons to achieve changes of direction along a curved alignment. However, Option A would require five more lattice pylons which are taller than T-pylons. We note the statement 'other things being equal' in Holford Rule 3 and we disagree with the suggestion that containing the pylons in a corridor (ie along the M5) is beneficial. The significance of other adverse effects needs to be considered in parallel. Having taken other adverse effects into account, we do not attribute much weight to the Option A route being shorter and more direct.
- 5.15.246 In socio-economic terms, the Panel has had regard to the concerns raised by the BPC in connection with the impact on the Port. We acknowledge that, during the construction phase, the impact of Option B on the BPC's operations would be greater than that of Option A. However, this would be for a limited period of time. During the operational phase, we do not consider that there would be significant differences of impact on the efficiency of the Port's operations, or its potential for future development. Our overall conclusion, in terms of the socio-economic effects of the alternative routes is to regard the outcome as neutral.
- 5.15.247 Turning to the effects on the local landscape, we agree that Option B would have greater adverse effects on the Portbury Wharf Nature Reserve in landscape terms than Option A. However, we believe that the lack of consideration of the effects on landscape character of the proposed overhead line along the M5 for Option A is an unfortunate omission. In addition, taking account of the quality and function of trees and tree groups, Option B would have marginally less adverse effect on landscape character arising from tree removal than Option A. The latter option would also incorporate more of the taller lattice towers in views that form the setting of St Mary's Church, Portbury. We conclude that Option B would be marginally more compliant with the relevant Holford Rules, and would result in marginally fewer adverse effects on the landscape than Option A.
- 5.15.248 As regards the effect on ecological habitats and species, we recognise that Option B would affect more land and, therefore, more habitats at Portbury Wharf nature reserves than Option A. However, we note that the AWT expresses satisfaction with the mitigation that the BMS would secure. The Panel concludes that route Option B would give rise to marginally more harm to biodiversity receptors than Option A. The residual effects for Portbury Wharf nature reserves are assessed as minor adverse for both options.
- 5.15.249 The Applicant acknowledges that, in historic environment terms, the effect of Option A on St Mary's Church would weigh in favour of Option B. However, the Applicant submits that these effects would only be

minor adverse. We have considered the impact on St Mary's Church in detail in Chapter 5.8 of this report. We find that, for Option A, the significance of St Mary's Church would be harmed by the presence of the power line and pylons, and the loss of tree canopy, reinforcing the harmful separation of the listed building from its wider setting caused by the motorway. We conclude that, overall, much greater aggregate harm to heritage and the historic environment would arise from Option A than from Option B.

- 5.15.250 In terms of visual effects, the Applicant does not consider that there are significant differences between the options, but acknowledges that this factor may weigh marginally in favour of Option B. As indicated above, we disagree with the Applicant's assessment of the overall balance of the visual effects. We also consider that Option B meets the requirement of Holford Rule 7, and Supplementary Note 1, better than Option A. For the reasons set out above, our consideration of visual effects provides strong support for Option B.
- 5.15.251 There are a number of other topics, apart from those included in the Applicant's summary of matters in support of Option A, to which we have given consideration. The BPC raises a number of concerns in relation to construction access. We conclude on this topic that the matter of construction access is not a discriminating factor in choosing between Option A and Option B.
- 5.15.252 Paragon Vehicle Services Ltd raises the question of dust impacts if Option B were to be adopted, including the effect on their paint shop. The Applicant's 'Note on Air Quality Mitigation in Bristol Port' sets out details of various mitigation measures that could be employed. In addition to the provisions of the CEMP, site specific mitigation measures for the paint shop would be secured by way of an additional requirement in the recommended DCO. In the light of the mitigation measures that would be provided, we do not regard this matter as being a discriminating factor between the two options.
- 5.15.253 In terms of traffic and transport issues, we conclude that the balance of advantage lies marginally with Option B on highway safety grounds. As far as PRowS are concerned, the balance lies more securely with Option B because of the disruption to the use of the foot-bridge across the motorway at Portbury that would result from Option A.
- 5.15.254 We have also given consideration to ground conditions and the concerns expressed by the BPC in this respect. We conclude that there is a marginal advantage in choosing Option A, but its advantages are not significant enough to regard this as a major discriminating factor.
- 5.15.255 The BPC has confirmed its preference for Option A, in contrast to the position originally adopted in its relevant representation. However, if Option B were to be adopted, the BPC considers that it would be better to use lattice pylons in the Portbury Dock area. We have carefully assessed the points made by the BPC on this issue, but we do not consider that the use of lattice pylons instead of T-pylons in

this location, as an alternative to the submitted scheme, is an issue that requires further consideration by the Secretary of State. This matter carries little weight in our assessment of the relative merits of the two options.

- 5.15.256 The Applicant has provided a comparison of the flood risk considerations for each of the two route options. We conclude that there would be no significant difference between them in terms of flood risk.
- 5.15.257 As regards noise issues, operational noise is assessed as 'minor adverse' or 'negligible' in all conditions for both options. However, since the 400kV overhead line for Option B does not run near any receptors, that option would enjoy some advantage over Option A.
- 5.15.258 There are no groundwater issues that might lead us to prefer one option over the other, nor is pollution prevention a discriminating factor in the choice of route options.
- 5.15.259 We have assessed matters relating to health, and electric and magnetic fields in Chapter 5.7 of this report. We do not consider that these effects would vary depending on the route option chosen. However, we have compared the effects on general well-being between route Option A and Option B. We conclude that route Option B would give rise to the least harm to well-being by some margin.
- 5.15.260 In reaching our overall conclusion on this matter, we have taken into account all the representations made both in writing and orally at the ISHs. We have weighed all the relevant and important matters in the balance, including the additional costs that would be associated with Option B. On many issues, there is little to choose between the two options. However, our assessment has revealed that there are some clear differences between their impacts in certain topic areas. In particular, the effect of Option A on the setting of St Mary's Church; the visual effects and the consequent impact on the well-being of residential occupants for that route option. The conclusion that we reach is that there are very strong grounds, indeed, for preferring Option B over Option A.

Recommended DCO

- 5.15.261 The Panel recommends that Option B be preferred and is included in the recommended DCO that is attached at Appendix E to this report.

6 FINDINGS AND CONCLUSIONS IN RELATION TO HABITATS REGULATIONS

6.1 INTRODUCTION

6.1.1 The Panel's findings and conclusions in this chapter in relation to the Habitats Regulations³⁹ will assist the Secretary of State in performing her duties under the Habitats Regulations. This chapter discusses the evidence presented during the Examination concerning likely significant effects (LSE) on European Sites⁴⁰ potentially affected by the proposed development both alone and in-combination with other projects or plans. We draw our conclusions and make recommendations regarding likely significant effects on European Sites and the available mitigation, where it is considered necessary, to inform the Secretary of State's decision.

6.1.2 This chapter is set out as follows:

- A brief description of the background and main issues, including an explanation of the process for assessment;
- The proposed project site's relationship to European Sites;
- The Habitat Regulations Assessment (HRA) implications of the project;
- Assessment of the likely significant effects resulting from the project alone and in-combination;
- Findings in relation to adverse effects on the integrity of European Sites; and
- Conclusions.

BACKGROUND AND MAIN ISSUES

6.1.3 The Applicant submitted a report to inform HRA under Reg 5(2)(g) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009; 'The Applicant's Report to Support the Habitats Regulations Assessment' (the HRA Report), [Doc 5.20] with the Development Consent Order (DCO) application; together with screening and integrity matrices. The HRA Report considered 16 European Sites and concluded that there is the potential for likely significant effects on nine European Sites. The information in that report was determined sufficient to accept the application for examination.

6.1.4 In response to our first round questions and representations made by Interested Parties (IPs) during the Examination, the Applicant

³⁹ The Conservation of Habitats and Species Regulations 2010 (as amended) (the Habitats Regulations)

⁴⁰ The term European Sites in this context includes Special Areas of Conservation (SACs), Sites of Community Importance (SCIs), candidate SACs (cSACs), Special Protection Areas (SPAs), potential SPAs, Ramsar sites, and any sites identified as compensatory measures for adverse effects on any of the above. For a full description of the designations to which the Habitats Regulations apply, and/or are applied as a matter of Government policy, see PINS Advice Note 10 and the Habitats Regulations Assessment Handbook (DTA Publications July 2014)

provided an updated HRA Report [Doc 5.20.1A] and screening and integrity matrices [Doc 5.20.2A] for Deadline 2. In response to a request at the Biodiversity and HRA Issue Specific Hearing (ISH), a further set of screening and integrity matrices were submitted by the Applicant for Deadline 5 [Doc 5.20.2B]. The additional matrices submitted did not include any changes to the European Sites and features covered in the assessment. The Applicant also submitted its 'Report to Support Habitats Regulations Assessment: Sensitivity Test' [Doc 5.29.2.1] on 1 October 2014, which was accepted into the Examination by the Examining authority's (ExA's) Rule 8 letter dated 12 March 2015 [PD-010]. This document provides a sensitivity test of the Applicant's submitted HRA Report [Doc 5.20] to consider whether there would be any changes to the assessment as a result of the revised construction programme related to the revised connection date.

6.1.5 The main HRA issues raised during the Examination, which are covered in more detail below are as follows:

- methodology for in-combination assessment;
- effects on the migratory fish assemblage of the Severn Estuary Ramsar site and Severn Estuary Special Area of Conservation (SAC);
- effects on the bird qualifying features of the Somerset Levels and Moors Special Protection Area (SPA) and Ramsar site and the Severn Estuary SPA and Ramsar site; and
- effects on bat species' qualifying features of five SACs, in particular the extent of the loss of bat foraging habitat along areas to be undergrounded; and agreement on mitigation measures.

6.1.6 Both the Joint Councils and Natural England (NE) raise matters which challenged the Applicant's assertion of no adverse effects on the integrity of some European Sites. By close of the Examination, these matters were mainly resolved to the satisfaction of those IPs which had commented, through the submission of additional evidence from the Applicant and/or through mitigation proposed by the Applicant. There is one outstanding matter; regarding the length of time newly planted bat foraging habitats are maintained, where we consider the final mitigation proposed by the Applicant does not strictly meet the stated requirement from NE, to ensure no adverse effects on the integrity of the conservation objectives of two of the bat SACs. Accordingly we propose alternative wording in the ExA's recommended DCO (the recommended DCO) for the Secretary of State to consider; as a precautionary approach. We are of the view our wording represents the understanding and expectation of both NE and the Joint Councils. This is set out in more detail below.

PROCESS FOR ASSESSMENT

The Habitats Directive and Habitats Regulations

- 6.1.7 The Secretary of State for Energy and Climate Change is the Competent Authority for the purposes of the Habitats Directive⁴¹ and Habitats Regulations for energy applications submitted under PA2008.
- 6.1.8 Regulation 61 of the Habitats Regulations states that if a proposed development is likely to have a significant effect on a European Site either alone or in-combination with other plans and projects and it is not directly connected with or necessary to the management of the Site; then the Competent Authority must undertake an appropriate assessment of the implications for that Site in view of its conservation objectives. Consent for the proposed development can only be granted if, having assessed the effects the project would have on European Sites, the Competent Authority's appropriate assessment concludes that the integrity of European Sites would not be adversely affected, subject to Regulation 62 (considerations of overriding public interest).
- 6.1.9 Planning Inspectorate Advice Note 10⁴² (republished June 2015) summarises the four stage process to be followed to ensure sufficient information is available to support the competent authority in satisfying the regulations. The four stages are:
- Stage 1: screening;
 - Stage 2: appropriate assessment;
 - Stage 3: assessment of alternative solutions; and
 - Stage 4: IROPI (imperative reasons of overriding public interest).
- 6.1.10 The screening stage is carried out to determine whether significant effects alone or in combination with other plans and projects are likely to occur. If likely significant effects (LSE) can be excluded on the basis of objective evidence; and if the Competent Authority agrees this is the case, then no further action is required and the project can be consented. If significant effects are likely or cannot be excluded, the Competent Authority must undertake an appropriate assessment of the implications of the project for the European Site(s) in light of the Site's conservation objectives.
- 6.1.11 As well as deciding whether or not appropriate assessment is necessary, the Competent Authority must also decide if the information provided by the applicant is sufficient to exclude an adverse effect upon the integrity of the European Site. If this cannot be demonstrated, then the applicant's assessment needs to move to stages 3 and 4 of the HRA process as listed above. The Applicant sets

⁴¹ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (as codified) (the 'Habitats Directive')

⁴² Planning Inspectorate Advice Note 10: Habitat Regulations Assessment relevant to Nationally Significant Infrastructure Projects

this process out in its updated HRA Report [Doc 5.20.1A, para 1.1.5 to 1.1.7].

The Report on the Implications for European Sites

- 6.1.12 The purpose of the Report on the Implications for European Sites (RIES) [OD-010] and the consultation responses received in relation to it is to compile, document and signpost information provided within the DCO application, and the information submitted throughout the Examination by both the Applicant and IPs. It is issued to ensure that IPs, including the statutory nature conservation bodies (SNCBs), are consulted formally on Habitats Regulations matters.
- 6.1.13 The RIES is not updated and responses to the RIES are not incorporated. The responses form additional information which was used in preparing this report and which the Secretary of State can use to inform an appropriate assessment (if considered necessary). This process may be relied on by the Secretary of State for the purposes of Regulation 61(3) of the Habitats Regulations.
- 6.1.14 The ExA notified IPs that the RIES had been published [PD-013], requiring responses to it by Deadline 7 (13 July 2015). As certain points of difference between parties had not been clarified and some information was outstanding prior to the RIES's issue; the ExA's 24 June 2015 letter [PD-013] also requested parties, namely the Joint Councils and NE to provide clarification on certain matters by Deadline 7. The RIES itself covered examination activity up to and including information received at Deadline 6 (18 June 2015).
- 6.1.15 The written responses to the request for comments regarding the RIES [OD-010] and the ExA's request for comments [PD-013] were received at Deadline 7 from:
- The Applicant [Doc 8.40 and 8.46];
 - The Joint Councils [REP7-071, para 2.2], which defers to NE's view on the RIES generally, and [REP7-010, Section 1.4.10] which answers our specific questions; and
 - NE [REP7-003], which sets out comments on the RIES in para 1, responds to our questions and provides conservation objectives for relevant European Sites at para 2.

A further submission was received from the Applicant at Deadline 8 [REP8-012, point 6].

- 6.1.16 Statements of Common Ground (SoCGs), submitted after Deadline 6; and for Deadline 7 also confirmed some of these points. These were between the Applicant and the Joint Councils [Doc 8.3.12A] and the Applicant and NE [Doc 8.3.1B]. The Applicant's response to the RIES [Doc 8.40] also refers to these SoCGs. The Applicant's additional submission [REP8-012, point 6] responded to points NE had made in its response to the RIES.

6.2 PROJECT LOCATION IN RELATION TO EUROPEAN SITES

PHYSICAL CONNECTIONS

6.2.1 The Applicant's updated HRA Report [Doc 5.20.1A, para EX7 and 2.5.3] explains that the proposed project has virtually no physical connection with any European Sites. The exceptions are to the Severn Estuary SPA, Ramsar site and SAC, which:

- is over sailed at the River Avon crossing;
- has potential for temporary disturbance to qualifying species during removal of existing 132kV pylons; and
- is affected by installation of pylons at the Hinkley Point C line entries; the permanent land take being less than 10m², which is 0.00001% of the designated area.

6.2.2 No adverse effects are predicted for the Severn Estuary SAC at the Avon crossing oversailing because the Applicant has committed to avoid encroachment onto the intertidal saltmarsh and mudflat habitats [Doc 5.8.1, para 8.5.78]. Mitigation would include adjustment to working areas and in the event that stringing cannot be undertaken by helicopter, pilot bonds would be walked across the grassland habitats [Doc 5.8.1 para 8.5.78 to 8.5.79].

6.2.3 The Applicant predicts that the potential for disturbance to qualifying species from water bodies used by wintering birds for the duration of 132kV removal works would be a short term effect of low magnitude. The removal activities are located on land outside the internationally designated area, but it is used by SPA birds [Doc 5.8.1, para 8.5.82].

6.2.4 The Applicant's ES [Doc 5.8.1, para 8.5.80] sets out the predicted effects for the parts of the Severn Estuary SPA and Ramsar site designation at the Hinkley line entries. The SPA construction stage effects arise from habitat loss or disturbance to winter feeding or roosting sites, from construction working areas and accesses, which are not anticipated to affect the integrity of the site, as very few SPA and Ramsar site qualifying species were recorded on the area. The permanent loss is limited to pylon feet for three towers, which would be offset by the removal of four pylons resulting in a negligible gain of habitat [Doc 5.26.3C, para 2.2.6 to 2.2.8].

ECOLOGICAL CONNECTIONS

6.2.5 In addition to the direct physical impacts described above, the project's zone of influence may lead to indirect impacts on European Sites because:

- bats from a number of SACs forage within the project boundaries;
- bird species from SPAs and Ramsar sites pass through the project area; and
- migratory fish from SACs and Ramsar sites may use watercourses in the project area.

- 6.2.6 Adopting the precautionary principle, the Applicant therefore prepared its updated HRA Report [Doc 5.20.1A]. The Applicant had worked closely with NE to agree the broad principles and practical proposals for mitigation for potential impacts on European Sites; and NE stated that much had been agreed [REP2-043, para 5.1.1]. The HRA Report identifies European Sites and their designated features that may be influenced by the proposed development; and where impact pathways were found consideration was given as to whether LSE could occur. The Applicant's assessment considered the effects of the proposed development by itself and in-combination with other projects or plans [Doc 5.20.1A, para 3.1.2].
- 6.2.7 The proposed development is not connected with, or necessary to the management for nature conservation of any European Sites.

6.3 HABITAT REGULATIONS ASSESSMENT IMPLICATIONS OF PROJECT

THE APPLICANT'S SCREENING (STAGE 1)

Relevant sites and features

- 6.3.1 Prior to examination, the Applicant considered the potential for LSE on 16 European Sites. These are listed in its HRA Stage 1⁴³ screening matrices submitted with the DCO application [Doc 5.20] and did not change in the updated HRA Report and matrices, other than for typographical amendments [Doc 5.20.1A and 5.20.2A, Appendix 20A]. The Applicant's approach to selecting sites is described in the RIES [OD-010, para 2.3]. It covers construction, operation and decommissioning phases.
- 6.3.2 Of the 16 European Sites, the Applicant concluded no LSE resulting from the proposed project on all qualifying features of seven of the European Sites. These sites are listed in the RIES [OD-010, para 3.7]. After a two-stage screening process, the Applicant concluded that LSE could not be excluded for nine European Sites and their qualifying features. These sites with features are listed in the RIES [OD-010, Table 3-1] and comprise:
- Somerset Levels and Moors SPA (migratory waterbirds);
 - Somerset Levels and Moors Ramsar site (migratory waterbirds);
 - Severn Estuary SPA (migratory waterbirds);
 - Severn Estuary Ramsar site (migratory waterbirds, fish, habitat);
 - North Somerset and Mendips Bat SAC (bats);
 - Mendip Limestone Grasslands SAC (bats);
 - Exmoor and Quantock Oakwoods SAC (bats);
 - Mells Valley SAC (bats); and
 - Bath and Bradford-on-Avon Bats SAC (bats).

⁴³ Planning Inspectorate Advice Note 10 (version 5, August 2013) sets out the recommended four stage approach for determining whether a significant effect is likely on a European Site

In-combination assessment with other plans and projects

- 6.3.3 The Applicant's screening process also includes consideration of any other plans and projects which could have LSE on a European Site in-combination with the proposed development. The Applicant's initial screening exercise established potential in-combination effects on SPA bird qualifying features [Doc 5.20.1A, para 3.10.5 to 3.10.13]. The Applicant undertook further screening to identify which of these plans and projects could lead to in-combination effects on the bird species which are designated features from European Sites [Doc 5.8.2.4, Appendix 8F, Section 5]. The final list of 12 projects included in the in-combination assessment for SPAs and Ramsar sites are listed in the updated HRA Report [Doc 5.20.1A, para 3.10.13] and in the RIES [OD-010 para 3.3].
- 6.3.4 The Applicant's approach to potential effects on the bat features of SACs is described in the updated HRA Report [Doc 5.20.1A, para 3.10.14]. In response to our Q17.9 [PD-007] the Applicant provided further updates [Doc 8.2.28, Appendix 17.9c.1.1]. Four projects were initially identified as having potential for in-combination effects as they fell within the bat consideration zones. Following the Applicant's use of the Somerset Biodiversity Offsetting Method, subsequently called the Somerset Habitat Evaluation Procedure (HEP), as requested by the Joint Councils; three additional projects were found to fall in SAC bat consideration zones and were added to the list of projects [Doc 8.1.3, response 17.9.4 and Doc 8.2.28, Appendices 17.9c.1.1 and 17.9c.1.2] and updated HRA Report [Doc 5.20.1A, Tables 5.10 and 5.11].
- 6.3.5 The Applicant's Report to Support Habitats Regulations Assessment: Sensitivity Test [Doc 5.29.2.1] provides a sensitivity test of the submitted HRA Report [Doc 5.20] to consider whether there would be any changes to the assessment as a result of the proposed revised construction programme related to the revised connection date. The sensitivity test concludes that there are no changes required to the overall screening; but the in-combination assessment was updated to include 16 additional plans and projects [Doc 5.29.2.1, Table 3.5], of which one is considered to have the potential to affect birds from SPAs and a further six fall into the bat consideration zones for some of the bat SACs.
- 6.3.6 The Applicant concludes that the revised construction programme does not affect the conclusion of the in-combination assessment in the submitted HRA and that commitments to mitigation regarding timing and phasing of works would ensure that no other conclusions of the submitted HRA are adversely affected [Doc 5.29.2.1, Section 6].

THE VIEWS OF OTHER INTERESTED PARTIES

- 6.3.7 In response to Q17.4 [PD-007], both the Joint Councils [REP2-087] and NE [REP2-043] confirmed that they are satisfied that the relevant sites and features are covered in the assessment. Additional matrices submitted by the Applicant at Deadline 5 did not contain any changes

to the European Sites and features included in the assessment. NE also confirmed in response to Q17.5 [PD-007] and in its final SoCG with the Applicant that it considers the relevant sites have been progressed to the Stage 2 HRA assessment [REP2-043] and [Doc 8.3.1B].

- 6.3.8 In response to Q17.9 [PD-007] both NE [REP2-043] and the Joint Councils [REP2-087] confirmed that in their opinion, relevant plans and projects have been screened into the in-combination assessment. However the Joint Councils did raise concerns during examination about the adequacy of the approach to in-combination assessment within the Applicant's HRA (and cumulative assessment for EIA). The crux of their argument as set out in their Local Impact Report (LIR) [REP2-111, Table 1, ref 1.4 and Table 2A, ref 2.1 and 2.2], is that the cumulative assessment methodology and its application is insufficient because it excludes consideration of combined impacts from projects that individually have no significant effects. In relation to HRA, the Joint Councils considered that significant effects may have been dismissed inappropriately by the in-combination assessment, in their SoCG [Doc 8.3.12, ID 8.1.7 and ID 17.5], which they linked to their view on cumulative effects [Doc 8.3.12, ID 8.1.5].
- 6.3.9 The Applicant confirmed corrections to the cumulative assessment description in its ES clarification note [Doc 5.30, correction to volume 5.8.1, para 17.3.27]. The Applicant gave further clarification at the Biodiversity and HRA ISH (1 May 2015) regarding how the cumulative assessments had been undertaken, explaining it used a receptor-led approach and not a project-by-project approach, such that all effects on receptors were considered in the assessment [EV-092]. At this stage, the Joint Councils reserved their position with regards to bat SACs, as they felt the Applicant may have eliminated some projects too quickly because they had no significant effects; making the point that no significant effect is different from no effect. NE confirmed it was content with both the bat consideration zones and the projects that the Applicant had included in its assessment (although at this point NE was reserving its position on final integrity) [EV-090].
- 6.3.10 The Panel is satisfied that the Applicant's screening assessed all relevant European Sites and qualifying features and took into account all relevant plans and projects for its in-combination assessment. In later submissions, NE and the Joint Councils confirmed their agreement with the Applicant's conclusions on LSE alone or in-combination with other plans and projects [Doc 8.3.1B and 8.3.12A]. This is described in more detail below.

6.4 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS RESULTING FROM THE PROJECT, ALONE AND IN COMBINATION

THE APPLICANT'S ASSESSMENT (STAGE 2)

6.4.1 The Applicant's updated HRA Report and updated matrices [Doc 5.20.1A and 5.20.2A] concluded that there would be no LSE on seven of the 16 European Sites and their qualifying features. The sites excluded from further assessment are:

- Avon Gorge Woodlands SAC;
- Chew Valley SPA;
- Wye Valley Woodlands SAC;
- Wye Valley and Forest of Dean bat SAC;
- River Wye SAC;
- Severn Estuary SAC; and
- Mendip Woodlands SAC.

6.4.2 The nine sites that were taken forward in the Applicant's HRA Report and matrices [Doc 5.20.1A and 5.20.2A] to the next stage are listed in the table below, with the qualifying features that the Applicant considers relevant.

Table 6.1: European Sites for which the Applicant concluded LSE could not be ruled out (taken from the RIES, Table 3.1)

European site	Features for which LSE cannot be excluded
Somerset Levels and Moors SPA	Over-wintering Bewick's swan
	Over-wintering Eurasian teal
	Over-wintering golden plover
	Over-wintering Northern lapwing
	Over-wintering Eurasian wigeon
	Over-wintering Northern shoveler
	Over-wintering population of waterfowl
Somerset Levels and Moors Ramsar site	Wintering tundra swan (Bewick's swan)
	Wintering Eurasian teal
	Wintering Northern lapwing
	Wintering mute swan
	Wintering Eurasian wigeon
	Wintering Northern pintail
	Wintering Northern shoveler
	Wintering waterfowl assemblage

European site	Features for which LSE cannot be excluded
Severn Estuary SPA	Over-wintering Bewick's swan
	Over-wintering shelduck
	Over-wintering gadwall
	Over-wintering dunlin
	Over-wintering redshank
	Over-wintering European white-fronted goose
	Over-wintering curlew
	Over-wintering Northern pintail
	On passage ringed plover
	Over-wintering population of waterfowl
The Severn Estuary Ramsar site	Over-wintering Bewick's swan
	Wintering shelduck
	Wintering gadwall
	Over-wintering dunlin
	Wintering redshank
	Wintering white-fronted goose
	Breeding lesser black-backed gull
	On passage ringed plover
	Wintering Eurasian teal
	Wintering Northern pintail
	Wintering waterfowl assemblage
North Somerset and Mendip Bats SAC	Greater horseshoe bat
	Lesser horseshoe bat
Mendip Limestone Grasslands SAC	Greater horseshoe bat
Exmoor and Quantock Oakwoods SAC	Barbastelle bat
Mells Valley SAC	Greater horseshoe bat
Bath and Bradford-on-Avon Bats SAC	Greater horseshoe bat

6.4.3 These European Sites and qualifying features listed above are therefore considered in more detail in the section on findings in relation to the assessment of adverse effects on integrity of site conservation objectives below.

VIEWS FROM OTHER INTERESTED PARTIES

- 6.4.4 At the time the RIES [OD-010] was issued under cover of the ExA's 24 June 2015 letter [PD-013], agreement between the Applicant and NE and the Applicant and the Joint Councils with regards conclusions about LSE in some areas was not confirmed. Subsequently confirmation was received; and we report these points below.

Severn Estuary SAC

- 6.4.5 As reported earlier, both NE and the Joint Councils had confirmed that they were satisfied that the relevant sites and features had been covered in the assessment; and NE had confirmed it considered the relevant sites had been taken forward to Stage 2 of the HRA. However as we did not have confirmation of agreement from either party that they did not dispute the Applicant's finding of no LSE from the proposed project on the qualifying features of the Severn Estuary SAC, we sought clarification on this point in our 24 June 2015 letter [PD-013].
- 6.4.6 Both the Joint Councils [REP7-010, point 1.4.10.1] and NE [REP7-003] confirmed their agreement with the Applicant's stated conclusion of no LSE from the proposed project on the qualifying features of the Severn Estuary SAC. Additionally issues such as this, which were stated as outstanding between parties in the RIES [OD-010], have now been clarified in the updated SoCG between the Applicant and the Joint Councils [Doc 8.3.12A], confirming agreement of no LSE.

Migratory fish populations of the Severn Estuary Ramsar

- 6.4.7 The Applicant's updated HRA Report [Doc 5.20.1A] concludes no LSE for the migratory fish populations of the Severn Estuary Ramsar site and does not therefore take this qualifying feature forward to stage 2 HRA. In their LIR [REP2-111, Table 2A, item 2.5] the Joint Councils stated that the effects of heating and vibration had not been assessed adequately. Also in their SoCG, the Joint Councils disagreed with the Applicant's proposed embedded construction mitigation to offset the effects of vibration on qualifying fish species from SACs, SPAs and Ramsar sites [Doc 8.3.12, ID 8.23.1]. The Joint Councils also raised issues concerning potential effects from cable heating on water courses [Doc 8.3.12, ID 8.43].
- 6.4.8 At Deadline 3, in its response to the points in the Joint Councils LIR, the Applicant submitted further evidence on the effects of underground cable heat on aquatic receptors [Doc 8.6.1, ref 2.5 and Doc 8.6.2, Appendix A] and vibration effects on ecological receptors [Doc 8.6.2, Appendix B].
- 6.4.9 At the Biodiversity and HRA ISH, the Environment Agency (EA) advised that it had no concerns about effects from cable heating and offered to provide further advice on noise and vibration effects [EV-090 to EV-092]. The Joint Councils' summary from the Biodiversity and HRA ISH [REP4-008] confirmed they awaited further advice from

the EA. At Deadline 5, the EA advised it does not have any concerns about noise or vibration on aquatic organisms [REP5-021].

- 6.4.10 Following a request from the ExA in our 24 June 2015 letter, the Joint Councils confirm that they now agree with the Applicant's assessment of no LSE from the proposed project on migratory fish from European Sites [REP7-010, point 1.4.10.2]. This point is also agreed in the updated SoCG between the Applicant and the Joint Councils [Doc 8.3.12A, IDs 8.6, 8.13, 8.13.1, 8.23, 8.43] and is referred to in the Applicant's response to the RIES [Doc 8.40, ID iii].

PANEL'S CONCLUSIONS ON ASSESSMENT OF LSE RESULTING FROM THE PROJECT

- 6.4.11 We consider there is sufficient evidence to allow the Secretary of State to conclude that significant adverse effects can be excluded for those European Sites assessed by the Applicant as having no LSE; namely: Avon Gorge Woodlands SAC; Chew Valley SPA, Wye Valley Woodlands SAC, Wye Valley and Forest of Dean bat SAC, River Wye SAC, Severn Estuary SAC and Mendip Woodlands SAC.

6.5 FINDINGS IN RELATION TO ADVERSE EFFECTS ON THE INTEGRITY OF EUROPEAN SITES

CONSERVATION OBJECTIVES

- 6.5.1 The conservation objectives for the European Sites assessed by the Applicant at application stage are included in the ES Appendix 8F [Doc 5.8.2.4]. For the sites taken forward to Stage 2 of the HRA, this comprises the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site. Generic conservation objectives were provided by the Applicant for the European sites with bat qualifying features in the Applicant's updated HRA Report [Doc 5.20.1A]. NE responded to our 24 June 2015 letter [PD-013] confirming that the Applicant had presented the correct conservation objectives, in terms of material content, but those documents had since been superseded. NE therefore attached the most up-to-date conservation objectives for all European sites screened into stage 2 HRA [REP7-003]. These were also provided by the Applicant [Doc 8.46].

THE INTEGRITY TEST

- 6.5.2 The Applicant concluded that, taking the relevant site conservation objectives into consideration, the proposed development would not adversely affect the integrity of any European Site, either alone or in combination with other plans or projects. This position was not agreed at the start of the Examination by some IPs. Both NE and the Joint Councils raised concerns. The points made by these parties and the process by which agreement was reached are described in more detail below.

- 6.5.3 By the time of publication of the RIES [OD 010], NE had indicated it was satisfied that the proposed development would not adversely affect the integrity of the nine sites considered by the Applicant, subject to appropriate mitigation [Doc 8.3.1A]. The position of the Joint Councils on some issues at that time was unclear. Subsequently agreement was reached between the Applicant and the Joint Councils on the conclusion of no significant adverse effect on the integrity of the European Sites included in the Stage 2 HRA [Doc 8.3.12A and REP7-010, point 1.4.10].

Effects on the bird qualifying features of the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site

- 6.5.4 The Examination focussed on the need to agree appropriate bird collision monitoring and mitigation for potential impacts on birds from two European Sites; the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site. The locations which have been subject to representations during the Examination include: Hallen Marsh and Portbury Wharf Nature Reserve, which during the course of examination have been agreed as not requiring consideration under HRA; and the area south of Mark, which is agreed as requiring suitable mitigation. We report these separately below followed by a section on the positions of IPs and our conclusions.

Hallen Marsh

- 6.5.5 The proposed development crosses Hallen Marsh, as has been described in Section 5.2 of this report. Hallen Marsh is allocated as offsetting habitat for future development at Avonmouth Severnside Enterprise Area (ASEA). The need for offsetting habitats was identified through the review of the consent for the ASEA project which was undertaken to comply with the requirements of Regulation 63 of the Habitats Regulations [EV-093]. Although initially regarded as a matter for consideration under Regulation 61 of the Habitats Regulations, it was suggested by NE at the Biodiversity and HRA ISH that the need or otherwise for bird flight diverters (BFDs) is an EIA matter rather than one for HRA [EV-090 to EV-092]. This was later confirmed in response to our Q2.2.5 by NE [REP5-013] and the Joint Councils [REP5-012]. In our opinion, no further consideration of effects on SPA qualifying bird species flying over Hallen Marsh is necessary for HRA purposes for the proposed development.

Portbury Wharf Nature Reserve

- 6.5.6 As described in Section 5.15 of this report, the matter of potential installation of BFDs at Portbury Wharf Nature Reserve remains a matter of disagreement between the Applicant and the Joint Councils, if route Option B is selected. However as established at the Portishead/ Portbury ISH on 15 June 2015, the collision risk concerns raised at the ISH relate to mute swan, which is not a qualifying feature for the Severn Estuary SPA and Ramsar site [EV-141]. NE

confirmed at the ISH that it is content that the Applicant's assessment of no adverse effects on the designated bird features of the SPA and Ramsar site [EV-141]. The Panel is content with the views expressed; and considers the Secretary of State can rely on the Applicant's conclusion of no adverse effects in connection with any potential adverse effects from collision risk on SPA birds flying across Portbury Wharf Nature Reserve.

Area south of Mark

- 6.5.7 From the outset, the Applicant proposed fitting BFDs to three sections of the 400kV overhead line as part of the embedded mitigation strategy. These are specified in Requirement 13(1) of the Applicant's draft DCO and the locations are described and shown in the updated HRA Report [Doc 5.20.1A, Inset 4.10 and para 4.6.165 to 4.6.169] and in the updated Biodiversity Mitigation Strategy (BMS) [Doc 5.26.3C, Inset 2.3]. The three locations proposed for fitting the BFDs are based on the Applicant's surveys and collision risk modelling [Doc 5.20.1A, para 4.6.20 to 4.6.182 and Doc 5.8.2.4 Appendix 8F]. The BFD locations would be as proposed initially by the Applicant. The only disagreement was regarding the inclusion or otherwise of diverters for the two other sites mentioned above; matters which are now agreed not to form part of the HRA. More details about the BFDs are contained in a note provided by the Applicant in response to an action request at the DCO ISH on 17 June 2015 [Doc 8.39.1].
- 6.5.8 Further embedded mitigation which is secured in the updated BMS [Doc 5.26.3C, para 2.2.14] would be the timing of the installation of the stringing of the new 400kV overhead line, which must take place only after the removal of the F Route 132kV conductors and earth wires. This point is made by NE as it considers there would be a need for an assessment of in-combination effects if the two lines were in place at the same time because the likely impacts on SPA/ Ramsar birds would be greater [REP7-003]. The Applicant confirmed this is secured in its covering letter at Deadline 8 [REP8-012, point 6].
- 6.5.9 At Deadline 5 the Applicant submitted a document 'Bird Mortality Monitoring and Thresholds South of Mark' [Doc 5.33.1], which would be secured through the DCO. Post construction bird collision monitoring would be secured under Requirement 13(2) of the Applicant's final DCO, for the length of proposed overhead line between the Bridgwater Tee and Mark [Doc 2.1.1E and 2.1.2E]. This sets out the locations [Doc 5.33.1, inset 2] and processes to be adopted for post construction bird mortality monitoring, including agreed thresholds and triggers which would be used for further action, as well as the locations for BFDs [Doc 5.33.1, inset 1]. A working group is defined which would oversee the implementation of the monitoring [Doc 5.26.3C, para 2.2.16 and Doc 5.33.1, para 3.9]. In response to Q2.17.3, NE confirmed its agreement with the Bird Mortality Monitoring and Thresholds Document [REP5-013]. As discussed at the DCO ISH on 16 June 2015, access for mortality

monitoring is secured through article 18(1)(c) in the Applicant's draft DCO [EV-143].

- 6.5.10 The Applicant has agreed to fund a radio-tagging survey to investigate movements of wigeon and/or teal between the Somerset Levels and Moors and the Severn Estuary SPA Ramsar site, which would be undertaken by the British Trust for Ornithology. This is subject to separate agreement in which the Applicant would pay £50,000 before commencement of Work 1D to the British Trust for Ornithology to carry out the study. It is secured in the s106⁴⁴ agreement between the Applicant and the Joint Councils [Doc 8.4B, schedule 5, point 3]. NE stated that it agrees with the proposal [Doc 8.3.1A, ID 8.22]. The Applicant has made it clear that it does not view this proposal as mitigation for the effects of the project [Doc 8.1.1, para 4.55.1 to 4.55.3].
- 6.5.11 The Panel has attributed no weight to this separate agreement in the recommendations we reach on HRA matters and suggest that the Secretary of State should do likewise. However, we mention it for completeness as it is a contribution to improving knowledge in an area of relevance to bird flight paths that cross the proposed overhead line.

The National Grid Bird Protocol

- 6.5.12 The National Grid Bird Protocol (also in places referred to as the NGET Protocol), sets out the commitments that the Applicant makes should bird use change across the entire area. This is secured through the BMS and set out in the ES [Doc 5.8.2.4, Appendix 8G] and also appended to the Bird Mortality Monitoring and Thresholds Document [Doc 5.33.1, Appendix 1].

The position of Natural England

- 6.5.13 NE confirmed in its updated SoCG with the Applicant at Deadline 6 [Doc 8.3.1A, ID 8.52] that it agreed with the Applicant's updated HRA Report, which finds no adverse effect on the integrity of the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site when mitigation is taken into account.

The Panel's view on the two SPA and Ramsar sites with bird qualifying features

- 6.5.14 As stated in the RIES [OD-010, para 4.17], integrity matrices are not provided for the Somerset Levels and Moors SPA and Ramsar site and the Severn Estuary SPA and Ramsar site because matters were concluded, and the relevant IPs agreed with the Applicant's position that the proposed development would not generate any adverse effects on the integrity of the conservation objectives for the two aforementioned European Sites.

⁴⁴ Section 106 of the Town and Country Planning Act 1990

6.5.15 The Panel is content that the Applicant has provided sufficient details for the installation of the BFDs in three agreed locations, for monitoring a further section of line south of Mark; and for a process which identifies actions, should changed bird behaviour be observed and reported along the rest of the length of the proposed overhead line. The Panel considers the monitoring for the mitigation required for excluding adverse effects on the two SPAs and Ramsar sites can be arranged through the multi-agency working group that the Applicant has committed to setting up [Doc 5.33.1, para 3.9].

Effects on the bat qualifying features of five bat SACs

6.5.16 Five European Sites designated for bat qualifying features were carried forward to Stage 2 HRA in the Applicant's assessment. The sites and the relevant bat species are listed below:

- North Somerset and Mendip Bats SAC (greater horseshoe bat and lesser horseshoe bat);
- Mendip Limestone Grasslands SAC (greater horseshoe bat);
- Mells Valley SAC (greater horseshoe bat);
- Bath and Bradford-on-Avon Bats SAC (greater horseshoe bat); and
- Exmoor and Quantock Oakwoods SAC (barbastelle bat).

Bat SACs where agreement is reached that the proposed development would not adversely affect the integrity of European Sites, based on bat foraging and commuting distances

6.5.17 The Applicant's updated matrices [Doc 5.20.2A] predict that there would be no adverse effect on the integrity of the Mells Valley SAC, the Bath and Bradford-on-Avon Bats SAC and the Exmoor and Quantock Oaklands SAC. The matrices in the RIES [OD-010] also report agreement on this matter between Applicant and NE in their updated SoCG [Doc 8.3.1A].

Mitigation proposed by the Applicant for the North Somerset and Mendip Bats SAC and the Mendip Limestone Grasslands SAC

6.5.18 As mitigation needs to be considered as part of the HRA process, we set out the position here. The Applicant proposes mitigation measures which it considers would prevent adverse effects on the integrity of European Sites for the relevant bat species from these two European Sites. The mitigation is proposed to offset disturbance, temporary construction stage habitat loss of foraging areas, permanent changes to habitat in some of the bat consideration zones [Doc 5.20.1A, para 5.2.61 to 5.2.64] and fragmentation of roosting and foraging habitat [Doc 5.20.1A, para 5.2.74 to 5.2.79 and 5.2.85 to 5.2.90]. Mitigation proposals are set out in the updated HRA Report comprising temporary and permanent management regimes for increasing invertebrate diversity, the use of temporary bat flyways, phasing of

works, bespoke planting and maintenance proposals (eg at Sandford substation) and lighting design [Doc 5.20.1A, para 5.2.65 to 5.2.70; 5.2.80 to 5.2.84, 5.2.91 to 5.2.92 and 5.2.96].

- 6.5.19 The ES Sensitivity Test of the Construction Environmental Management Plan (CEMP) [Doc 5.29.2.4, Section 3.2] identified that the revised construction programme increased the duration of the works associated with the 400kV underground cable. Phased working and limits on maximum length of working areas were therefore required to mitigate impacts on bats from the two SACs. Early reinstatement is also proposed for some of the habitat loss at Sandford substation [Doc 5.29.1.3, Figure 7.35.6]. These were incorporated in the next versions of the BMS.
- 6.5.20 The Applicant's draft DCO [Doc 2.1.1E and 2.1.2E] would secure the mitigation through:
- DCO Requirement 5 "*Construction Environmental Management Plan*" - specifically 5(2)(b) "*Biodiversity Mitigation Strategy*";
 - DCO Requirement 6(a) "*Approval and implementation of construction mitigation plans*" - specifically 6.(a) "*Soil Management Plan*."
 - DCO Requirement 8 "*Control of artificial light emissions*";
 - DCO Requirement 9 "*Provision of embedded landscape mitigation*";
 - DCO Requirement 11 "*Implementation of landscaping and replacement planting*" - specifically with regards timing of planting at Sandford substation and replacement planting; and
 - DCO Requirement 14 "*Bat mitigation measures*".
- 6.5.21 The updated BMS sets out that Requirement 14 would be the primary mechanism for securing bat mitigation; and it allows for proposals to be amended if approved by NE. The updated BMS also states that there is no conflict between Requirement 14 and Requirement 5 [Doc 5.26.3C, Appendix D, para 6.1.3 and 6.2.1].
- 6.5.22 The updated BMS, submitted at Deadline 7, sets out baseline data, habitat scoring and mapping using the Somerset HEP and management codes [Doc 5.26.3C, Appendix D]. The mechanisms for securing, amending and monitoring are also set out. Habitat management for the construction stage is prescribed on plans on a field-by-field basis [Doc 5.26.3C Appendix D, Figures 5.1 to 5.3] and for all boundaries [Doc 5.26.3C Appendix D, Figures 6.1 to 6.3].
- 6.5.23 To define the management and maintenance, the updated BMS states "*During years 1-5 management prescriptions and actions will be as for all reinstated hedgerows but with the additional task of maintaining fencing. During years 6 to 8 there will be quarterly visits to check for fence and hedge defects, any defects will be corrected.*" [Doc 5.26.3C, para 2.2.35].

6.5.24 We do not consider this method set out in the updated BMS covers, beyond all reasonable doubt, the implementation of the mitigation measures that have been advised by NE during the latter part of the Examination as being absolutely necessary to ensure appropriate re-instatement of SAC bat foraging and commuting habitat [REP5-013] because:

- (a) Prior to the RIES being released for comment, NE stated; *"We are satisfied that the proposals, as set out in the latest BMS, will appropriately offset the likely impact on SAC bat foraging and commuting habitat during construction."*

"We are not however satisfied with the post-construction management and maintenance proposals for re-instated hedgerow and our case is as follows:

Our advice is that 5 years is an absolute minimum in terms of the time needed for a hedgerow to establish sufficiently to perform a basic navigation function (for bats). We expect that it will take up to an additional 5 years for a hedgerow to mature to the necessary height, width and density to provide a similar habitat feature (at least in terms of functionality) to that used pre-construction by SAC feature bats."

"We therefore propose that:

- *Each temporary (construction-phase) bat flyway in section C should remain in situ and be maintained until its basic function is replaced by a replanted hedgerow with 'protective fencing' (for the purpose of interim bat navigation);*
- *All replanted hedgerows in section C should be managed and maintained by NG for a period no less than 8 years;*
- *All hedgerow 'protective fencing' (for the purpose of interim bat navigation) should be maintained and remain in situ for a period no less than 8 years." [REP5-013 - emphasis/underlining is NE's].*

- (b) This was concluded later in the response by the following statement from NE; *"We consider the above prescriptions absolutely necessary to ensure appropriate re-instatement of SAC bat foraging and commuting habitat; and for an HRA conclusion of no adverse effect on integrity." [REP5-013].*

- (c) The RIES states *"The Applicant confirmed in the DCO hearing held on 16 June 2015 that it agreed to a maintenance period of 8 years and intends to reflect this in the next version of the Biodiversity Mitigation Strategy which is due to be submitted for Deadline 7." [OD-010, page 64 and 68 to 69].*

- (d) The RIES refers to the Applicant's written summary from the DCO hearing held on 16 June 2015, in which the following is stated: *"Natural England has asked National Grid to maintain hedgerows for a period of 8 years. National Grid has agreed to this and this*

is reflected in the Biodiversity Mitigation Strategy to be submitted at Deadline 7, which is secured in the DCO (Requirement 5)." [Doc 8.13.13, para 3.56].

- (e) In its response to the RIES, NE indicated it is broadly content with the RIES, mentioning a few comments, none of which related to bat SACs [REP7-003].
- (f) Prior to compilation of the RIES at Deadline 5, in its response to the ExA's Q2.17.1, NE responded *"All replanted hedgerows in section C should be managed and maintained by NG for a period no less than 8 years"* [REP5-013].
- (g) The final SoCG between NE and the Applicant, also submitted at Deadline 7 states *"NE agrees with the management of the reinstated bat flyway hedgerows and associated fencing for 8 years."* [Doc 8.3.1B, ID 8.23].
- (h) In the ExA letter dated 24 June 2015 [PD-013], we asked the Joint Councils; *"In regard to Stage 2 assessment of bat SACs, the length of the landscape aftercare period which affects the bat flyway mitigation strategy remains a matter of dispute between the Applicant and the Joint Councils. The Applicant has agreed to extend the management period of bat flyway hedgerows and associated fencing from 5 years to 8 years at the request of NE, which satisfies NE's outstanding concerns on this matter. The Joint Councils are requested to confirm whether with respect to the conclusions of the HRA; the adoption of an 8 year management period is sufficient to allow the Joint Councils to conclude that there would be no adverse effects on the integrity of European sites screened into the assessment."*

The Joint Councils responded stating; *"With respect to the conclusions of the HRA, the JCs are satisfied in this matter and have discussed the proposed extended management period with NE. However, the JCs maintain their position with regard to the 15-year landscape and biodiversity management plan for non-HRA reasons."* [REP7-010, Section 1.4.10]

The Panel's view on the effects on the bat qualifying features of bat SACs and mitigation proposed

- 6.5.25 The Panel considers the Secretary of State can rely on the findings of no adverse effect on the integrity for the Mells Valley SAC, the Bath and Bradford-on-Avon Bats SAC and the Exmoor and Quantock Oaklands SAC; as set out in the Applicant's updated HRA Report and matrices [Doc 5.20.1A and 5.20.2B], reported in the RIES [OD-010] and agreed in the updated SoCG between the Applicant and NE [Doc 8.3.1B].
- 6.5.26 The Panel has no reason to disagree with the Applicant's conclusion that mitigation is necessary to remove all reasonable doubt of adverse

effects on the integrity of the North Somerset and Mendip Bats SAC and the Mendip Limestone Grasslands SAC. The foraging and commuting distances of some species of bats which are qualifying features of those SACs are such that bats may forage and commute in areas affected by the proposed development. These are set out in the updated BMS [Doc 5.26.3C para 2.2.23]. They comprise:

- hedgerows and grassland which have been removed, falling within the cable installation (undergrounding) area; and
- areas of vegetation removal where embedded landscape mitigation would be installed at the South of the Mendip Hills cable sealing end (CSE) compound, the River Axe Cable Bridge option, the Sandford substation and Towerhead Brook Bridge.

6.5.27 The Panel agrees with the Applicant's conclusion that adverse effects on the integrity of these two European Sites can be ruled out, as long as the mitigation is adequately secured. This position is also agreed by NE in its updated SoCG with the Applicant [Doc 8.3.1B, ID 8.53]. However, we do not agree that the Applicant's final draft DCO and updated BMS would deliver the mitigation with certainty. We consider that the fundamental point of the advice given by NE regarding an eight year management and maintenance period for areas required for operational phase bat foraging is not delivered in the Applicant's updated BMS. This is because no management or maintenance works would be carried out during years six to eight unless a defect was noticed during a quarterly check.

6.5.28 The Applicant's draft DCO's method of securing the maintenance is via Requirement 14, which refers back to the BMS. The updated BMS only requires that quarterly checks are undertaken and corrections made if defects are observed. As this matter was first raised by NE as a concern; and there has been considerable dialogue between the Applicant and NE on means of securing appropriate mitigation, we recommend the Secretary of State endorses our proposed changes in the recommended DCO [Appendix E], which are described below.

6.5.29 The changes we propose for inclusion in the recommended DCO that the Secretary of State should consider incorporating to address the matters raised above are as follows:

- (a) amend Requirements 5(1) and 6(2) to cover "*mitigation works to minimise the impacts of construction for the authorised development*" as well as the "*construction works*" because the BMS covers activities associated with mitigation for bats from European Sites which are required during some of the project's operational phase;
- (b) amend Requirement 10(2)(c) from "*five year maintenance regime*" to refer to the relevant length of time to reflect the maintenance required for bat SACs;
- (c) amend Requirement 14 (1) to include reference to permanent bat flyways as well as temporary bat flyways to be consistent with the BMS; and

(d) amend Requirement 14(2) to specify the eight years' management and maintenance rather than referring to the BMS.

6.5.30 Our reasoning is set out below, and the proposed wording is set out in the recommended DCO (Appendix E) and Chapter 8 of this report.

(a) Requirements 5(1) and 6(2)

We raised the matter of whether the BMS required to be secured for some operational phase activities as well as construction at the DCO ISH on 16 June 2015. This appeared on the action list for that hearing [EV-143, point 1], was mentioned in the Applicant's ISH written summary [Doc 8.13.13, para 3.5] and is stated to have been reflected in the amended DCOs [AS-014]. However, the relevant parts of Requirements 5 and 6 have not been updated.

In its response to Q4.46, NE had stated it was not content with the wording in Requirement 5 relating the Construction and Environmental Management Plan (CEMP) to "construction" works as it does not provide sufficient certainty about the precise delivery of necessary mitigation [REP2-043]. The Applicant's response to this was that it could not agree to strike out "construction" as it would undermine the purpose of the CEMP [Doc 8.9]. We consider these requirements should make reference to the mitigation works to minimise the impacts of construction as well as construction works; and accordingly we propose appropriate wording by making reference to this in the recommended DCO (Appendix E).

(b) Requirement 10(2)(c)

This requirement sets out the details to be included in a planting scheme; and specifies a five year maintenance regime. As we recommend the maintenance regime would be eight years, this requirement would need amending to suit different maintenance regimes. In the recommended DCO the Panel proposes amendments to Requirement 10 to cover fifteen years' maintenance for embedded landscape mitigation, eight years' maintenance for bat flyways and five years' maintenance for other planting. This is described in more detail in Section 5.9 and Chapter 9.

(c) Requirement 14(1)

Reference to be added to permanent bat flyways, as the case is set out by NE for temporary and permanent (replanted hedgerows) flyways.

(d) Requirement 14(2)

We recommend specific reference to an eight year management and maintenance period in this requirement, as the periods specified in the updated BMS, to which the requirement currently refers, would not in our opinion meet the management maintenance proposals that NE sets out.

- 6.5.31 As recorded earlier in Chapter 5, Sections 5.2 and 5.9 of this report, there is disagreement between the Applicant and the Joint Councils regarding the need for monitoring to be undertaken by parties other than the Applicant, for which funding is sought. We do not repeat those arguments here. But we do recommend that the Secretary of State considers the matter of monitoring all those activities that have been set out as mitigation for SAC bats to ensure beyond reasonable doubt that there is no adverse effect on the integrity of the two European Sites. This would include monitoring construction stage activities and the installation and management and maintenance of the plantings and fencing that form the temporary and permanent bat flyways.
- 6.5.32 The Panel recommends the Secretary of State considers these separately from the more general point regarding monitoring, for which we have also reached a view and made a recommendation (Section 5.9). We give weight to NE's advice regarding what is required in order to reach an HRA conclusion of no adverse effect on integrity for the North Somerset and Mendip Bats SAC and the Mendip Limestone Grasslands SAC. As quoted above, NE's advice is very clear that the necessary mitigation associated with the construction phase flyways, the fencing and the operational phase flyways' maintenance and management, are critical to the conclusion of no adverse effect on integrity of these two SACs.
- 6.5.33 Therefore in order for the Secretary of State to satisfy herself that the appropriate mitigation, including eight years' maintenance of planting and fencing, would be secured and that it would endure; we recommend that monitoring for these element of the works should be undertaken by a party other than the Applicant, as well as the supervisory roles of the landscape and ecological clerks of works described in the updated BMS. In this regard we agree with the Joint Councils' case that the provision of this particular monitoring requires a mechanism which allows the Joint Councils to invoice for legitimate and evidenced expenditure [REP7-071].
- 6.5.34 In order to achieve this, the Panel considers it would be necessary for the Secretary of State to ensure that the Applicant agrees and signs a separate s106 agreement with the Joint Councils which covers payment for a monitoring service to cover the following (all of which are set out in the updated BMS, except for the reference to eight years' maintenance):
- Installation, use of and maintenance of temporary bat flyways;
 - Phasing of hedgerow removal and reinstatement works within the cable installation area through the Area of Outstanding Natural Beauty (AONB);
 - Maintaining bat foraging habitats in accordance with the HEP procedure and calculations, including seeding of topsoil and subsoil piles;
 - Installation of and eight years' maintenance of the reinstated permanent bat flyways (hedgerows);

- Installation of and at least eight years' maintenance of relevant plantings at Sandford substation, South of the Mendip Hills CSE compound, River Axe Cable Bridge option and Towerhead Brook Bridge; and
- Fencing installation and eight years' maintenance.

6.5.35 Recommendations for maintenance periods for other planting are covered in the landscape and visual Section 5.9. We do not consider the funding for the Joint Councils to undertake monitoring is necessary to make the proposed development acceptable in planning terms for areas of planting other than those associated with the SAC bat flyways.

APPROPRIATE ASSESSMENT

6.5.36 The Panel considers the Secretary of State, as the Competent Authority should carry out an appropriate assessment for the North Somerset and Mendip Bats SAC and the Mendip Limestone Grasslands SAC. This point is not contested by any IP, or by the Applicant.

6.5.37 NE has confirmed in its opinion that all the information required for an appropriate assessment has been provided by the Applicant [REP5-013]. The Panel sees no reason to disagree with this advice given by the relevant SNCB.

6.6 CONCLUSIONS

6.6.1 The Panel is satisfied that the Applicant's HRA Report and matrices [Doc 5.20.1A and 5.20.2B] set out the correct position concerning which European sites have potential for LSE and which have potential for adverse effects on site integrity. We consider the Secretary of State can rely on the matrices as set out in the RIES [OD-010] and the subsequent submissions (listed above in the section on the RIES), which confirm no adverse effects on integrity, providing the appropriate mitigation is secured and enforced.

6.6.2 In order to ensure that no reasonable doubt remains that the proposed development would not adversely affect the integrity of the relevant European Sites, we consider the Secretary of State would need to make the changes we propose above. These comprise the listed changes identified in the recommended DCO (Appendix E) and the preparation and engrossment of a separate s106 agreement, which would allow reasonable costs associated with monitoring of the temporary and permanent mitigation for bat SACs by the Joint Councils to be recovered from the Applicant.

6.6.3 These would ensure that:

- (a) All construction stage activities set out in the BMS which are relied upon for HRA purposes are followed.
- (b) The management and maintenance of the plantings which form bat flyways are maintained for eight years. We believe this is the

basis of the advice given by NE and with which the Joint Councils concur.

- (c) The mitigation works to minimise the impacts of construction (which would extend beyond the construction stage as defined) associated with the permanent bat flyways as set out in the updated BMS and Requirement 14 are followed.

6.6.4 The Panel sees no reason for consideration of European Sites and HRA matters to prevent the Secretary of State from making a DCO providing:

- the mitigation, including specific installation of BFDs and monitoring to reduce collision risk for birds from the two SPA and Ramsar sites is secured;
- the National Grid Protocol on Bird Diverters is observed for all sections of the proposed line not covered by mitigation; and
- the mitigation for bats from the two SACs is adequately secured, managed, maintained, enforced and monitored.

7 THE PANEL'S CONCLUSIONS ON THE CASE FOR DEVELOPMENT CONSENT

7.1 INTRODUCTION

- 7.1.1 The main issues have been identified in Section 4.1 of this report. They include those which were identified in our initial assessment of principal issues; those which were raised at the preliminary meeting, open floor hearings (OFHs) and in written and oral representations; and all the matters raised by the LIR. All these various issues have been explored and considered during the course of the Examination.
- 7.1.2 The Panel's findings and conclusions in respect of the generic planning issues are set out in Chapter 5, and Habitats Regulations Assessment (HRA) matters are considered in Chapter 6 of this report. In this chapter of the report we shall summarise the conclusions reached in relation to the need for the development set out in Section 4.2, and under the different topic headings in Chapters 5 and 6. We shall weigh the adverse impacts against the benefits, in the light of the relevant legislative and policy background which is set out in Chapter 3, before reaching a conclusion on the case for development consent.
- 7.1.3 In Chapter 2 of this report, we draw attention to three proposed changes to the application submitted during the course of the Examination. The first proposed change was Environmental Statement Sensitivity Test (ESST) documentation which was submitted by the Applicant due to the potential revised construction programme that would be necessary as a result of the new connection date. We decided to accept this change to the application for the reasons set out in our procedural decision [PD-010].
- 7.1.4 The second proposed change asked the Examining authority (ExA) to accept into the Examination a minor realignment of the route of the proposed overhead line at Kings Weston Lane, Avonmouth. We have also accepted this change to the application [PD-010]. The minor route alignment change would address the concerns raised by Wessex Water in respect of oversailing operational land.
- 7.1.5 The third proposed change seeks a change in the height of pylons LD109 to LD113 within Bristol Port, Avonmouth. This change was put forward by the Applicant as an alternative option for consideration by the Secretary of State in this location. We have accepted this change [PD-013] and we also consider that it is the option which should be preferred in this location. Our reasons for preferring this option are set out in Section 5.12.
- 7.1.6 We explain in Section 5.15, that for the Portishead/ Portbury area, two options are included within the Development Consent Order (DCO) application: National Grid's preferred route (Option A); and an alternative route (Option B). We consider these options in Section 5.15. We conclude that Option B is to be preferred and the DCO recommended is worded accordingly.

7.2 THE NEED FOR THE PROPOSED DEVELOPMENT AND THE CONSIDERATION OF ALTERNATIVES

- 7.2.1 EN-1, paragraph 3.7.10, states that there is an urgent need for new electricity transmission and distribution infrastructure to be provided. However, in most cases there will be more than one technological approach by which it is possible to make such a connection or reinforce the network. The advice given is that the costs and benefits of these alternatives should be properly considered as set out in EN-5 before any overhead line proposal is consented.
- 7.2.2 In Section 4.2, we conclude that the Applicant's need case is reliable and robust. The proposed development would contribute to meeting the need for new electricity transmission and distribution infrastructure identified in EN-1 and, in terms of broad matters of principle, we are satisfied that the need for the proposed development has been established.
- 7.2.3 The Panel then gave further consideration to the various generic impacts of the project, and the question of alternative technologies, in Chapter 5 of this report. We consider that the costs and benefits of these alternatives have been properly considered. Whilst the technical difficulties associated with a non-overhead line alternative are surmountable, we do not believe that the benefits of such an option would clearly outweigh any extra economic and environmental impacts.
- 7.2.4 We conclude that there are no policy, or legal requirements that would lead us to recommend that consent be refused for the proposed development in favour of another alternative.

7.3 THE GENERIC IMPACTS OF THE PROPOSED DEVELOPMENT

AIR QUALITY

- 7.3.1 In Section 5.1, we find that the Environmental Statement (ES) adequately covers the requirements of para 5.6.5 of EN-1 in respect of:
- the type, quantity and timing of emissions;
 - aspects of the development which may give rise to emissions;
 - premises or locations that may be affected by the emissions;
 - effects of the emission on identified premises or locations; and
 - measures to be employed in preventing or mitigating the emissions.
- 7.3.2 The Panel is satisfied that the ES meets the requirements of EN-1. We conclude that the impacts caused by air quality and other emissions have been properly assessed and that all reasonable steps have been taken or will be taken to minimise their impact.

BIODIVERSITY

- 7.3.3 The Panel is satisfied that the embedded mitigation for the minor physical intrusions on European Sites and the other mitigation to be delivered by the Applicant, together with our proposed amendments to the draft DCO and the supplemental s106 agreement mentioned in Chapter 6, would meet both HRA and Environmental Impact Assessment (EIA) obligations and ensure the necessary protection afforded from EN-1, para 5.3.9. These proposed changes would ensure that no reasonable doubt remains that the proposed development would not adversely affect the integrity of the relevant European Sites.
- 7.3.4 For nationally designated sites, Sites of Special Scientific Interest (SSSIs) and the National Nature Reserve (NNR), we are satisfied that the mitigation presented in the Biodiversity Mitigation Strategy (BMS) on a site by site basis with reference also to the relevant species and habitat method statements, and secured through the Construction and Environmental Management Plan (CEMP) in Requirement 5 would preserve the conservation interest of the sites. It therefore meets the test in EN-1, para 5.3.10.
- 7.3.5 We consider that the Applicant has undertaken a comprehensive assessment of the impacts on county and local sites. Mitigation of adverse effects from construction stage activities are addressed through embedded mitigation in the BMS. The Applicant has committed to further off-setting contributions secured in the s106 agreement with the Joint Councils. Our view is that the necessary consideration required under EN-1, para 5.3.13 has been given.
- 7.3.6 Bat mitigation measures are secured in the recommended DCO by Requirement 14. We propose amendments to the draft DCO to provide certainty that the hedgerow reinstatement would function as required for Special Area of Conservation (SAC) bat mitigation. As Natural England's (NE) protected species licensing team has issued a letter of no impediment (LoNI) for bats and the Applicant has set out comprehensive bat mitigation in its BMS, except for the management period of reinstated hedgerows for non-SAC bats, we are content that the Secretary of State can conclude the requirements of EN-1 are met.
- 7.3.7 We consider that protection of European and other protected species from adverse effects of the proposed development would be adequately secured and mitigated were the development to be consented. As regards the potential adverse impacts on birds, we are satisfied that the matters raised by Interested Parties (IPs) are all adequately resolved and that the requirements in the recommended DCO relating to the BMS, reinstatement planting and the specific Requirement 13, which covers bird flight diverters, would adequately mitigate adverse effects on construction and operation stage activities. There are no other habitats, or species where the issues and concerns raised have not been satisfactorily resolved.

- 7.3.8 The Panel is satisfied that the Applicant's ES adequately describes the predicted effects from construction, operation and decommissioning of the proposed development. The Panel concludes that there are no reasons relating to non-HRA biodiversity effects arising from the proposed development that would prevent a DCO being granted, providing the mitigation as proposed by the Applicant is secured, implemented and maintained and managed in accordance with the specification set out and timescales proposed by the Applicant, as amended in the recommended DCO.

CONSTRUCTION TRAFFIC

- 7.3.9 In principle, the Panel strongly supports the construction access strategy and particularly the intention to construct long lengths of haul road that relieve the Local Road Network (LRN), which in some places is not well developed.
- 7.3.10 Nevertheless, and notwithstanding the results from generalised assessments of construction noise impacts, the Panel considers that in some specific cases, everyday noise from construction traffic and other activities could have an undesirable impact on the living conditions of the residents.
- 7.3.11 The CEMP provides for comprehensive mitigation in respect of general construction impacts and has provided an additional list of locations suitable for enhanced mitigation in the form of fencing. During the course of the Examination a number of properties have been identified which we consider require site specific mitigation over and above that provided by the CEMP. We propose that this should be secured by way of an additional requirement in the recommended DCO.
- 7.3.12 In respect of Riverview Farm, we do not consider the haul road arrangements to be satisfactory, even after the mitigation to be secured by the additional DCO requirement. Consideration has been given to alternative route options in this location [Doc 8.21.1]. However, the route proposed remains the most appropriate access point for the haul road north of the River Brue. Nevertheless, we recognise that the effects on the occupation and use of Riverview Farm would be seriously harmful. This is a factor to be weighed in the overall balance against the benefits of the scheme.

FLOOD RISK

- 7.3.13 The Panel is satisfied that the Flood Risk Assessment (FRA) is sufficiently comprehensive and appropriately assesses the risk of flooding. Whilst the proposed development, when operational, may be exposed to flood hazards, the impact on the permanent works is negligible because they have been designed to be resilient to flooding. The permanent works would not impact on flood risk to other receptors as the influence of the works on each flood source would be negligible and no specific additional mitigation measures are proposed

for the permanent works. The impacts of decommissioning would be slight.

- 7.3.14 In the construction stage, there is a risk that the proposed works might increase the flood risk to other receptors. Mitigation is proposed during construction to reduce the effects of flooding on the works and on the surrounding receptors. In respect of construction issues, the Environment Agency (EA) is satisfied, in principle, that the temporary haul road, site compounds, and soil stockpiles would not significantly impact on local flood risks. The parties agree that further specific mitigation measures are not required in respect of minor flood risk impacts other than those documented in the revised FRA.
- 7.3.15 The Panel finds that the Sequential Test has been carried out satisfactorily. The project is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk could be safely managed over the lifetime of the development. We consider that the proposed development meets all three elements of the Exception Test set out in paragraph 5.7.17 of EN-1.
- 7.3.16 The Panel concludes that all flood risk issues have been satisfactorily addressed. We do not consider that any additional mitigation is necessary, or that the Applicant should make a Community Infrastructure Levy (CIL) contribution or should enter into a further s106 agreement for the purpose of making another contribution on the grounds of funding flood protection works.

GOOD DESIGN

- 7.3.17 During the course of the Examination, the Applicant produced the document, Design Approach to Site Specific Infrastructure. This was updated [Doc 8.32] at Deadline 7. The Panel agrees with the Applicant that the document's title and its content adequately makes clear its purpose and leaves scope for the local authorities to refine control having regard to local policy, guidance and good practice. However, for clarity, we recommend that the definition of Design Approach to Site Specific Infrastructure in Requirement 1 includes reference to its application to all site specific infrastructure.
- 7.3.18 The colour of paint finish for the T-pylons has received careful assessment and consideration during the Examination. The Panel is content that the Joint Councils' choice of RAL 7038 (Agate Grey) with a low reflectivity finish should be used and this would be secured by Requirement 36 of the recommended DCO.
- 7.3.19 The Panel concludes that, given careful attention to an overall holistic approach, the policy aims of good design set out in the national policy statements, the National Planning Policy Framework (NPPF) and local policy are achievable in a rewarding manner. This includes, through design, fulfilling functional requirements, mitigating potential adverse impacts, and recognising formal and visual opportunities in such a way

that the outcome is sympathetic, stimulating, and imaginative. Alongside successful use of the T-pylon, the opportunity exists for an equal step change in the confident and sensitive integration of all fixed infrastructure across the proposed development into the landscape and the visual environment.

GROUND CONDITIONS

- 7.3.20 In Section 5.6, the Panel gives particular consideration to potential hazards such as existing landfills, the mining heritage and ground gases; foundation characteristics including T-pylon structure and stability, depth of soil cover over new foundations and partial removal of existing foundations on decommissioning and long-term stability of underground cables; new access rights; ground water and water resources and ground environment aspects of the Avon crossing.

Existing landfills

- 7.3.21 In relation to existing landfills, the Panel is satisfied that the effects of the potential hazards are adequately safeguarded through the requirements of CEMP and further protection is secured by Requirement 18 of the recommended DCO.

Mining heritage

- 7.3.22 As regards the mining heritage, given the provisions of CEMP and the recommended DCO together with the commitment to further ground investigations and the necessary approvals of the local authority, we are satisfied that there are safeguards in place to protect the proposed development and the public from hazards associated with former mining activities.

Ground gases

- 7.3.23 Turning to ground gases, given the provisions of CEMP together with the commitment to further ground investigations, we conclude that there are safeguards in place to protect the proposed development and the public from hazards associated with ground gases.

The structure and stability of T-pylons

- 7.3.24 We have had regard to the concerns raised in connection with the T-pylon structure and stability. However, we are satisfied that the stability of T-pylons can be ensured through application of the available guidance and industry standards.

Depth of soil cover for the foundations of new pylons

- 7.3.25 We note that an increase in the depth of soil cover to the pile caps would be likely to increase the cost of the works and also that the area of each pile foundation would not be great in comparison with the area of land available for cultivation. There would also be a considerable distance between pylons. We are satisfied that at this stage, prior to

site specific ground investigation and detailed design, the Applicant's proposals adequately address the design issues and are satisfactory.

Depth of soil cover following the partial removal of existing pylons

- 7.3.26 Where apparatus is to be removed, this would involve restoration of the land to the reasonable satisfaction of the landowner with pylon foundations being removed to a depth of one metre. In the light of the Applicant's response to our questions on this topic, we are satisfied that the outcome would be acceptable and that no change is required to the proposed development in this respect.

Ground water and water resources

- 7.3.27 The Panel is also satisfied that the provisions of CEMP, including further investigation and the implementation of the Drainage Management Plan (DMP) and Soil Management Plan (SMP), adequately address the concerns in respect of interference with groundwater.
- 7.3.28 We have considered whether the potential effects on water resources have been adequately addressed. In the absence of a formal agreement on source protection between the relevant parties, the Panel has considered the evidence presented and also the views of the EA. We rely also on the provisions of the recommended DCO in respect of further site investigation and the protection that is afforded by the supporting documents. With these provisions in place, and taking account of para 4.10.3 of EN-1, the Panel considers that this issue has been satisfactorily addressed.

The ground environment aspects of the River Avon crossing

- 7.3.29 As regards the ground environment aspects of the River Avon crossing, the Panel considers that there would be no practical or environmental barrier preventing the construction of the crossing and we are satisfied that the measures in place to inform, guide and control the design and the construction works are adequate.

Conclusions

- 7.3.30 We conclude, in relation to ground conditions, water quality and pollution prevention, that the methodology and conclusions of the ES Ground Environment Report are satisfactory and that, with the support of the CEMP, it demonstrates that the proposed development would meet the requirements of EN-1.

HEALTH, WELL-BEING AND ELECTRIC AND MAGNETIC FIELDS

- 7.3.31 The Panel accepts that, in an overarching sense, the health impacts of the proposed development are, or can be made, acceptable. However, its concerns are directed to the effect on living conditions of occupants of individual dwellings or groups of dwellings, especially during construction.

- 7.3.32 The Panel considers it important that the effect of the proposed development on living conditions is considered for all potentially vulnerable dwellings, for whatever reason. The EIA assessment depends on subjective professional judgement, and the ES notes that potential effects were considered qualitatively. The Panel does not necessarily agree with the ES assessments.

Tarnock Farm

- 7.3.33 As regards Tarnock Farm, we conclude that the view of pylon LD32 would exercise an overbearing presence in its proposed position that would detract from the reasonable enjoyment of the land. We consider that the most appropriate solution would be to raise the height of LD31 from 36m to 40m, and LD32 from 33.5m to 36.5m, which would allow LD32 to move 40m northwards. The limits of deviation set out in Article 5 of the recommended DCO would secure the adjustments described.

Other residential properties

- 7.3.34 In relation to a number of other properties including Riverview Farm, Moorland Park, St Anthony's Park, Spindlewood, Sunnydene, and Merriedown, we consider that additional site specific mitigation should be provided over and above that which would be provided by means of the CEMP. The recommended DCO includes a new Requirement 43 that would secure this mitigation.

Electric and Magnetic Fields

- 7.3.35 As regards electric and magnetic fields, the Panel takes seriously the association with childhood leukaemia, and the fears experienced by members of the public, which might themselves lead to distress and harm to health and well-being. However, we recognise the lack of an established causal relationship between high exposure to magnetic fields or proximity to power lines, and the rate of childhood leukaemia, and that the proposed development would satisfy current regulation, policy and good practice by a wide margin. We take the view that, where possible, the power lines proposed should not be routed near to dwellings, schools, and other institutions. This is primarily in order to help allay fears rather than to diminish the risks of childhood leukaemia.
- 7.3.36 The Panel is of the opinion that the DCO routing should not deviate at all towards Moorland Park to the west, whilst normal limits of deviation should apply to the east. The limits of deviation set out in Article 5 of the recommended DCO would secure this.
- 7.3.37 The Panel is content that, given the embedded mitigation that would be provided, no further safeguards are required in relation to microshocks through the DCO.
- 7.3.38 The Panel is also satisfied that interference with electronic equipment would not cause substantive difficulties. This includes effects on

sensitive Bristol Port and marine communications systems. There is no need to incorporate additional safeguards in the DCO.

- 7.3.39 The Panel sees no reason why the T-pylon system should perform to a poorer standard than the traditional system in terms of the effects of EMF production, corona discharge, or in any other aspect.

Conclusions

- 7.3.40 The Panel concludes that, so long as the additional mitigation mentioned above is provided, it has no outstanding concerns in relation to health, well-being and electric and magnetic fields. The policy aims of the NPSs, NPPF and local policy would be met.

HERITAGE AND HISTORIC ENVIRONMENT

- 7.3.41 The Panel considers that the Written Scheme of Investigation (WSI) is appropriate with regard to:

- the overall mitigation strategy;
- the various mitigation methods including the reporting and outreach measures proposed;
- the organisation and approval of method statements, and procedure in the event of identification during the progress of the works of as yet unknown archaeological assets; and
- the completeness of identification of known archaeological assets and the mitigation measures proposed in relation to these assets, including the physical impact identified above on non-designated assets.

The Panel is also content with the level of archaeological assessment so far undertaken taken together with that proposed pre-construction.

- 7.3.42 It is also satisfied that the system of approval of method statements by the relevant planning authority, under Requirement 6, before the commencement of the relevant stage of the authorised development, would be appropriate and robust.

Tickenham Church

- 7.3.43 The residual harm, after mitigation, to the significance of Tickenham Church through impact on its setting, would be substantial as defined in paragraph 133 of the NPPF. In terms of the tests set out in EN-1, those elements of the setting that make a positive contribution to, or better reveal the significance of the asset, would not be preserved and the significance of the asset would not be sustained. The proposed financial contribution set out in the s106 Agreement is welcome, but would do nothing to diminish the harm to the setting.

Kings Weston House

- 7.3.44 As regards Kings Weston House, the residual harm would be less than substantial as defined in paragraph 134 of the NPPF. Those elements

of the setting that make a positive contribution to, or better reveal the significance of, the asset would not be entirely preserved. Although the significance of the asset would not be completely sustained, the loss would be minor. The financial contribution that would be secured by the s106 agreement would be welcome but would not reduce the harm identified.

St Mary's Church, Portbury

- 7.3.45 St Mary's Church, Portbury, would be adversely affected if route Option A, along the line of the M5 motorway, were adopted. The residual harm would be serious but less than substantial. Those elements of the setting that make a positive contribution to, or better reveal the significance of, the asset would not be preserved. The significance of the asset would not be sustained. The financial contribution payable through the s106 Agreement would not give rise to any measures which would mitigate the harmful effect on setting.

Conygar Hill Fort

- 7.3.46 The effect on the univallate hillfort scheduled monument on Conygar Hill Fort would be slight on its own, but would add weight to conclusions on harm to the significance of St Mary's Church arising from the route Option A.

Horsey Deserted Medieval Village Scheduled Monument

- 7.3.47 As regards the Horsey DMV Scheduled Monument, the construction works would have a physical impact on archaeological assets in areas outside the site of the scheduled monument. However, mitigation measures are agreed in the WSI. Some of the elements that make a positive contribution to, or better reveal the significance of, the asset would not be preserved. However, the relationship between the archaeological remains; the former course of the River Parrett; and the Farm buildings, which date from the late 16th century possibly occupying the sites of earlier buildings, would be little affected.

Conclusions

- 7.3.48 The Panel concludes that policy on the historic environment within EN-1 has been followed by the Applicant. This policy is consistent with the aims of Section 12 of the NPPF (Conserving and enhancing the historic environment), and broadly consistent with relevant policies of the Joint Councils' development plans. The substantial harm which would occur to the significance of Tickenham Church, and the less than substantial harm to that of other assets, through impact on their settings, represent adverse impacts to be weighed in the overall balance against the benefits of the proposed development.

LANDSCAPE AND VISUAL

Landscape and visual effects

- 7.3.49 The Panel considers the landscape and visual assessment has fulfilled the requirements set out in EN-1. We do not agree with all the assessment outcomes, but we do agree in the main that the mitigation proposed is reasonable and proportionate. Where we consider adjustment is necessary, we have made recommendations in this report and in the recommended DCO.
- 7.3.50 During the course of the Examination we have explored the methodology for assessing landscape and visual effects. The Panel accepts the Applicant's later, and more relevant, description of a major effect. We do not therefore accept the Joint Councils' criticism regarding the lack of effects of major significance. We do not consider this contradicts the need for mitigation, as moderate adverse impacts are addressed in the ES.
- 7.3.51 We are content that the approach to the use of Holford Rules and consideration of alternatives is proportionate and we are satisfied that the Applicant's routing appraisals meet the tests set out in EN-5. We agree with parties and the Applicant, who felt that the use of the T-pylon would present a more solid object in the landscape than a lattice pylon and that backgrounding would be less effective than for a lattice. However, we are content that the Applicant's reasoning for use of the T-pylon meets the test in EN-5 because of reduced height and that the change to lattice in the Port area is justified and appropriate.

Section A - Puriton Ridge

- 7.3.52 The need for the alignment to pass over the distinctive Puriton Ridge would result in impacts on landscape and views. High level views of the Bridgwater Tee cable sealing end (CSE) compounds would be available from Puriton Ridge. For this reason, the Panel considers the adoption of the Design Approach document is important to ensure mitigation of the effects of this element of the site-specific infrastructure in Section A meets the requirements for mitigation in EN-5. We have given some weight to the additional landscape enhancement that could be achieved from the off-site planting and enhancement scheme (OSPES), including the landscapes of distinction element, which are secured via the s106 agreement in reaching our conclusions on this Section.

Section B: Somerset Levels and Moors South

- 7.3.53 The need for the alignment to pass over the Levels makes backgrounding impossible, hence the need to consider Holford Rules 2 and 3, in particular. The Applicant weighed the respective requirements of the Rules, and south of Mark the overhead line would take a less direct route to minimise proximity to residential properties. It would still run relatively close to properties in Mark and cross Mark Causeway. Therefore we support the Applicant's agreement to

additional OSPES planting in Mark and commitment to replacement planting as close as possible to that lost at the Ashtrees property, which we consider should be planted as early as possible.

- 7.3.54 In Tarnock, the Panel considers that the opportunity to move Pylon LD32 is justified in planning terms on visual and amenity grounds in line with EN-5. The views from the M5, and elsewhere, contribute to the need to adopt the Design Approach document for the CSE compound at the northern part of Section B, because of its relationship with the Mendip Hills Area of Outstanding Natural Beauty (AONB). This is an essential aspect to ensure the mitigation of this element of the infrastructure in Section B meets the requirements for mitigation set out in EN-5.

Section C: The Mendip Hills AONB

- 7.3.55 The Panel agrees that the Applicant's proposal for undergrounding through the AONB would meet the NPSs' tests, but considers that without further mitigation the infrastructure visible from the AONB would not. However, the Panel believes the additional commitments now secured in the recommended DCO for the Design Approach document through Requirement 38 would give the local authority sufficient control, to be able to ensure that the good design and landscape and visual policy matters set out in the NPSs could be met. We do not consider the Design Approach document hampers the flexibility the developer would require in finalising design details. We find this approach to be necessary to mitigate the effects of the South of the Mendip Hills CSE compound and the River Axe crossing.

Section D: Somerset Levels and Moors North

- 7.3.56 High level, but distant views of the Sandford substation compounds would be available from the AONB. For this reason, the Panel considers the Design Approach document is an important tool to ensure that the mitigation of the effects of the substation would meet the requirements for mitigation in EN-5. We also believe that a mitigation plan for visual, as well as other effects during construction is necessary for Moorland Park. This is secured in the recommended DCO through Requirement 43. We also consider that the position of Pylon LD51 should not be permitted to deviate to the west from the position shown on the relevant works plans. This is secured through Article 5 on Limits of deviation in the recommended DCO.
- 7.3.57 The need for the line to pass over the distinctive Moors landscape would result in impacts on landscape and views. The proposed 400kV overhead line would follow a similar route to the existing 132kV line. It would depart from the existing alignment on Nailsea Moor, crossing The Drove. The Panel gives some weight in reaching conclusions on this section to the additional landscape enhancement that could be achieved from both the OSPES planting and landscapes of distinction, which are secured via the s106 agreement.

Section E: Tickenham Ridge

- 7.3.58 The need for the alignment to pass up, and over, the distinctive Tickenham Ridge would result in impacts on landscape and views. The Panel is persuaded by the Applicant's response to our request for justification of the route in this area, that the alternative of alignment closer to one existing overhead line, would be less compliant with the Holford Rules and therefore with EN-5. We also acknowledge some visual benefit in the removal of two overhead lines across the ridge.
- 7.3.59 The Panel is satisfied that more detailed consideration of a mitigation plan for construction before commencement in the vicinity of Spindlewood has identified more trees for retention and would require further consideration of tree retention before works commence. We consider this would contribute to compliance with the landscape and visual matters set out for decision-makers to consider in EN-1 and EN-5. The importance of the woodland habitat in this area is recognised and the Panel gives weight to the woodland management element of the OSPES, which could be allocated for use in this area if needed to enhance the existing woodland during operation.

Section F: Portishead

- 7.3.60 Section F is considered in detail in Section 5.15 of this report in connection with the Option A and B route alignments. The Panel considers Option B would result in fewer significant adverse landscape and visual effects and would comply better with the Holford Rules and its Supplementary Notes than Option A.

Section G: Avonmouth

- 7.3.61 The Panel agrees with the findings of the Applicant's assessment of landscape and visual effects of the proposed development resulting from the increase in the heights of Pylons LD109 to LD113. The assessment concludes that there would be no change to the significance of effects as assessed in the Application ES.
- 7.3.62 In Avonmouth Village, the s106 agreement would deliver additional street tree planting, including maintenance through payment of a commuted sum, and an agreed mechanism for consulting and planting in gardens as appropriate. We are satisfied the Avonmouth Village street trees and gardens scheme as set out in the s106 agreement would provide appropriate mitigation for the visual effects arising from the proposed 400kV pylons visible from Avonmouth Village.
- 7.3.63 As regards St Anthony's Park, this is one of the sites for which we recommend a mitigation plan be approved by the relevant planning authority before works commence. This is secured through the additional Requirement 43 of the recommended DCO.
- 7.3.64 In respect of Ableton Lane, north of Hallen Marsh, we consider the additional commitments in terms of replacement planting and OSPES planting would contribute to enhancement in the area. Although the

Joint Councils continue to disagree over the outcome of the Applicant's assessment, they do acknowledge the contribution the added OSPES planting commitments would make.

Section H: Hinkley Line Entries

- 7.3.65 The Panel considers the enhancement as proposed by the Applicant is a reasonable and proportionate response to the effects assessed, and therefore in line with the landscape and visual matters decision-makers need to consider under EN-1 and EN-5. The Panel does not agree there is a need for additional OSPES planting with respect to views from footpaths.

Replacement and reinstatement planting

- 7.3.66 The Panel is satisfied that the Applicant's proposals for replacement and reinstatement planting are adequately secured, with some minor additions included by the Panel in the recommended DCO. The Panel considers the four-to-one replacement tree planting would contribute to enhancement and softening, as well as replacement, and is in line with EN-1 and EN-5.

Mitigation and enhancement

- 7.3.67 The Panel notes the sustained disagreement between the Applicant and the Joint Councils over the need for mitigation rather than enhancement. The Panel accepts the Applicant's position regarding the embedded mitigation, which comprises elements built into the scheme and the function of the embedded landscape mitigation at the site-specific infrastructure.
- 7.3.68 Initially the Panel was not satisfied that the mitigation contained in the application and required for good design, by EN-1 and EN-5, minimised the harmful impact of the site infrastructure, particularly in relation to the setting of the AONB but also in relation to other areas of high amenity value. During the Examination, the Applicant put forward a Design Approach document, which we consider would address our concerns regarding the need for design parameters against which post-consent details could be approved. It also reached consensus with the Joint Councils on a darker colour for the T-pylons than originally proposed.
- 7.3.69 The Applicant has also explored opportunities for advance planting, which would address our concerns about some of the construction stage landscape and visual impacts. Advance planting at some specific locations has been secured and there is a requirement to consider it and temporary planting for screening generally. The Applicant has also identified locations where a site-specific mitigation scheme should be agreed with the local planning authority prior to works commencing. The Panel supports this approach as it would allow detailed schemes to be devised to take account of local conditions, whilst still recognising the need for landowner agreement. These are secured

through Requirement 43 of the recommended DCO. We are now satisfied the mitigation proposed meets the tests of EN-1 and EN-5.

- 7.3.70 The Panel has given some weight to the OSPES planting and other OSPES elements. We have discounted the Applicant's suggestion that weight should be given to the certainty of deliverability of the OSPES and replacement planting because of limited progress with landowner agreements. However, we consider the s106 agreement gives sufficient certainty of overall delivery, and an appropriate process for change. Moreover, the replacement planting would be subject to the local authorities' approval. The Panel is satisfied that the OSPES and replacement planting as set out would comply with EN-5.

Management and maintenance

- 7.3.71 Notwithstanding the Applicant's statement that it would maintain the planting on land it owns for the lifetime of the infrastructure, the ongoing management and maintenance of that planting is not secured beyond five years in the Applicant's final draft DCO. The case has been made by the Joint Councils, in particular, that the ES relies for mitigation of significant adverse landscape and visual effects on growth and survival of the planting for fifteen years, thus maintenance should be fifteen years.
- 7.3.72 We accept the Applicant's case that the planting required to offset the significant adverse landscape and visual effects is that described as embedded landscape mitigation by the Applicant. However, we find the Joint Councils' argument about the need to ensure plant survival and growth over that fifteen year period to be relevant and important for the embedded landscape mitigation. The recommended DCO will therefore include an amended Requirement 10, to include for fifteen years' maintenance for the embedded landscape mitigation, which is deliverable without involving other landowners, as it is on the Applicant's land.
- 7.3.73 For other areas, apart from the SAC bat flyways, where we are convinced of the need for eight years' maintenance, we consider five years in accordance with the specification as set out by the Applicant to be adequate. However, we also commend the Applicant's offer to provide management plans for landowners, as requested by the Joint Councils, which would set out maintenance required beyond year five. We have amended the recommended DCO to secure the submission of management plans under Requirement 10.

Public Rights of Way

- 7.3.74 Generally, the Panel found the landscape and visual assessment of public rights of way (PRoWs) to be sound. We support the additional contributions offered for diversions of the West Mendips Way and long distance footpath improvements in South Gloucestershire and the proposed improvement to the Strawberry Line long distance footpath included in the Applicant's mitigation proposals for the Sandford

substation, in terms of the visual effects as well as from the traffic and transport point of view. The additional connection requested as part of a further s106 agreement, cannot be justified on landscape and visual grounds.

- 7.3.75 The Panel does not agree that the potential adverse landscape and visual impacts on the three footpaths requested by the Joint Councils for inclusion in an additional supplementary s106 agreement would make the overall proposal unacceptable in planning terms, taking account of the local environment and context. The Panel therefore agrees on landscape and visual grounds that no further action is required. The position from the transport point of view is different with regard to the diversion of footpaths which carry the England Coast Path.

Monitoring

- 7.3.76 We consider the Joint Councils' case for monitoring funding is valid for the monitoring of the planting and aftercare management and maintenance activities with regard to the hedge planting for the SAC bat flyways. This is because such mitigation is essential to ensure the HRA tests are met. Even with the Applicant's commitment to self-monitoring, we consider the Secretary of State as the competent authority for HRA purposes should be able to rely on monitoring by persons other than the Applicant. This is to satisfy herself that the hedgerow planting, which is the mitigation required for bats from European Sites, has been installed and is being managed and maintained adequately for eight years to meet its stated function.
- 7.3.77 In light of HRA matters, we give weight to the lack of monitoring proposed and we consider this is necessary to secure the mitigation. We therefore would be unable to recommend approval without a further s106 agreement to secure the monitoring and hence the mitigation of the hedges that form the bat flyways. For all other areas of planting, whilst we understand the Joint Councils' concerns we also note that the Applicant has set out its proposed monitoring and reporting mechanisms in the BMS and CEMP, and we consider these would be satisfactory.

Community Impact Mitigation fund

- 7.3.78 The Panel agrees there is a case for increasing the landscape maintenance period for the embedded mitigation planting to fifteen years. Rather than securing this through a Community Impact Mitigation (CIM) fund as suggested by the Joint Councils, we have amended the recommended DCO accordingly. We do not find the other suggestions made by the Joint Councils on the grounds of landscape and visual effects to be justified in planning terms.

Conclusions

- 7.3.79 The Panel concludes that so long as the additional mitigation measures are provided, we have no outstanding concerns on landscape and

visual grounds, and we consider the policy requirements of the NPPF, EN-1 and EN-5 have been met.

MARINE AND NAVIGATION

The marine environment

- 7.3.80 The Panel considers that the ES adequately assesses the potential environmental impact of the works on the marine environment. The potential effects of these activities on the Severn Estuary SAC, SSSI, Special Protection Area (SPA) and Ramsar site at the River Avon crossing, have been specifically assessed. The ES identifies various mitigation measures, including those which would be secured by the BMS and the CEMP. We find that following the implementation of these mitigation measures, there would be no adverse environmental effects as a result of the River Avon crossing, during construction, operation, or decommissioning.

The closure of the River Avon

- 7.3.81 The closure of the River Avon for a short duration would be required to protect the health and safety of river users during installation of the new 400kV overhead line and dismantling of the existing 132kV overhead line across the river. The effects on recreational and harbour users would be short-term and temporary and would not amount to a significant environmental or socio-economic effect.

Conclusions

- 7.3.82 The Panel concludes that the package of mitigation measures proposed together with the contents of the Deemed Marine Licence (DML) and the DCO protective provisions would ensure that there would be no significant adverse environmental effects upon the marine environment and adequate safeguards would be provided to minimise the impact of the necessary river closures upon other users of the river during construction works. All potential navigational risks have also been adequately addressed by the Applicant.

NOISE AND VIBRATION

- 7.3.83 As regards noise resulting from construction and decommissioning, the Panel is concerned that the analysis of noise has identified threshold distances for various sound levels and the receptors within those limits, but has not sought to identify the possible sound levels that might be experienced by individual receptors. The Applicant has not sought to distinguish between properties at the edge of the affected area and those closest to the sources of noise within that area and it has not produced detailed schemes of mitigation for any of the affected properties. This is seen as a substantial defect in the approach taken by the Applicant.

Noise assessments

- 7.3.84 The Panel therefore concludes that full noise assessments should be carried out for all residential properties lying within the identified thresholds. These should include details of mitigation methods proposed to ensure noise levels would be attenuated to acceptable levels during construction. This will be secured by an additional Requirement 40 in the recommended DCO.

Construction noise and vibration

- 7.3.85 The Applicant has produced a Noise and Vibration Management Plan (NVMP) as an appendix to the CEMP which will define, under Requirement 5 of the DCO, how noise and vibration would be managed during the construction of the proposed development.
- 7.3.86 The Panel considers that, while the mitigation measures described in the NVMP are appropriate, the potential for nuisance to be caused by cutting cables with angle grinders is such that it should be specifically excluded from the list of operations that may be undertaken outside core working hours given in Requirement 7(4) of the draft DCO. This requirement in the recommended DCO would give effect to this change.
- 7.3.87 There are no specific mitigation measures proposed with regard to the effects of vibration. The NVMP sections on vibration deal with vibration action levels, the handling of complaints and the use of the Control of Pollution Act 1974 (CoPA) section 61 to identify the need for monitoring. The Panel considers that the Applicant's approach is deficient in a number of ways.
- 7.3.88 The Panel therefore recommends that full vibration impact assessments are carried out on properties defined by the triggers for the submission of section 61 applications set out in the NVMP before construction commences. This would be secured by an additional Requirement 41 in the recommended DCO.
- 7.3.89 The Panel concludes that, with these additional safeguards put in place, the impact of noise and vibration from the construction of the proposed development on buildings and human receptors would be acceptable.

Operational noise and vibration

- 7.3.90 The Applicant identifies operational sources of noise and vibration as being substations and overhead lines. The ES Noise and Vibration (ESNV) includes a noise assessment for the proposed Sandford substation and for the 400kV overhead lines. The Panel considers that the Applicant's approach to the assessment is appropriate.
- 7.3.91 In addressing the particular mitigation points in the ENSV, the Applicant makes reference to measures which are not included in the NVMP and so they are not secured by the CEMP or the draft DCO. The

Panel therefore considers that an additional requirement in Schedule 3 of the DCO is necessary to secure these mitigation measures.

- 7.3.92 The Panel considers that the Applicant's analysis of operational noise and vibration is appropriate and logical. It addresses all the issues raised in EN-1 and EN-5. We conclude that, provided the additional mitigation measures noted above are secured through the DCO, the proposed development would comply with EN-5, para 2.9.12.

SOCIO-ECONOMIC

Economic nature of the intervention

- 7.3.93 If the civil engineering and construction contracts are awarded to UK based contractors using UK based labour, as National Grid assume (despite the need to seek expressions of interest EU wide), some £315m net additional expenditure would take place, contributing to the UK economy. It is unlikely that more than a small proportion of this expenditure would directly benefit the local economy.

Employment

- 7.3.94 The vast majority of construction work associated with the proposed development would probably be carried out by labour brought in from outside the region with little effect on local employment. Nevertheless, the science, technology, engineering and mathematics (STEM) subject support programme secured in the main s106 Agreement [Doc 8.4B], might go some way to encouraging local training in the technical areas central to National Grid's operations. Encouragement of project opportunities for local people and local businesses is also given by the supplemental s106 Agreement [Doc 8.29A].

Accommodation

- 7.3.95 The ES [Doc 5.15.1, para 15.5.32] concludes that the accommodation demands of the workforce, relatively dispersed as it would be, could be satisfied within existing accommodation stock, including camp sites, without displacing existing tourist users. The Panel does not expect the availability of tourist accommodation to be compromised by demand for staff accommodation.

Tourism

- 7.3.96 The ES lists a number of locally and regionally valuable attractions and areas for recreation within the local area of influence [Doc 5.15.1, Table 15.26]. The outcome of the assessment concludes an anticipated direct effect on 14 of the visitor attractions and areas of recreation identified [Doc 5.15.1, para 15.5.80]. Of these, only four were rated as suffering as much as moderate adverse effects during construction and only one was rated as reaching minor adverse in operation.

- 7.3.97 No evidence of harm to tourism through cumulative impact with Hinkley Point C or with other factors has been put forward. The use of CIM funds to counter unforeseen effects on tourism cannot be justified without persuasive evidence. None has been forthcoming.
- 7.3.98 Little or no evidence of potential harm to tourism brought about by the proposed development has been presented. Having regard to the advice in paragraph 5.12.7 of EN-1, that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence, particularly in view of the need for energy infrastructure, the Panel considers that any residual harmful effects on tourism would be acceptable.

Effects of changes in land use

- 7.3.99 As regards the socio-economic effects of changes in land use, the general effect of the construction corridor, and the loss of footprint of installed plant on land during operation, including the loss of the best and most versatile agricultural land, would not be great. Overall, the residual socio-economic effects of the proposed development, arising from changes in land use, excluding the Avonmouth Severnside Enterprise Area (ASEA) and Bristol Ports areas, would be slight. The Panel sees no reason to seek further controls through the DCO.
- 7.3.100 The effect on the permitted Solar Energy project at Pyde Drove, The Causeway, Woolavington, Bridgwater would be acceptable. The assessments of the lesser effects on other planning allocations and permissions, including the Royal Ordnance Factory and the Portishead to Pill railway line, are appropriate and acceptable.

Avonmouth Severnside Enterprise Area

- 7.3.101 During the construction phase there would be disruption along the line of the construction footprint and at associated access points. However, loss to the local economy would be redressed by compensation in accordance with the Applicant's statutory obligations. During the operational phase, the majority of constraints would be resolved through adjustment of business operations with little effect on the local economy.
- 7.3.102 We have given particular consideration to the effect of the proposed 400kV overhead as it crosses ten development sites in the ASEA. The Joint Councils maintain that the presence of pylons and oversailing lines would severely compromise the development of the sites, the subject of a City Region Deal with the Government, for the large footprint high volume warehouses demanded by the market. The full potential of the sites would no longer be available because of restrictions caused by the presence of pylons, and because of the limited clearance beneath the power lines.
- 7.3.103 The Bristol Port Company (BPC) makes reference in a similar vein to three sites, which it owns, of the ten [REP5-020, Appendix 3]. Two of these sites, (Site C: Gloucester Road sidings, and Site I: Port land) are

capable of being made acceptable by increasing the clear height available. The third, (Site E: Crooks Marsh) is adjacent to Seabank substation and has complex overhead routing, some of which would be undergrounded aiding development potential.

- 7.3.104 In the Updated SoCG between National Grid and the Joint Councils [Doc 8.3.12A, Table 4.12, ID 15.1.1], the Joint Councils no longer aim to secure a s106 contingency mechanism to protect the public purse from a reduction in business rate uplift arising from the reduced development potential of the sites. However, they do seek a marketing contribution of £50,000 towards promoting the ASEA as a destination for development, employment and inward investment, secured through a s106 agreement [REP6-009].
- 7.3.105 The Panel does not consider that the Joint Councils have made a sufficiently persuasive case that the tests set out in paragraph 4.1.8 of EN-1 for such a contribution would be met.
- 7.3.106 The Panel acknowledges the Applicant's overriding aim of identifying a route which would minimise effects on business activities within the Avonmouth area. Having examined the route and considered its consequences we are satisfied that this has been achieved for all practical purposes.

Bristol Ports

- 7.3.107 We have considered the socio-economic effects of the clearances available beneath the power lines arising from the route through Avonmouth Docks, and the implications of the proposed use of T-pylons for Route B, if it were adopted, through the Royal Portbury Dock.
- 7.3.108 The BPC make the case for the flexible use of the whole of the docks area to meet the developing and frequently changing needs of its customers, to which it has a statutory duty to respond.
- 7.3.109 The Applicant has supplied a revised design drawing showing the increased height of the pylons [Doc 5.34.3]. It has formally requested that this alternative to its original proposals for pylons LD109 to LD113 be accepted for consideration by the ExA
- 7.3.110 The Panel recommends that the alternative of increased height pylons from LD109 to LD113 is adopted and the revised design drawing substituted for the equivalent submitted with the application. It also recommends that this is secured by way of a restriction to the LoD set out in Article 5 of the recommended DCO.
- 7.3.111 The BPC objects to the use of T-pylons rather than lattice pylons for Option B, were this route option to be adopted across Royal Portbury Dock. The reasons for choosing T-pylons for Option B are set out in the ES [Doc 5.2.2.6, Section 12]. The Panel has also had regard to all the representations made in relation to this topic. We find the proposed use of T-pylons for this section of the route to be acceptable

in planning terms. We do not consider that it is necessary for any further change to be made to the application secure the use of lattice pylons in this location.

Conclusion

- 7.3.112 Subject to the recommendations made, the Panel considers that the socio-economic effects of the proposed development would be acceptable and would meet the aims of relevant national and local policies.

TRAFFIC AND TRANSPORT

Construction traffic and access

- 7.3.113 The Panel concludes that baseline assessment methodologies and mitigation have been adequately carried out; traffic assessments have been properly carried out and are generally agreed with local highway authorities and Highways England; the cumulative impacts of traffic generated from a comprehensive list of permitted and planned developments have been properly assessed; and construction traffic restrictions at local road network junctions currently operating above capacity are properly assessed and appropriate mitigation agreed in the case of junctions operating above calculated capacity.

- 7.3.114 The Panel also concludes that, on balance, the approach taken by the Applicant to the analysis of the effect of the extended construction period is justified because of over-counting inherent in the methods used and the relatively small proportion of overall traffic represented by construction traffic generated by the proposed development. As a result the Panel further concludes that restrictions on the times at which HGVs serving the proposed development may use motorway junctions are unnecessary.

Construction Traffic Management Plan

- 7.3.115 The Panel concludes that the proposed Construction Traffic Management Plan (CTMP) is adequate and proportionate for the task of removing or mitigating the environmental effects of the construction, operation and eventual removal of the proposed development, and that its establishment and operation are appropriately protected by the recommended DCO.

Road safety

- 7.3.116 The Panel concludes that evidence shows that the proposed development would make no significant impact on road safety.
- 7.3.117 The Joint Councils do not agree with the Applicant's approach to Road Safety Audits (RSAs) and seek an amendment to the DCO Schedule 3 Requirement 22 relating to Highway Works. We consider that the amended wording proposed by the Joint Councils should be included in any DCO made in respect of the proposed development.

- 7.3.118 The Joint Councils consider that the design of each proposed bellmouth should be based on the 85th percentile traffic speed for that location in addition to the usual design considerations [Doc 8.3.12A Table 4.9 ID 12.45]. The Applicant accepts that the design speed for a bellmouth should more appropriately be the 85th percentile traffic speed for that location.
- 7.3.119 The Panel agrees that this approach is appropriate when combined with the proper implementation of the road safety audit process and considers that the provisions of Article 41 of the DCO would provide the necessary flexibility to allow this.

Parking requirements

- 7.3.120 The Panel considers that the approach set out in the Travel Plan [Doc 5.26.5C Annex A para 3.4.1] is appropriate and would enable Highways England and the Joint Councils to obtain the modal shift information required.
- 7.3.121 The Construction Traffic Management Plan [Doc 5.26.5C Annex A Section 3.8] explains the role of the Traffic Plan Coordinator who would have specific responsibility for delivering the measure set out in the Travel Plan and would attend the Traffic Management Group meetings. The Panel considers that the measure proposed, supported by the recommended DCO Requirement 5, would meet the concerns raised.

Abnormal Indivisible Loads

- 7.3.122 The routing of deliveries is planned through the Electronic Service Delivery for Abnormal Loads (ESDAL) process managed by Highways England. The Joint Councils do not agree with the proposed means of dealing with the management of the Abnormal Indivisible Loads (AILs).
- 7.3.123 The Panel concludes that the disruption and difficulty caused by the passage of AILs over the LRN is likely to be minimised if routes are identified at as early a stage as possible and in discussion with the Joint Councils. The Panel considers that this approach is appropriate and acceptable given that the exact timing of AIL movements is unlikely to be known until after the Applicant has engaged a contractor and procurement is in hand.

Traffic control measures

- 7.3.124 The CTMP requires the process to be monitored by a Transport Co-ordinator and reported to a Traffic Management Group on which representatives of the local highway authorities and Highways England would be invited to serve. Enforcement and corrective measures are also addressed in the CTMP and all these arrangements would be protected by DCO provisions.

- 7.3.125 The CTMP notes that there are a number of automatic number plate recognition (ANPR) cameras on roads in Bridgewater leading to the Hinkley Point C site. The Panel considers that effective monitoring can be provided by simpler means and that an extension of the ANPR system is not required.
- 7.3.126 The Panel considers that the principles set out in the CTMP for establishing a process to monitor the use of construction routes are appropriate and adequate at this stage.
- 7.3.127 The Panel considers that Requirement 26(1) of the draft DCO gives the Joint Councils sufficient powers to obtain all the details they require at the appropriate stage of the development and that it would be unreasonable to expect the Applicant to have developed the Traffic Incident Management Plan (TIMP) beyond an indicative document at this stage.
- 7.3.128 The Panel considers that the principles set out in the CTMP for establishing a communications strategy involving information packs are appropriate. We consider it unreasonable at this stage of the proposed development to expect the Applicant to have completed the detailed design of the information packs since part of the information to be included would only be available once a contractor is appointed.
- 7.3.129 The Panel considers that the steps proposed by the Applicant provide a basis of an effective Travel Plan. To ensure that the necessary details are put in place at the appropriate time it is necessary to include a requirement in the recommended DCO that a Construction Workforce Travel Plan is submitted to the relevant highway authority for approval in writing and implemented from the commencement of the construction period and in full for the duration of the construction stage of the development.

Temporary Traffic Orders

- 7.3.130 The Panel considers that the terms of Articles 13 and 41 would provide the local traffic and street authorities with powers to ensure that Temporary Traffic Orders and Stopping Up Orders are applied in an appropriate manner. It does not consider any further amendment to be necessary.

Asset maintenance

- 7.3.131 The Panel considers that the s106 agreement provides an appropriate way to manage the potential additional damage to the LRN that may result from the construction of the proposed development.

Protective netting over highways

- 7.3.132 The Panel considers that the protective provisions set out in Schedule 15, Part 3 of the draft DCO gives appropriate and effective protection to Highways England and a means of addressing the particular

concerns in relation to the provision of scaffolding and netting erected alongside and over the motorway.

The Bristol Port Company

- 7.3.133 The Bristol Port Company (BPC) raises a number of concerns in relation to traffic and transport. The Panel considers that these concerns would be addressed through the protective provisions included in the recommended DCO.

St Anthony's Park

- 7.3.134 The potential impact of the proposed development on the site has resulted in the production of the St Anthony's Park Enhanced Mitigation Plan [Doc 8.43.1] for the site. This shows the entrance to the Park from the highway to be outside the Order limits. The Panel concludes that the access to the St Anthony's Park site is adequately protected by the mitigation measures proposed in the Enhanced Mitigation Plan which would be secured by means of a new Requirement 43 in the recommended DCO.

Church Road and Factory Lane, East Huntspill

- 7.3.135 During the Examination the use of this relatively narrow section of public highway as an access to the proposed haul road system was queried and the Applicant reviewed a number of alternatives which are set out in Highways and Transportation Matters Note Regarding Alternatives to the proposed use of Factory Lane [Doc 8.21.1]. Two further options were considered: (1) removing the Factory Lane access entirely by providing access off the A38 to the north in Rooks Bridge; and (2) routing all traffic through the village to the south and gaining access via AC11 and a bridge over the River Brue.
- 7.3.136 The Options Assessment concludes that Factory Lane DCO Option remains the most appropriate access point for the haul road north of the River Brue. The Panel agrees with that conclusion. We believe that the measures proposed by the Applicant would sufficiently mitigate the effects of the use of the B3141/ Factory Lane junction on local residents to allow this route as an access to the haul road network. The particular impacts upon Riverview Farm through the use of the haul road are considered elsewhere in these conclusions.

Bellmouths

- 7.3.137 The Panel considers that the powers given to the highway authority by Requirement 22 of the draft DCO would ensure that the bellmouths would be located, laid out and constructed in such a way as to comply with the relevant technical standards and in accordance with the reasonable requirements of the highway authority. The Panel is satisfied with these arrangements and consider that the Joint Councils' concerns in this area have been met.

Moorland Park

- 7.3.138 The Panel concludes that the repositioning of the bellmouth entrances at Moorland Park would improve the safety of the scheme and is appropriate.

Public Rights of Way

- 7.3.139 The Panel considers it unreasonable at this stage of the proposed development to expect the Applicant to have advanced the project design to such an extent that the exact timing and duration of PRow closures can be accurately stated. The Panel concludes that the possibility of the extent of PRow closures contemplated by the Joint Councils is highly unlikely to occur and this situation requires no further mitigation.

England Coast Path

- 7.3.140 The Panel considers that the proposed development would have an adverse effect on the continuity of the England Coast Path over an extended period of time and could present a safety hazard to users of the path. The Panel therefore concludes that the mitigation measures proposed by the Joint Councils are appropriate and proportionate and should be funded by the Applicant by means of a further supplementary s106 agreement.

The Strawberry Line

- 7.3.141 The Joint Councils seek *"... a contribution toward the cost of carrying out works and activities deemed necessary by the County Council for the strategic link improvements to the PRow known as the Strawberry Line...."* The Panel finds that there are no grounds for requiring further financial mitigation based solely on transport criteria.

Hallen Marsh

- 7.3.142 The Joint Councils seek *"...a contribution toward the cost of the diversion of PRows away from over-sailed and most impacted routes to upgraded existing lanes at Hallen Marsh."* The Panel finds that there are no grounds for requiring further financial mitigation based solely on transport criteria.

Operational considerations

- 7.3.143 The Panel concludes that the proposed development raises no long term issues relating to traffic transport or public rights of way.

Decommissioning

- 7.3.144 The eventual decommissioning of the proposed development is considered to present no greater impacts in relation to traffic, transport or PRows than those identified for the construction process.

OTHER ISSUES

Alternatives

- 7.3.145 This topic has been considered already in Section 7.2 of these conclusions.

Climate change

- 7.3.146 All topic chapters of the ES include an assessment of the potential effects of climate change on the results of the assessment, taking into account the possible change to future baselines. The Panel is satisfied that the ES assessment undertaken by the Applicant is in accordance with the requirements of section 4.8 of EN-1.

Radar and air navigation

- 7.3.147 The Panel considers that the proposed development would have no material adverse impact on aviation or radar interests.

The crossing of the former GPSS pipeline

- 7.3.148 The Panel respectfully suggests that this is a matter upon which the Secretary of State may wish to seek further information before any development consent is granted.

Waste management

- 7.3.149 The Panel is satisfied that the Waste Management Plan (WMP) makes adequate provision for waste management in accordance with policy guidelines and objectives.

PORTISHEAD/ PORTBURY - OPTION A/ B

- 7.3.150 The Panel concludes that there are very strong grounds, indeed, for preferring Option B over Option A. This is the option which will be put forward by us in the recommended DCO.

7.4 HABITAT REGULATIONS ASSESSMENT MATTERS

- 7.4.1 The Panel considers the Secretary of State can rely on the matrices as set out in the RIES [OD-010], and the subsequent submissions, which confirm no adverse effects on integrity, providing the appropriate mitigation is secured and enforced. To ensure no reasonable doubt remains that the proposed development would not adversely affect the integrity of the European sites, we have identified changes that must be made.
- 7.4.2 These comprise the listed changes identified in the recommended DCO and the preparation and engrossment of a separate s106 agreement, which would allow reasonable costs associated with monitoring of the temporary and permanent mitigation for bat SACs by the Joint Councils to be recovered from the Applicant.

7.4.3 The Panel concludes that there is no reason regarding European Sites and HRA matters to prevent the Secretary of State from making a DCO providing: (1) the mitigation, including specific monitoring to reduce collision risk for birds from the two SPA and Ramsar sites is secured; (2) the National Grid Protocol on Bird Diverters is observed for all sections of the proposed line not covered by mitigation; and (3) the mitigation for bats from the two SACs is adequately secured, enforced and monitored.

7.5 CONCLUSIONS ON DEVELOPMENT CONSENT

7.5.1 The legal and policy context for the Examination of the application has already been set out in Chapter 3 of this report. This has provided the framework for our subsequent findings and conclusions.

7.5.2 For the most part, these conclusions apply equally to route Options A and B, unless otherwise stated. The distinctions between the two options have, of course, been specifically considered in Section 5.15 of this report and we shall return to this topic later on in this chapter.

7.5.3 Having regard to EN-1, paragraph 4.1.2, and our findings in relation to need and alternatives, we start with a presumption in favour of granting consent for the application. We have considered, and applied, the more specific and relevant policies set out in the NPSs in our consideration of the main issues under the various topic headings. There are no other NPS policies that clearly indicate that consent should be refused.

7.5.4 We have taken into account the potential benefits of the proposed development including its contribution to meeting the need for energy infrastructure, and job creation. In that respect, we note the 'Supplemental Agreement', between the Applicant and the Joint Councils. This s106 agreement dated 13 July 2015 aims to secure project opportunities for local people and local businesses.

7.5.5 In addition, the s106 agreement dated 16 June 2015, between the Joint Councils and the Applicant, imposes various obligations in relation to transport and, in particular, bellmouth highway maintenance and repair; historic environment by way of contributions towards Tickenham Church, Portbury Church (Option A only), and Kings Weston House; Local Wildlife Sites (with contributions differing for Option A and Option B); Avonmouth Severnside Enterprise Area in the form of an ecological enhancement works contribution; replacement tree planting providing a lost tree replacement commitment; Avonmouth Village Planting providing for street trees in Avonmouth village and gardens in Avonmouth village; off-site planting and enhancement; socio-economics in the form of STEM Subject Support; and a service level agreement for discharge of major and minor requirements.

7.5.6 We have given consideration to these development consent obligations under the relevant topic headings in Chapter 5 of this report in the

light of the tests set out in EN-1, paragraph 4.1.8. We consider that, for the most part, those tests are fully met and we have taken the obligations into account and placed weight upon them. Whilst the financial contributions to the historic environment are welcome, they would not reduce or diminish the harm identified. We have placed some weight upon them as compensation rather than mitigation. Those obligations which we have not relied upon are the biodiversity measures relating to the tilting weir and the bird tagging study.

- 7.5.7 The Panel has also made findings in relation to the various potential adverse effects of the proposed development during construction, operation and decommissioning. We have given careful consideration to the impacts on residential, agricultural, business and commercial properties along the proposed route. We have weighed against the benefits of the scheme, the potential adverse impacts of the proposed development, including any long-term and cumulative adverse impacts, as well as the measures proposed to avoid, reduce or compensate for any adverse impacts.
- 7.5.8 In some instances, we propose changes to the draft DCO to secure additional site specific mitigation; changes to the limits of deviation in certain locations; and further supplementary s106 agreements to enable reasonable costs associated with monitoring of the temporary and permanent mitigation for bat SACs incurred by the Joint Councils to be recovered from the Applicant, and for a contribution to be made in respect of the diversion of the England Coast Path. The latter relates to a contribution towards the cost of the County Council carrying out the works and activities deemed necessary for the diversion of footpaths WL23/71 and WL23/61. The Panel considers that both these supplementary s106 agreements would meet the tests set out in EN-1, paragraph 4.1.8.
- 7.5.9 We have had regard to the adverse impacts on the occupants of Riverview Farm, including the children living at that property, in the light of the degree of interference with their human rights. We propose that a Riverview Traffic Management Plan be submitted, approved and implemented prior to the commencement of that stage of the proposed development. We have identified that, in relation to Riverview Farm, the haul road arrangements would not be satisfactory in that location even after mitigation. However, the Applicant has explored and rejected other potential options for haul road access in this location. We agree with the assessment that Factory Lane remains the most appropriate access point for the haul road north of the River Brue [Doc 8.21.1]. The adverse impact upon the occupants of Riverview Farm is an important factor to be weighed in the overall balance of considerations.
- 7.5.10 We have also weighed in the balance the harm identified by the Panel in relation to heritage and the historic environment, in particular, that identified in respect of Tickenham Church, and Kings Weston House. Since the recommended Order incorporates Option B, the harm identified in relation to St Mary's Church, Portbury would not arise

should the Secretary of State agree with our recommendation. However, should the Secretary of State prefer Option A, then the harm to St Mary's Church, Portbury must also be weighed in the balance.

- 7.5.11 We have explained in Chapter 3 of this report that the National Planning Policy Framework (NPPF) does not contain specific policies for Nationally Significant Infrastructure Projects (NSIPs) for which particular considerations apply. However, it does include policies for conserving and enhancing the natural and historic environment. It also covers matters relating to traffic and transport, good design, consultation, the Green Belt, climate change and health and amenity. We consider these NPPF policies to be relevant and important.
- 7.5.12 We have therefore had regard to the NPPF and considered whether there would be any adverse impacts that would conflict with the policy approach set out therein. We find that the proposed development would be in accordance with the overarching principle of the NPPF which seeks to support the transition to a low carbon future in a changing climate taking full account of flood risk and coastal change. We have also considered the relevant paragraphs of the NPPF which relate to the Green Belt and we note the importance that the Government attaches to the Green Belt.
- 7.5.13 We have taken into account relevant Development Plan policies, in the context of the NPS guidance. We note that the proposed route passes through land designated as part of the Bristol-Bath Green Belt within North Somerset. We agree with the Applicant's Planning Statement [Doc 7.1] that the construction of an overhead line would be classified as an engineering operation. However, we disagree with the Applicant's assessment that the overhead lines would maintain openness and would not conflict with Green Belt purposes. We consider the construction of an overhead line, and associated development, to be inappropriate development in the Green Belt. We shall consider later in these conclusions whether very special circumstances exist that would clearly outweigh the harm to the Green Belt and any other harm.
- 7.5.14 Turning to other local planning policies, our attention has been drawn to the Bristol City Council's policy relating to Green Infrastructure Provision and the relevant policies and Supplementary Planning Document in relation to the 15 year landscape maintenance period sought by the Joint Councils. We have concluded on these specific policies in Section 5.9 of this report and have weighed in the balance the degree of conflict noted therein. As regards the other potential impacts of the proposed development, given the embedded mitigation, and the additional mitigation that would be secured through the recommended DCO, we are satisfied that there would be no other material conflicts with the NPPF or the Local Plan policy framework.
- 7.5.15 We have also taken into account the National Planning Policy for Waste (NPPW). We consider that the proposed development would

accord with the general principles set out in the NPPW. We conclude in Section 5.14 of this report that the WMP would be sufficient to achieve the Applicant's stated aims in terms of waste management.

- 7.5.16 We have had regard to the qualified rights under Article 8 and Article 1 of the First Protocol to the European Convention on Human Rights (ECHR) as incorporated by the Human Rights Act 1998, in relation to the impact upon the occupants of the various residential properties, farms, and businesses along the proposed route. We have listened to their personal concerns in relation to the perceived impact upon their private and family life and the potential interference with the peaceful enjoyment of their land and property. We have balanced the fundamental rights of these individuals against the legitimate interests of the wider community and the public interest.
- 7.5.17 The Panel considers that the interference anticipated would be in accordance with the law and would be necessary in the interests of the economic well-being of the country. We are satisfied that the relevant planning objectives could not be adequately achieved by means which would interfere less with the rights of individual. We have borne in mind the implications for the best interests of children, including those living at Riverview Farm, Cadbury Camp Lane, Moorland Park, and St Anthony's Park and the status of those interests as primary considerations in the proportionality assessment.
- 7.5.18 Although we accept that there would be some interference with private and family life for certain residents, the grant of development consent need not result in the loss of any individual's home. There are no implications of such weight as to preclude the grant of development consent on the grounds that to do so would not be in the best interests of any child. We consider that, in each instance, the degree of interference with the rights of individuals would be necessary in the public interest and would be proportionate. In reaching this conclusion, we have had regard to the mitigation that would be secured by the recommended DCO. In some instances, we have recommended additional requirements that are designed to reduce harm to the living conditions of occupants of specific residential properties.
- 7.5.19 In relation to the Green Belt section of the route, taking into account all relevant matters, we find that the harm to the Green Belt, and any other harm, would be clearly outweighed by the need to connect new low carbon generating capacity in order to meet the UK's energy needs and carbon reduction targets as set out in EN-1. This represents the very special circumstances that justify the provision of such development within the Green Belt.
- 7.5.20 We conclude that there are no specific policies in the NPPF, or the Local Plan policy framework, to indicate that the proposed development should be refused, or further restricted, or mitigated than has been provided for by the recommended DCO.

- 7.5.21 The occupants of the Traveller site, Moorland Park, and the traveller site at St Anthony's Park are occupied by persons who share a protected characteristic for the purposes of the Equality Act 2010. We have borne in mind the need to eliminate discrimination; advance equality or opportunity between persons who share a relevant protected characteristic and persons who do not share it; and foster good relations between persons who share a relevant protected characteristic and persons who do not share it. We have considered the grant of development consent in the light of any potential equality impacts. In relation to both Moorland Park and St Anthony's Park, we propose that additional site specific mitigation should be provided by the DCO. We conclude that the impact of the project upon those communities would be proportionate and that the requirements of the Public Sector Equality Duty have been met.
- 7.5.22 Having regard to EN-1, paragraph 4.1.3, it is necessary to weigh in the overall balance the adverse impacts of the development against its benefits. We have assessed the potential adverse impacts, including any long-term and cumulative impacts. We have taken into account the mitigation proposed and, in some instances, we have proposed additional measures within the recommended Order to avoid, reduce or compensate for the identified adverse impact of the project. We have highlighted the unsatisfactory nature of the proposed haul road access arrangements at Riverview Farm and the effect upon the historic environment at Tickenham Church and Kings Weston House. Nevertheless, we conclude that the potential benefits of the proposed development strongly outweigh its adverse impacts.
- 7.5.23 That is the conclusion that we reach in relation to the Option B proposal. We have identified in Section 5.15 that on many issues, there is little to choose between Option A and Option B. However, having regard to the effect of Option A on the setting of St Mary's Church; the visual effects and the consequent impact on the well-being of residential occupants for that route option we conclude that there are very strong grounds for preferring Option B over Option A. In the event that the Secretary of State disagrees with that view, and concludes that Option A should be preferred, then these additional matters would need to be weighed in the overall balance. Although the Panel has expressed its preference for Option B, we do not consider that these additional adverse impacts would be sufficient to alter the overall balance in this case.
- 7.5.24 The Panel concludes, that for the reasons set out, and incorporating the changes proposed, and the additional agreements mentioned above, that development consent should be granted for the recommended Order set out in Appendix E.

8 COMPULSORY ACQUISITION AND RELATED MATTERS

8.1 THE REQUEST FOR COMPULSORY ACQUISITION POWERS

- 8.1.1 The application for the Development Consent Order (DCO) seeks powers for the compulsory acquisition (CA) of land and rights over land and for the temporary use of land both for construction and maintenance purposes. In relation to the Western Power Distribution (WPD) works, the powers sought are to acquire rights over land and to possess land temporarily.
- 8.1.2 The Order limits of the DCO establish the extent of the land affected by the proposed development along the corridor route. The typical width of the Order limits along the overhead line sections of the route corridor is 80m, but the Applicant would only require permanent rights to access and maintain the development over a corridor width of about 60m. The typical width of the Order limits along the underground cable corridor is 100m, but in most instances the Applicant would only require permanent rights to access and maintain the development over a corridor width of about 40m. Some of the land within the Order limits will be acquired outright. These plots are set out in Schedule 11 to the draft DCO. The land will be acquired for the construction of substations or cable sealing end (CSE) compounds. A full description of the extent of the land required by the Applicant in order to carry out the construction of the proposed development, and subsequently to allow access and maintenance, is set out within the Environmental Statement Project Description [Doc 5.3.1].
- 8.1.3 The application was accompanied by a Statement of Reasons [Doc 3.1], a Funding Statement [Doc 3.2], a Book of Reference (BoR) in five parts for each Section A-H of the Order land [Docs 3.3], Land Affected Plans and Land Plans [Docs 4.2], Special Category Land Plans and Crown Land Plans [Docs 4.3.1] and Access and Rights of Way Plans [Docs 4.4]. These accompanying documents and plans have been revised during the course of the Examination. Details of the superseded plans, and the latest versions of the plans can be found in the Applicant's Guide to the Application [Doc 1.7I] and the Drawing Schedule [Doc 1.8].
- 8.1.4 The land in respect of which compulsory acquisition powers are sought is described in this chapter as the CA land. The Order land, of which the CA land forms part, is described in Chapter 2 of this report and also in Section 4 of the Statement of Reasons [Doc 3.1]. The revised BoR [Doc 3.3.1C to 3.3.8.2C] identifies the relevant plots of land and these are shown on the revised Land Affected Plans and Land Plans [Doc 4.2.1A to 4.2.13A]. The details of the changes made during the course of the Examination are set out in the Schedule of Variation submitted at Deadline 7 [Doc 3.4.1B to 3.4.8.3B].
- 8.1.5 The details of the powers sought in order to implement the required compulsory acquisition and also the associated temporary possession

of land and other powers sought are set out in Parts 3, 4, 5 and 6 of the recommended DCO. The powers sought in relation to the temporary use of land do not constitute compulsory acquisition and are provided for in separate articles in the DCO, albeit within the powers of acquisition section. The Statement of Reasons, Section 3, sets out the DCO articles which relate to compulsory acquisition, or the interference with third party rights and additional powers. At the Compulsory Acquisition Hearing (CAH), the Applicant described and explained the intended operation of the relevant draft DCO provisions which seek to engage compulsory acquisition and temporary possession powers [Doc 8.13.10].

8.2 THE PURPOSES FOR WHICH THE LAND IS REQUIRED

- 8.2.1 The Statement of Reasons [Doc 3.1] indicates that the Applicant's purpose in acquiring the CA land compulsorily is to secure the land and rights required to construct, operate and maintain the proposed development. The nature of the proposed development, that is to say, an overhead line or underground cable, is such that only a small amount of land within the Order limits would be acquired outright. This land would be acquired for the construction of substations or CSE compounds. The majority of the powers sought relate to the acquisition of rights and the temporary acquisition of land. The recommended DCO sets out six classes under which land or rights may be acquired permanently or land possessed temporarily. These are Class 1: Compulsory acquisition; Class 2: Compulsory acquisition of rights for the authorised development; Class 3: Compulsory acquisition of rights of access; Class 4: Temporary use for construction, dismantling and access; Class 5: Temporary use for dismantling of redundant infrastructure and Class 6: Temporary use for access.
- 8.2.2 In response to the Examining authority's (ExA's) Q3.9, [Doc 8.1.1], the Applicant explains that the BoR describes the various land, rights and powers to be acquired or exercised within different classes – Classes 1-6. Class 1 relates to the compulsory acquisition of all existing interests and rights in land; Classes 2 and 3 relate to the compulsory acquisition of the various identified rights in land; Classes 4-6 do not relate to compulsory acquisition of land or rights, but to the power of temporary use identified in Articles 30, 31 and 32 of the draft DCO. A full description of how the BoR operates and its classification of powers is set out on pages 1 – 5 of the BoR for each section of the proposed development.
- 8.2.3 The Statement of Reasons, Section 5, describes the proposals for the use and development of the land and sets out the use to which the land and rights acquired would be put. Section 6 describes the purposes for which the powers are sought. Table 1, lists all the land that is to be acquired outright because it is required for the construction of substations or CSE compounds.

- 8.2.4 Table 2 lists land where the Applicant and WPD (in relation to the WPD works) require temporary use of land. The specific purposes for which this land would be used are stated in the table. It would be used for the construction of the proposed development and to provide essential laydown areas at the main construction locations; to provide temporary access to work areas; to temporarily divert public footpaths away from work areas; and for partial highway closures adjacent to work areas.
- 8.2.5 Table 3 lists land where the Applicant and WPD (in relation to the WPD works), seek to extinguish private rights and restrictive covenants relating to apparatus to be removed from land that would be subject to temporary possession. Where apparatus is to be removed this would involve restoration of the land to the reasonable satisfaction of the landowner with pylon foundations being removed to a depth of 1m.
- 8.2.6 The Applicant's response to the ExA's Q3.8 [Doc 8.1.1], provides a table which sets out the total number of plots falling within each of the six classes listed in the Statement of Reasons. This includes a total of 12 plots where Class 1 rights for the acquisition of the freehold is sought, 1770 plots (Applicant and WPD combined) where Class 2 rights for the authorised development are sought and 427 plots (Applicant and WPD combined) where Class 3 rights of access are sought. The CA Appendix D to this report identifies the different class of rights sought for each CA objector and distinguishes between those plots for which compulsory acquisition powers are sought and those where only powers of temporary possession are being sought.

CROWN LAND

- 8.2.7 The Statement of Reasons, paragraph 10.3, explains that rights are also sought over Crown land. The affected land is set out in Table 4 of that document [Doc 3.1]. A schedule of information relating to Crown land was submitted by the Applicant at Deadline 2 [Doc 3.5]. A position statement in respect of Crown land was submitted by the Applicant at Deadline 7 [Doc 8.34.10].

STATUTORY UNDERTAKERS' LAND

- 8.2.8 The Statement of Reasons, paragraph 8.9, [Doc 3.1] identifies a number of statutory undertakers that own land directly affected by the proposed development. The Applicant's Deadline 2 submissions include representations regarding both s127 and s138 of the Planning Act 2008 (as amended) (PA2008) for Wessex Water Services Limited [Doc 3.6.1]; Network Rail Infrastructure Limited (NRIL) [Doc 3.6.2]; Bristol Water plc [Doc 3.6.3]; First Corporate Shipping Limited (the Bristol Port Company) [Doc 3.6.4]; and the Environment Agency [Doc 3.6.5]. There are also representations under s127 PA2008 for EDF Energy Nuclear Generation Limited [Doc 3.6.6], NNB Generation Company Limited [Doc 3.6.7] and RWE Generation UK PLC [Doc 3.6.8]

and under s138 PA2008 for Wales and West Utilities Limited [Doc 3.6.9] and Western Power Distribution (South West) plc [Doc 3.6.10].

OPEN SPACE AND COMMON LAND

- 8.2.9 The Statement of Reasons, paragraph 10.2, indicates that the Applicant is also seeking rights over common land as referred to in s132 PA2008. It describes the affected land as falling within two parcels. The first parcel is in multiple ownerships and comprises agricultural land held in common and used for grass production. The second parcel is in the ownership of The City Council of Bristol and comprises land used for car storage, scrubland and the foreshore and bed of the river Avon. The relevant plots of land are included in the BoR [Doc 3.3.7 and 3.3.8] and Land Plans [Doc 4.2.8 and 4.2.9].
- 8.2.10 At Deadline 2, the Applicant submitted an 'Application under section 132 of the PA2008 in respect of Special Category Land' [Doc 3.7]. This explains that the draft DCO would authorise the compulsory acquisition of rights over land forming part of a common and open space land as referred to in s132 PA2008 and falling within the definition of 'special category' land in the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, and so the Applicant considers that s132 PA2008 is engaged. Since the Applicant is not seeking to acquire land forming part of a common or open space, s131 PA2008 is not engaged by the draft DCO and no application has been made pursuant to that section of the Act.
- 8.2.11 The Applicant's s132 representation describes both the common land and open space over which permanent rights would be acquired, and that which would be used temporarily only. However, following the Issue Specific Hearing (ISH) on 14 April 2015, and comments raised by the Panel, the Applicant recognised that common land and open space land which is only subject to rights of temporary possession or use does not need further consideration by the Secretary of State in the context of s132.
- 8.2.12 The s132 representation was therefore updated as follows: (a) the land tables were revised to remove the plots of common land and open space where rights are only required temporarily; and (b) further information was given on the plots where rights are required permanently, to support the Applicant's case that the land, when burdened with the Order rights, would be no less advantageous. This included information on the rights in common (where known), the current use of the land and the extent to which they would be affected by the acquisition of the Order rights. Updated versions of the documents were also submitted, namely, Special Category Land Plans and Crown Land Plans Section F - Portishead (Option A only) [Doc 4.3.9], Special Category Land Plans and Crown Land Plans Section G - Avonmouth (Option A only) [Doc 4.3.10], Special Category Land Plans and Crown Land Plans Section F - Portishead (Option B only) [Doc 4.3.11], Special Category Land Plans and Crown Land Plans Section G - Avonmouth (Option B only) [Doc 4.3.12] and the BoR [Docs 3.3].

NATIONAL TRUST LAND

- 8.2.13 The Statement of Reasons, paragraph 10.1, explains that the proposed development would affect land owned by the National Trust. The two parcels of agricultural land affected are respectively referred to as plot numbers A65, A66 and A67 and plot numbers B21, B22, B24, B28, B31, B32 and B33 in the BoR [Doc 3.3.1C and Doc 3.3.2.1C to 3.3.2.3C].

OTHER MATTERS

- 8.2.14 The DCO seeks to incorporate the provisions of the Compulsory Purchase (General Vesting Declarations) Act 1981 with some modifications and the provisions set out in s158 of the Act relating to the statutory authority and protection given to override easements and other rights.
- 8.2.15 S120(5)(a) PA2008 provides that a DCO may apply, modify or exclude a statutory provision which relates to any matter for which provision may be made in the DCO and s117(4) provides that, if the DCO includes such provisions, it must be in the form of a statutory instrument. Since in a number of instances the DCO seeks to apply s120(5)(a), it is in the form of a statutory instrument.

8.3 THE REQUIREMENTS OF THE PLANNING ACT 2008 (AS AMENDED)

- 8.3.1 Compulsory acquisition powers can only be granted if the conditions set out in s122 and s123 PA2008 are met.
- 8.3.2 S122(2) requires that the land must be required for the development to which the development consent relates or is required to facilitate or is incidental to the development. In respect of land required for the development, the land to be taken must be no more than is reasonably required and be proportionate⁴⁵.
- 8.3.3 S122(3) requires that there must be a compelling case in the public interest which means that the public benefit derived from the compulsory acquisition must outweigh the private loss that would be suffered by those whose land is affected. In balancing public interest against private loss, compulsory acquisition must be justified in its own right. But this does not mean that the compulsory acquisition proposal can be considered in isolation from the wider consideration of the merits of the project. There must be a need for the project to be carried out and there must be consistency and coherency in the decision-making process.

⁴⁵ Guidance related to procedures for compulsory acquisition of land DCLG, September 2013

- 8.3.4 S123 requires that one of three conditions is met by the proposal⁴⁶. The ExA is satisfied that the condition in s123(2) is met because the application for the DCO includes a request for compulsory acquisition of the land to be authorised.
- 8.3.5 A number of general considerations also have to be addressed either as a result of following applicable guidance or in accordance with legal duties on decision-makers:
- all reasonable alternatives to compulsory acquisition must be explored;
 - the Applicant must have a clear idea of how it intends to use the land and to demonstrate funds are available; and
 - the decision-maker must be satisfied that the purposes stated for the acquisition are legitimate and sufficiently justify the inevitable interference with the human rights of those affected.
- 8.3.6 The Applicant's response to the ExA's Q3.42 [Doc 8.1.1], states that an updated BoR [Doc 3.3.7.1A] submitted at Deadline 2 includes amendments to former plot G30, about which Pan Investments Ltd have made representations [RR-090]. That land parcel has been separated into two separate plots, G30.1 and G30.2. The latter represents the small portion of plot G30 in respect of which Pan Investments Ltd enjoys an interest. It is not required for the proposed development and the relevant entry in the updated BoR reads 'plot number not used'. This plot has now been removed from the latest BoR submitted at Deadline 7 [Doc 3.3.7.1.1A].
- 8.3.7 Further details of the changes made to the compulsory acquisition powers sought by the Applicant during the Examination process are set out in the Schedule of Variation submitted at Deadline 7 [Doc 3.4.1B to 3.4.9].

8.4 HOW THE EXAMINING AUTHORITY EXAMINED THE CASE FOR COMPULSORY ACQUISITION

- 8.4.1 The Panel raised first written questions [PD-007] in relation to the request for compulsory acquisition powers. These questions were published on the HPCC project page of the National Infrastructure website and a link providing access to them was included in the Rule 8 letter [PD-006]. The questions covered a range of issues including matters of principle relating to the exercise of compulsory acquisition powers, the scope of the land and rights sought, the need for the project and the exploration of alternatives. The questions also dealt with matters relating to the availability of funding and the justification

⁴⁶ (1) An order granting development consent may include provision authorising the compulsory acquisition of land only if the Secretary of State is satisfied that one of the conditions in subsections (2) to (4) is met.
(2) The condition is that the application for the order included a request for compulsory acquisition of the land to be authorised.
(3) The condition is that all persons with an interest in the land consent to the inclusion of the provision.
(4) The condition is that the prescribed procedure has been followed in relation to the land.

for the interference with the human rights of those with an interest in the land affected. They reflected matters raised by IPs in their representations and the requirements PA2008.

- 8.4.2 The Applicant provided responses to those questions at Deadline 2 [Doc 8.1.1]. They also provided, as Appendix 3.22.1.1, 'Status of Negotiations with Affected Parties' and Appendix 3.46.1.1 'Status of Negotiations with Statutory Undertakers' [Doc 8.2.2]. At that deadline the Applicant also submitted a 'Schedule of Information relating to Crown land' [Doc 3.5] and various representations pursuant to s127, 138 and 132 PA2008 [Docs 3.6.1 to 3.7].
- 8.4.3 In the light of the responses to its first written questions, the other written submissions, and the matters raised at hearings, the ExA decided to ask a number of second written questions [PD-012]. These questions were published on the HPCC project page of the National Infrastructure website and a link giving access to them was provided by the ExA's letter dated 13 May 2015 [PD-011]. The Applicant submitted responses to those questions at Deadline 5 [Doc 8.18.1]. The appendices to the Applicant's responses to the ExA's second written questions [Doc 8.18.2.1] include its response to Person with an Interest in Land (PIL) objections to the proposed grant of compulsory acquisition (Appendix 2.3.15.1).
- 8.4.4 A CAH was held at The Grand Pier, Weston-super-Mare, on 20 May 2014. At the CAH representations were made by a number of Affected Persons, namely, Nailsea Town Council, Trapoc Limited, City Monument Properties Limited, North Somerset Council and Mr Shepherd and Ms Fisher. There were also representations made in relation to the s127 PA2008 by First Corporate Shipping Limited (Bristol Port Company) and RWE Generation UK plc (RWE). No other Affected Persons chose to make substantive oral representations at the CAH.
- 8.4.5 At the CAH, the Panel pursued a number of matters with the Applicant including outstanding points relating to the general principles applicable to the compulsory acquisition of land and rights over land, associated development, alternatives, the need in the public interest for the project to be carried out, the private loss to those affected by compulsory acquisition, whether adequate funding is likely to be available, and whether the purposes of the proposed compulsory acquisition justify interfering with the human rights of those with an interest in the land affected.
- 8.4.6 A written summary of the oral case presented at the CAH was submitted by the Applicant at Deadline 5 [Doc 8.13.10]. There were also various oral case summaries submitted by various IPs [REP 5-001 to 5-007]. At Deadline 7, the Applicant provided an updated Appendix 2.14.6.1 (Current status of negotiations with affected parties) [Doc 8.30] and an updated Appendix 2.3.15.1 (Applicant's response to PIL objections to the proposed grant of compulsory acquisition) [Doc 8.31]. At Deadline 8, the Applicant provided a response to the

Deadline 7 submissions made by RWE [Doc 8.51] and an update in respect of negotiations with the Bristol Port Company [Doc 8.52].

THE APPLICANT'S GENERAL CASE FOR THE GRANT OF COMPULSORY ACQUISITION POWERS

- 8.4.7 The Applicant's case for the grant of compulsory acquisition powers is set out in the Statement of Reasons [Doc 3.1] together with the Funding Statement [Doc 3.2], the revised BoR [Doc 3.3.1C to 3.3.8.2C] and schedules of variation of the revised BoR [Doc 3.4.1B to 3.4.8.3B]. The documents which accompanied the application include a substantial amount of information regarding baseline conditions, site selection, the proposed development, environmental impact and other relevant matters.
- 8.4.8 The Statement of Reasons explains that it forms part of a suite of documents accompanying the application and should be read alongside those documents. These include the revised Land Plans (see the Applicant's Drawing Schedule [Doc 1.8]), the Need Case for the South West and South Wales & Gloucestershire Regions [Doc 7.5 to 7.5A] and the Environmental Statement Project Need and Alternatives and appendices and figures [Doc 5.2.1 to 5.2.3.5]. Additional information and plans in relation to Crown Land, open space, local authority and statutory undertakers' land was submitted in response to the Panel's questions and in further representations submitted by the Applicant [Doc 4.3.8B to 4.3.9, 4.3.10A, 4.3.11A and 4.3.12A]. The Applicant also submitted a number of relevant position statements at Deadline 7 [8.34.1 to 8.34.11].

Requirement for the compulsory acquisition of the Order land (section 122(2) and (3))

- 8.4.9 The Applicant explains, in the Statement of Reasons [Doc 3.1], its clear proposals for the use of the CA land. Section 5 of that document sets out the use to which the land and rights to be acquired would be put. The Applicant asserts that all of the CA land, shown on the revised Land Plans and described in the revised BoR, is required either for the purposes of the project, or to facilitate it, or for purposes incidental thereto. The nature of the land interests required for the project are set out in Section 6 of the Statement of Reasons.
- 8.4.10 The land at the two proposed CSE compounds on Horsey Level is required to achieve a crossing of electrical circuits where the new overhead line interfaces with the existing Hinkley to Bridgwater overhead line. The land for the proposed CSE compound adjacent and east of the M5 and south of the Mendip Hills and the River Axe, is needed to provide the interface point between the overhead line proposed through the Somerset Moors and Levels and the underground cables proposed through the Mendip Hills. The land at Sandford is required to accommodate the proposed new Sandford substation. The underground cables proposed through the Mendip Hills would connect directly into the Sandford substation. The land at

Seabank is sought to enable an extension to the existing substation to be built to facilitate connection of the proposed 400kV overhead line into Seabank substation. Without the acquisition of this land and the rights to construct, operate, and maintain, the overhead electric lines and underground cables, there would be uncertainty about the delivery of the proposed development.

- 8.4.11 Where rights are to be acquired these would be for the uses set out in the Statement of Reasons, sections 5.2.1 and 5.2.2 being the construction, and maintenance, of the 400kV overhead and underground line. The rights to be acquired would be permanent easement rights rather than temporary wayleave rights. The justification for acquiring permanent easement rights is set out at section 8.3 of the Statement of Reasons. The removal of the WPD infrastructure to facilitate the construction of the proposed development would also result in the requirement for further incidental works to be done to the WPD network to maintain security of local electricity supply. The majority of land over which permanent rights are proposed to be acquired would experience only minor interference with the use of the land. For example, a significant proportion of the land over which permanent rights would be acquired is in agricultural use; the owners of such land would be able to continue to use the land for this purpose once construction is completed and it is likely that they would experience only limited interference over the lifetime of the development.
- 8.4.12 In response to the Panel's Q3.1 [Doc 8.1.1], the Applicant referred to the Department for Communities and Local Government (DCLG) Guidance on Associated Development (April 2013) which makes clear that classification of works as associated development is a matter for consideration on a case by case basis. Schedule 1 of the draft DCO sets out a list of works (a) to (m) considered by the Applicant to constitute associated development. It is the Applicant's view that each of the works listed may be classified as associated development. The majority fall within the lists in the two annexes to the guidance. All of the associated development satisfies the core principles that it has a direct relationship with the principal development and its aims are subordinate to the principal development.

General justification for the extent of the Order land

- 8.4.13 In response to the Panel's Q3.3 [Doc 8.1.1], the Applicant explained that the minimum size of each CSE compound has been determined by considering the electrical equipment required for the transition and the minimum electrical clearances applicable at this voltage for safe operation and maintenance. Additional access space is then required for test equipment associated with commissioning and potential cable fault location. Outside each of the two CSE compounds, areas of land have been identified for mitigation planting. Acquisition of the land is required to ensure that the proposed mitigation planting can be completed.

- 8.4.14 The minimum footprint of the Sandford substation is determined by considering the transmission and distribution equipment required at each substation and the minimum electrical clearances applicable at each voltage for safe operation and maintenance. Additional space is then required for access to deliver and remove large equipment, such as transformers and reactors, and for test equipment associated with the commissioning and potential cable fault location. Outside of the fenced substation, an area of land, about 10ha, has been identified to allow for mitigation planting. Acquisition of this land is required to ensure that the proposed mitigation noted above can be completed.
- 8.4.15 At Seabank substation, the proposed 400kV overhead line would be adjacent to an existing 400kV overhead line and there would be insufficient space to accommodate the new overhead line landing gantries. There is also a requirement for switchgear to connect the new circuits. As a result, the existing building would need to be extended by approximately 24m to house the additional switchgear and the operational boundary would need to be enlarged by approximately 250m² to accommodate the line landing gantries. Equipment would be removed at the 132kV substation to connect the new 132kV cables. Some additional electrical switchgear would be required as well as a small modular building to house the substation ancillary equipment. This would require the operational boundary to be enlarged by approximately 630m² at the south-east corner.
- 8.4.16 As regards the justification for the corridor width, the Applicant provided a response to the ExA's Q3.3 on this topic [Doc 8.1.1]. The response, at 3.3.19, indicates that permanent rights are required for any area where the conductors (wires) may oversail and this would include the potential for oversail when the conductors swing under the maximum envisaged wind load. The 60m referred to in the Statement of Reasons represents the width covered by the swinging wires.
- 8.4.17 The Land Plans [Docs 4.2] indicate a larger swathe where a Class 2 'permanent' right is sought, however, this includes the additional 20m that encompasses the land that would be required should the proposed alignment need to move laterally within the Limits of Deviation (LoD). The final rights to be acquired would cover only the 60m swathe wherever it lay within the 80m shown on the Land Plans. The same principles apply for lattice pylons except that the final width of the permanent right would be 40m rather than 60m.
- 8.4.18 The proposed 400kV cable system through the Mendip Hills Area of Outstanding Natural Beauty (AONB) would consist of up to 12 cables laid in two pairs of trenches, three cables in each trench. It is likely each trench would be about 1.8m deep and 2m wide and each pair of trenches would be separated by approximately 3m. Each pair of trenches would be separated by a central haul road which serves to separate the circuits thereby reducing the risk of damage by a single event which might otherwise result in the loss of both circuits and to provide an access point from which to construct the cable routes without the need to cross one to access the other. A strip about 10m

wide on the outside of each circuit would be reserved to prevent future development including the planting of vegetation. The overall width of the cable swathe post construction would therefore be about 40m for a cable routed in open, unobstructed land. The proposed width of the permanent cable corridor has therefore been determined by the required cable separation and the inclusion of the central haul road. The Applicant's response to the ExA's Q3.5 [Doc 8.1.1] sets out the key factors which led it to seek a corridor width of 40m for the underground section.

8.4.19 In response to the ExA's Q3.4, at 3.4.8, the Applicant confirms that its intention is to minimise land take and to return land that was temporarily occupied subject, in some cases, to the acquisition of permanent rights where required. At the CAH, the ExA raised questions about the LoD and how it could be sure that the Applicant would only use an area 60m wide rather than the full 80m width. The Applicant stated that this is a necessary and proportionate limit of deviation due to the unknown ground conditions in certain sections of the route but that the Applicant had no incentive to use more than is absolutely necessary. Using more than necessary would increase the amount of compensation that it would have to pay to landowners and occupiers and, therefore, it is not in its interest to do so [Doc 8.13.10].

8.4.20 At the CAH, the Applicant confirmed that the compulsory acquisition powers are being sought to acquire land which is both required for the development and which is incidental to the development. Schedule 1 of the draft DCO defines the authorised development and the land over which compulsory acquisition powers is sought relates to that [Doc 8.13.10]. The only powers of compulsory acquisition that the draft DCO grants for associated development are those which are 'necessary' or 'expedient' for the works to be carried out.

Alternatives to compulsory acquisition

8.4.21 The Statement of Reasons, Section 7, sets out the consideration given to alternatives to compulsory acquisition. Further information is provided in response to the ExA's Q3.15 and Q3.30 [Doc 8.1.1].

8.4.22 The Strategic Optioneering Report (2009) [Doc 5.2.2.1, Appendix 2A] identifies that, in order to construct, operate and maintain the proposed development, land and rights in the ownership of parties other than itself would need to be acquired. Any practicable alternative location for the proposed development would similarly require the acquisition and/or use of third party land. This means that acquisition and/or use of third party land could not be avoided for the proposed development. It has sought to use powers of temporary use, where appropriate, rather than compulsory acquisition of land or rights, as the temporary use of land is more proportionate where the permanent acquisition of land or rights is not required.

- 8.4.23 The Applicant has already acquired some land and rights in land, and will continue to seek to acquire all land and rights it needs by voluntary agreement, subject to the DCO being made. It has undergone extensive consultation with all persons with an interest in the relevant land in order to try to avoid the need for compulsory acquisition.
- 8.4.24 Notwithstanding completing voluntary agreements, it still seeks to compulsorily acquire land and rights through the draft DCO as compulsory acquisition powers would enable it to deliver its statutory and contractual duties without potential delay, if for any reason the voluntary acquisition of land or rights is ultimately unsuccessful.
- 8.4.25 The Applicant considers that without the powers of acquisition being compulsory, the urgent national need for the proposed development could not be met because the land and rights required in the Order land might not be assembled, uncertainty as to construction would continue and its objectives would not be achieved.

Alternatives to the proposed development

- 8.4.26 The Statement of Reasons, Section 7, sets out the consideration given to alternatives to the proposed development. Further information is provided in response to the ExA's Q3.15, Q3.17, Q3.18, Q3.19, Q3.20 and Q3.30. The Applicant states that at each stage of the process it considered alternative options balancing the environmental, economic, engineering issues with the representations made during each stage of consultation. The assessment of alternatives at each stage is described in the ES [Docs 5.2] and includes the consideration of alternative strategic options, route corridors, detailed routes, undergrounding and the consideration of representations made during consultation.
- 8.4.27 The assessment of alternatives was considered in the Strategic Optioneering Report (2009) [Doc 5.2.2.1, Appendix 2A] which discounted the subsea options. The Strategic Optioneering Report Additional Information (2010) [Doc 5.2.2.1, Appendix 2B], concludes that the comparison of costs associated with each option leads to the decision to discount a number of strategic options, including subsea, prior to the consultation on the potential route corridors.
- 8.4.28 The Strategic Optioneering Report (2011) [Doc 5.2.2.1, Appendix 2C], took account of the consultation feedback received from stakeholders and the general public. The report concludes that the option of constructing an overhead transmission line between Bridgwater and Seabank would best meet National Grid's technical, economic and environmental obligations and should remain the preferred option to take forward for further investigation. However, it recognises that due to amenity issues in some areas, sections of the proposed connection may be placed underground. It indicates that these and other mitigation measures would be investigated in the next stage of the project.

- 8.4.29 The M5 Routeing Study (2012) [Doc 5.2.2.2, Appendix 2E] concludes the preferred route corridor is the least constrained option for achieving a new overhead line route between Bridgwater and Mendip Hills AONB. The Project Need and Alternatives Selection of Preferred Connection (2011) [Doc 5.2.2.3, Appendix 2F], concludes that the option of constructing an overhead transmission line between Bridgwater and Seabank should be confirmed as the basis for the Hinkley Point C Connection.
- 8.4.30 The Update to the Strategic Options Report Cost Tables and Relevant Appendices [Doc 7.4] concludes that the increase to the estimated costs of the preferred option is not of an extent that would suggest any other option should be progressed. The Project Need and Alternatives Connections Options Report (2012) (COR) [Doc 5.2.2.4, Appendix 2G] concludes that there is a justification for undergrounding part of the connection within Study Area C – Mendip Hills AONB.
- 8.4.31 The Cable Sealing End Siting Study (2012) [Doc 5.2.2.5, Appendix 2J], considers the feasibility of options for siting two 400,000 volt (400kV) CSE compounds in the vicinity of the Mendip Hills AONB. It concludes that south of the Mendip Hills AONB Area B is to be preferred and north of the Mendip Hills AONB Area E is to be preferred. The Local Electricity Network Substation Siting Appraisal (2012) [Doc 5.2.2.9, Appendix 2N] concludes that land adjacent to Nye Road in the north east of the Area of Search has been identified as the least environmentally constrained zone for the substation.
- 8.4.32 The Consultation Report [Docs 6.1] concludes that the acquisition of land and interests in land belonging to third parties could not be avoided. A structured change request process was implemented to consider all requests for changes to the scheme. The process is described in full in the Project Need and Alternatives chapter of the ES [Doc 5.2.1]. These changes are explained in the Project Need and Alternatives Chapter of the ES [Doc 5.2.1] and the Consultation Report [Docs 6.1].
- 8.4.33 For the Portishead/ Portbury area, the DCO application includes both Option A and Option B. Compulsory acquisition powers would only be used where appropriate over the option chosen by the Secretary of State.
- 8.4.34 In conclusion, the process of routing was iterative, and the Applicant provided a process whereby individual requests for changes to the scheme were considered with consideration having been given to undergrounding in different locations [Doc 5.2.2.4].

Availability and adequacy of funds

- 8.4.35 The availability of funds for compensation is considered in Section 7 of the Statement of Reasons [Doc 3.1], in the response to the ExA's Q3.21-3.29 [Doc 8.1.1] and Q2.3.6-2.3.9 [Doc 8.18.1] and in the Applicant's written summary of case put orally at the CAH [Doc

8.13.10]. Details of the proposed funding for the implementation of the project and the acquisition of land are set out in the Funding Statement [Doc 3.2].

- 8.4.36 The Funding Statement explains that the Applicant owns and operates the high voltage electricity transmission network in England and Wales. It has a duty under the Electricity Act 1989 to develop and maintain an efficient, co-ordinated and economical system of electrical transmission. In return, users of the transmission network pay a tariff to National Grid. This revenue is then used by National Grid to maintain, improve and invest in the transmission network. As there is a stable demand for use of the transmission network in the UK, there is a reliable revenue stream for National Grid.
- 8.4.37 The RIIO - T1 price control arrangement for National Grid which began on 1 April 2013, put in place all funding arrangements to allow National Grid licensed entities, including the Applicant, to discharge its duties as Transmission Operator and Owner. This includes mechanisms to fund capital costs to construct new, efficient, co-ordinated and economical transmission equipment, also providing provision for associated costs including compulsory acquisitions and foreseeable incidental costs.
- 8.4.38 The response to the ExA's Q3.21 indicates that the Electricity Act 1989 and the Transmission Licence issued pursuant to that Act require National Grid to deliver a connection to contracted customers. EDF Energy is the contracted customer for the Hinkley C Connection project. Unless, and until, EDF Energy cancels the bilateral connection agreement with National Grid for the connection to the proposed (and already consented) Hinkley Point C new nuclear station, it must develop and deliver the connection to meet the contractual connection date. The current contractual delivery date is: a) Back feed - 30 October 2019; b) Principal connection - 1 June 2022.
- 8.4.39 The Applicant has a regulatory asset value over £10bn whilst National Grid plc has a regulatory asset value over £33bn. The Applicant is fully confident that land acquisition costs and potential compensation claims for blight could be fully met as and when they fall due. The total cost of payments for land acquisition, incentive payments, disturbance, injurious affection and related professional fees is estimated at £50.2m.
- 8.4.40 In response to the ExA's Q3.24 [Doc 8.1.1], the Applicant states that a methodical and considered approach was taken when assessing the cost of payments for the acquisition of rights required by the project. National Grid has a published fee scale for payments to acquire easements. This allows it to be relatively certain of the consideration payable for the acquisition of these rights. The Applicant contends that the cost estimate of £50.2m is realistic. There are only 12 plots of land being permanently acquired and their cost of purchase has been included in this estimate.

- 8.4.41 The response to the ExA's Q3.23 [Doc 8.1.1], states that the figures used by the Applicant include its Lands Right Strategy figures plus the costs of professional fees, disturbance, and blight. It is expected that some local factors will emerge after the initial estimates have been prepared. Experience across National Grid projects indicates that a 10% contingency is sufficient to contain such costs. The figures used in the Funding Statement contain the 10% contingency. The possibility of the receipt of Blight Notices has been taken into consideration and the cost factored into the financial calculations.
- 8.4.42 Construction costs have been developed using National Grid's internal cost estimating database. Costs within the database are informed by cost information obtained from discussions and budgetary estimates from manufacturers and installers as well as experience of recent costs obtained in tenders and completed contracts. The figures used by the Applicant are given in the Update Report [Doc 7.4]. In response to the ExA's Q2.3.8 [Doc 8.18.1], the Applicant confirmed that, as discussed at the Landscape and Visual ISH on 22 and 23 April 2015, the updated cost of the project including land acquisition and mitigation, but excluding contingency and weather related risk, has increased from £678m to about £750m.
- 8.4.43 The Funding Statement makes reference, in Section 3, to the contractual arrangements with WPD. In response to the ExA's Q3.27, the Applicant states that the principles referred to in paragraph 3.3 of the Funding Statement are underpinned by an indemnity agreement between National Grid and WPD in respect of WPD's reasonable and proper costs. Agreement has been reached on the terms of a contract between National Grid and WPD. The mechanisms in the contract would allow for the costs to be provided, considered, and agreed, for dispute resolution in the event that there is disagreement in respect of scope or amount. The compensation liabilities would be linked to the delivery of the WPD works and so would be part of the costs under the agreed contract terms that National Grid is liable to meet. Through this mechanism, WPD would have the funds available to meet the compensation liabilities. In practice, National Grid would be managing the process, negotiation and payment for any land/easements on behalf of WPD.
- 8.4.44 In response to Q2.3.6 [Doc 8.18.1], the Applicant confirmed that National Grid and WPD signed an indemnity agreement on 30 September 2011. Since then, both parties signed a Framework Agreement on 16 March 2015. The Framework Agreement contains the detailed terms and provisions for payment. The general principles of the agreement are that WPD would be indemnified for the costs and expenses of the project works. National Grid is responsible for ensuring that adequate funding is available for the total costs of the scheme. The Applicant asks the Secretary of State to judge this matter on the basis of its ability to fund the compulsory acquisition and not WPD's.

- 8.4.45 Ofgem monitors the financial status of National Grid and requires it to publish Regulatory Accounts and Business Plans that demonstrate it has in place the necessary financial resources to continue to develop, operate and maintain the nation's electricity network. It typically raises £3bn in borrowing each year and has access to liquid funds in excess of £2bn. Therefore, adequate funding would be available to acquire the land and interests and to implement the project [Doc 8.13.10].

The timing of the exercise of the compulsory acquisition powers

- 8.4.46 The draft DCO, Article 22, requires the compulsory acquisition powers granted to be exercised within the period of eight years beginning on the day on which the Order is made. There is necessarily a degree of uncertainty around both the likelihood and timing of new generators actually progressing and connecting to the transmission network. Due to this necessary uncertainty, a certain degree of flexibility is needed to deal with that, hence the timings built into the DCO: if too short, the Applicant would have to promote another order which would add unnecessary cost and uncertainty to those affected [Doc 8.13.10].

Section 122(3) - whether there is a compelling case in the public interest for the land to be acquired compulsorily

- 8.4.47 Paragraphs 7.15 to 7.20 of the Statement of Reasons, set out the factors that constitute a compelling case in the public interest for compulsory acquisition. These are explained in full in the response to the ExA's Q3.30 and are also set out in response to the ExA's Q3.12 and in the Applicant's Written Summary of Case put forward at the CAH [Doc 8.13.10].
- 8.4.48 At the CAH, the Applicant drew attention to EN-1 and EN-5, specifically paragraphs 1.7.2, 3.3 and 3.7 of EN-1, and 2.3 of EN-5, which both allow for the forward planning of projects in order to meet the delivery demand of national infrastructure, in this case, the demand for electricity transmission [Doc 8.13.10].
- 8.4.49 The Applicant states that the proposed development would provide critical transmission capacity necessary for the safe and secure connection of the consented Hinkley Point C nuclear power station and other new power stations in the South West, South Wales and Gloucestershire. A proportionate approach has been taken in identifying the permanent, and temporary rights, as well as types of rights that need to be acquired to achieve the delivery of the proposed scheme. Without this critical infrastructure, the transmission connection for Hinkley Point C and other generators in the region would not be compliant with the standards set out in the National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS) and would therefore not contribute to meeting the targets set by government and in providing an on-going reliable and affordable electricity supply. The Applicant therefore submits that

there is a compelling case not just for the quantum of land identified in the BoR, but also for the necessary degree of interference with a landowner's interests or rights in that land.

- 8.4.50 As regards the approach taken when assessing the private loss to individuals, the Applicant has not carried out a parcel by parcel analysis of the effect of the proposed development on human rights, but submits that such an approach does not conflict with the relevant DCLG guidance. The Applicant contends that, for a linear project of this size, undertaking such an analysis on a parcel by parcel basis (in this case there are 4461 parcels affected [Doc 8.3.10, para 4.3]) would be a disproportionate measure.
- 8.4.51 The process of routing was iterative and took into account a number of factors, including the effect on land use, individuals, communities, and the environment, at each stage. The Applicant also took into account feedback received from statutory consultees and local communities. The Applicant submits that taking a plot by plot approach to analysis would not be proportionate, and would ultimately result in various deviations and snakes in the alignment which would necessarily make the route less straight. Compliance with the Holford Rules and EN-5 would therefore be compromised. However, where landowners raised specific issues about the route of the overhead line and positioning of the pylons, consideration was given to these matters as part of the Applicant's 'Change Request' process, as set out in the ES Project Need and Alternatives [Doc 5.2.1].
- 8.4.52 A number of considerations were taken into account, but an important consideration in the routing process was avoiding or minimising effects on existing and proposed land uses. Further detail on this has been provided in response to the ExA's Q3.31. At the CAH, a summary was provided of how land use effects had been taken into account at each stage of the iterative routing process. In response to the ExA's questions about whether an objective assessment was taken to the consideration of undergrounding in different locations, the Applicant stated that this was provided in the COR [5.2.2.4].

Human Rights

- 8.4.53 The Applicant's case is set out in Section 7, paragraphs 7.44 to 7.52, of the Statement of Reasons [Doc 3.1]. Further information is set out in the response to the ExA's Q3.30 [Doc 8.1.1] and the Applicant's written summary of case put forward orally at the CAH [Doc 8.13.10].
- 8.4.54 The Statement of Reasons draws attention to the need for the connection, as detailed in the Need Case [Doc 7.5]. The Applicant contends that the land, and rights over land, that are proposed to be acquired are proportionate for the implementation of the proposed development. The compensation for any land or rights compulsorily acquired would be assessed according to the normal rules for the assessment of compensation. The Applicant considers that any interference with rights under the European Convention on Human

Rights (ECHR) would be heavily outweighed by the public benefit of the proposed development. No dwellings are proposed to be compulsorily acquired as part of the proposed development.

- 8.4.55 The Applicant's response to Q3.30, at 3.30.11(d) [Doc 8.1.1], states that the purposes for which an Order authorising the compulsory acquisition of land are legitimate, being the delivery of essential new transmission infrastructure, the need for which has been identified within EN-1. Those purposes are also sufficient to justify interfering with the human rights of those within an interest in the land affected, having regard to not only the importance of the purpose but also the fact that the majority of the land affected would only experience a minor interference and further that compensation would be payable to those affected in accordance with the statutory compensation code.
- 8.4.56 In summary, in considering the provisions of Article 1 of the First Protocol, and Article 8 of the ECHR, the Applicant submits that it has paid full regard to the DCLG guidance. The Applicant considers that there is a legitimate purpose in this case, given the public benefit that would be realised by the proposed development and further that this purpose outweighs the private loss of those affected by compulsory acquisition.
- 8.4.57 The Applicant submits there is no substantial difference between the weighing of potential infringement of ECHR rights and the making of a compelling case in the public interest as required by s122(3) PA2008. In essence, if the tests in s122(3) are met, the requirements of the Human Rights Act 1998 will also be met, that is to say, the proposed infringement would therefore be for a legitimate purpose and it would be shown to be necessary as well as proportionate. The case of *Pascoe v. FSS* [2006] EWHC 2356; [2007] 1 WLR 885, sets out the precedent that once a compelling case in the public interest has been established, by extension and necessity, the case for proportionality in terms of the infringement of the Human Rights Act is established.

The Equality Act

- 8.4.58 At the CAH, the ExA asked the Applicant to consider whether there were any Equality Act duties relevant to the application, and if so, how these had been addressed. The Applicant submits that the duties under the Equality Act applied to it only insofar as it could be considered to be performing a public function. It has treated every party in the same manner and therefore had not discriminated during the promotion of the Order. The scope of the Order was also not discriminatory and therefore also did not fall foul of these provisions.

THE OBJECTIONS RECEIVED TO THE COMPULSORY ACQUISITION PROPOSALS

- 8.4.59 A number of objections to the compulsory acquisition proposals have been received from Affected Persons. An initial list of the objectors and Statutory Undertakers is set out in Appendix A to the ExA's First

Written Questions [PD-007]. The details of the initial objections raised are set out in the relevant representations and written representations for those parties listed in that appendix.

- 8.4.60 The Applicant's response [Doc 8.1.1] to the ExA's Q3.61, indicates that it has sought (and continues to seek) to engage directly with all PILs affected by the proposed development with a view to reaching voluntary agreements in each case. It proposed to provide the ExA with an updated response to each objection of which it was aware prior to the close of the Examination.
- 8.4.61 During the Examination, the Applicant provided information relating to the progress on negotiations with Affected Persons. At Deadline 7, the Applicant provided an updated Appendix 2.14.6.1 (Current status of negotiations with affected parties) [Doc 8.30] and updated Appendix 2.3.15.1 (Applicant's response to PIL objections to the proposed grant of compulsory acquisition) [Doc 8.31]. Those objections which have been withdrawn are set out in the CA Appendix D to this report.
- 8.4.62 Within the CA Appendix D, objections are numbered consecutively, but are in no particular order. The objection numbers correspond with the objection numbers used by the Applicant in its response to our written questions, together with later additions. We shall give consideration to all the objections made by identified parties which have not been resolved in our conclusions later on in this Chapter. For full details of those objections reference should be made to the submissions of the parties set out in the Examination Library at Appendix C to this report.
- 8.4.63 We shall now summarise the case for Affected Persons, other than statutory undertakers, where additional representations were made by those objectors at the CAH. This is followed by the Applicant's response to those objections. We then set out in summary form the case for statutory undertakers followed by the Applicant's response.

North Somerset Council - Objection No 41

- 8.4.64 At the CAH, North Somerset Council appeared as land owner and as promoter of its own application for a Nationally Significant Infrastructure Project (NSIP) – the re-opening of the Portishead to Parson Street, Bristol railway and the details of its case are set out in its oral summary of the CAH [REP5-005].
- 8.4.65 The Portishead Railway would, when re-opened, become part of the national rail network and subject to the terms of NRIL's operating licence. The title to the track bed would almost certainly be transferred to NRIL. North Somerset Council seeks terms that would be appropriate when granted by NRIL for crossings of railway infrastructure by the Applicant's apparatus.
- 8.4.66 The formal development consent order application process for the Portishead Railway is about to commence. The Statement of Community Consultation has been provided to the relevant local authorities for the provision of their views prior to it being issued and

placed on deposit. This is anticipated to take place on or around 22 June 2015. Agreement is in place in relation to collaboration with NRIL for the scheme to be taken forward. The anticipated timetable for the application is that the draft order will be submitted to the Planning Inspectorate in June 2016. If consent is given, then it is anticipated in Autumn 2017, and ideally start on site would occur in late 2017. It is hoped that the railway would be operational (and become part of NRIL's network) by 2019. North Somerset Council submits that this is not the safeguarding of a possible future scheme, but a real, live, NSIP which has the benefit of considerable local support.

8.4.67 North Somerset Council contends that the best way forward would be for the Secretary of State, and for the Applicant, to assume that an operational railway would be in place at the time the project promoted by it is under construction. Therefore, the powers sought over North Somerset Council's land need to be subject to protections as to their exercise against its ownership of that land. The Applicant should be required by the Secretary of State (through protective provisions, if an asset protection agreement has not been secured allowing for such protections) to exercise powers to construct its project as if an operational railway exists. These protections also need to apply for maintenance following the reinstatement of the railway.

8.4.68 The position is essentially that protection should be in place either in the DCO, or in an agreement outside of the DCO, to secure protections for the land as if it was operational railway. As North Somerset Council is promoting its own NSIP, the dis-benefit to the public arising if the unlimited powers currently sought by the Applicant were granted, would weigh heavily against the compelling case in the public interest that it must demonstrate under s122(3) PA2008. The issue is easily remedied by providing the protections sought, which are capable of benefitting NRIL as network operator following the reinstatement of the Portishead railway.

Nailsea Town Council - Objection No 1

8.4.69 In advance of the CAH, Nailsea Town Council submitted its s42 response to the Applicant [EV-118]; a plan of the proposed route of the undergrounding in relation to land interests [EV-119] and correspondence with National Grid [EV-120]. The latter indicates that the Town Council has reluctantly signed Heads of Terms for an option agreement over land that it owns at Engine Lane. However, the objection is not withdrawn. The Town Council accepts that if undergrounding the cables along Engine Lane is not technically feasible, then it is likely that they would have to be installed within the draft DCO limits, but it does not consider that it has been provided with technical evidence to show that to be the case.

8.4.70 At the CAH, Nailsea Town Council outlined its concerns regarding its land at Engine Lane, and the proposed undergrounding of the cable in this area. It had originally assumed that the route going north would be under the road along Engine Lane, meeting up with the section

under the road at the northern end of Engine Lane where it joins the section under Blackfriars Road. However, it subsequently transpired that the proposed route was across its land in the field adjacent to the roadway. Nailsea Town Council is concerned to ensure that any future use of this land is not blighted by the grant of any easement over it. It proposes that an alternative route be taken along Engine Lane and then south along its land.

David Shepherd and Catherine Fisher - Objection Nos 4 and 5

- 8.4.71 In relation to the compulsory acquisition aspects of their objections, David Shepherd and Catherine Fisher made submissions in lieu of making an oral case at the ISH held on 21 April 2015 [EV-052], and submissions in lieu of making an oral case at the ISH held on 22 April 2015 [EV-057]. They both gave evidence at the CAH and have provided written summaries of the case put [REP5-001 and REP5-003]. They provided responses to the ExA's second written questions [REP5-010] and final written submissions [REP7-019]. A representation was also made by them [REP2-122], and by Robert Stone on their behalf, at Deadline 2 [REP2-123] and Deadline 7 [REP7-009].
- 8.4.72 In summary, they submit that the Applicant has not demonstrated that all reasonable alternatives to compulsory acquisition have been considered. There are other viable options for this connection, which have not been explored or openly appraised by the Applicant. None of the alternative options, including undergrounding, have been genuinely put forward for consultation and consideration and an open and comparable justification for the recommended T-pylon scheme has definitely not been made.
- 8.4.73 They do not believe that an adequate assessment has been made on the proposed positioning of pylons near their home. They feel that the Applicant has ignored them and has not treated their concerns, questions or attempts to positively engage with respect and it certainly has not attempted to address or resolve any of their objections.
- 8.4.74 A lack of information on alternative options, the lack of a full options appraisal and the unreliability of the evidence provided about the proposed scheme make it impossible to establish the reason why this acquisition has been sought and another less damaging option not pursued. Not having an open and transparent options appraisal means that there can be no compelling case for compulsory acquisition to satisfy the greater public interest. The public interest would be better served by one of the other options available and these should be properly investigated.
- 8.4.75 They contend that, based on the evidence submitted, it is impossible to balance public interest with private loss. Until there is a clear and definite requirement to make a connection to Hinkley C there cannot

be a compelling case to acquire rights over land to connect it to the national grid.

- 8.4.76 They state that the Applicant has declined to explain how it has weighted all of the factors in making its decision on choice of technology. It has made important assessments and decisions based on its own subjective judgement giving the appearance that it has made up the weightings to support its own preferred outcome. An undersea connection would require virtually no acquisition of land, and would not need to interfere with the rights of so many people. The acquisition of so much land and rights is more than is reasonably necessary and is disproportionate to the purposes of the development.
- 8.4.77 They have raised their concerns over the location of pylons close to properties and businesses at the 'pinch-point' in Tarnock but reasonable requests have not been accepted. The Applicant has not engaged seriously to resolve issues and concerns. It has failed to provide a compelling case that this proposed development by overhead pylons is in the public interest, particularly given the other alternatives that are available
- 8.4.78 If the proposed development is recommended for approval they ask for the effects on their community to be mitigated as far as is possible. The representation made by Robert Stone on their behalf states that the proposed location of the pylon is only 36m away from their garden and 68m away from their nearest building. They seek that Pylon LD32 be moved northwards as proposed in Options 1 and 2 [Doc 8.13.3.2], and that further direct support be made available to people affected in the communities of Tarnock and Biddisham.

Trapoc Ltd - Objection No 142

- 8.4.79 At the CAH, evidence was given on behalf of Trapoc Ltd in support of its objection and pursuant to its written submissions made at Deadline 2 [REP2-071]. A further written submission was made at Deadline 7 [REP7-085].
- 8.4.80 In summary, Trapoc Ltd strongly objects to the proposed placement of a pylon due to the significant operational and financial implications this application would have on the day to day running of the Copart business which is based there and the damage it would cause to the land owned by it. A much more feasible solution would be to locate the proposed pylon on the adjacent land opposite Ableton Lane. Although that land has the benefit of planning permission, no structures or buildings have yet been built and the permission which expires in 2016 has not been implemented. The Copart site also has planning permission but all buildings and structures have been implemented and a fully operational business which generates a significant income to the local economy exists on site.
- 8.4.81 In the event that the application is approved, a full reconfiguration of the site would be required to ensure the site could continue to operate

safely and to its maximum potential. Consequently, Copart has issued a letter to the Applicant seeking an agreement to indemnify the company for any financial and operational losses they would sustain as a result of the proposed development. However, the Applicant has not yet formally confirmed that it is willing to indemnify such losses. Trapoc Ltd therefore requests that the application is refused, and the proposed placement of a pylon within the site is re-evaluated. There are better suited areas to place the pylon which would have little or no impact compared to the one which has currently been chosen. However, should the application be granted, it is requested that no development should be allowed to take place on the site until an agreement in principle has been reached by all parties as regards indemnifying any losses.

City Monument Properties Ltd - Objection No 113

- 8.4.82 At the CAH, evidence was given on behalf of City Monument Properties Ltd (CMPL) in support of its objection and pursuant to its written submissions made at Deadline 2 [REP2-014]. A further written submission was made at Deadline 7 [REP7-035]. An operational impact report was submitted by its tenant, Hewden Stuart Ltd, at Deadline 2 [REP2-029].
- 8.4.83 In summary, the Applicant has not demonstrated that it has explored all reasonable alternatives to the compulsory acquisition, including modifications to the scheme. It has not shown that the proposed interference with the rights of CMPL, and its tenant, is necessary and proportionate. The Applicant has not demonstrated that it has used reasonable endeavours to acquire the property by agreement. If the scheme is approved, it would have the effect of frustrating the tenant's lease, as the tenant has already confirmed that it would be forced to relocate due to the presence of overhead cables. The site would need considerable reconfiguration for it to be let to a new tenant and there would be a significant void period and need for investment as a result of the scheme. It would be permanently blighted by the overhead lines.
- 8.4.84 CMPL objects to the compulsory acquisition of an interest in its land on the ground of a real failure by the Applicant to follow legal process. The Applicant has not done enough to seek to reach a voluntary agreement. CMPL has set out the chronology of its negotiations with the Applicant. At the CAH, CMPL stated that it wanted the Applicant to progress all reasonable steps to reach agreement and was willing to work with the Applicant in this regard. It submits that the Applicant has failed to grasp the issues and come to the table to discuss and seek agreement on matters that have a direct impact on CMPL. The Applicant has not complied with guidance from DCLG on compulsory acquisition which provides that applicants should seek to acquire land by negotiation wherever practicable and an order should only be sought in instances where such attempts have failed. The Applicant should not therefore be allowed to proceed with the Order until it has taken bona fide and proper steps to reach agreement with CMPL.

THE APPLICANT'S CASE AND RESPONSE TO OBJECTIONS MADE BY AFFECTED PERSONS

- 8.4.85 In our second written questions, we asked for the Applicant's response to the above objections and updates on the negotiations with objectors. The Appendices to the Applicant's response to the ExA's second round written questions [Doc 8.18.2.1] includes the 'Applicant's response to PIL objections to the proposed grant of compulsory acquisition' (Appendix 2.3.15.1).
- 8.4.86 As indicated in those documents, there are in many cases ongoing discussions between the Applicant and the objectors. During the course of the Examination, further discussions have taken place and, in some cases, further representations have been made by objectors both in writing and orally at the CAHs. By the close of the Examination a number of the objections had been withdrawn and these are identified in the CA Appendix D. So far as those objections where discussions were ongoing are concerned, the position at the close of the Examination is set out in the Applicant's response to the PIL objections; the various Position Statements submitted by the Applicant at Deadline 7 [Doc 8.34.1-Doc 8.34.11]; and the Applicant's Deadline 8 responses and updates [Doc 8.51-Doc 8.52]. The Applicant's further response in relation to the Affected Persons who made oral representations at the CAH are summarised below.

North Somerset Council - Objection No 41

- 8.4.87 At the CAH, the Applicant confirmed that it was in negotiations with North Somerset Council regarding the potential re-opening of the Portishead to Bristol railway line and the subsequent protections needed for the railway line. It was agreed that the ExA would be provided with an update on negotiations by Deadline 6.
- 8.4.88 At Deadline 7, the Applicant submitted a Position Statement in respect of North Somerset Council [Doc 8.34.3]. The Applicant also comments on the submissions made on behalf of this objector in its letter dated 17 July 2015 [RE8-012]. The draft DCO contains detailed protective provisions for the benefit of NRIL. As such, any interests NRIL might acquire in new operational railway, and associated land, would benefit from those protective provisions. However, NRIL does not currently enjoy any interest in the land in question and so the Applicant does not agree that it should be required to negotiate with NRIL to secure by agreement, or should it prove necessary through the exercise of Order powers, land interests from North Somerset Council. The Statement of Common Ground between NRIL and the Applicant [Doc 8.3.9] erroneously identified the land required for the proposed railway reinstatement as belonging to NRIL.
- 8.4.89 Given that the land is not currently operational railway land, the Applicant does not agree that the terms NRIL would ordinarily impose on crossings of existing railways would be appropriate, particularly where those terms relate to commercial matters or the allocation of

risk associated with such a crossing. In this instance, the Applicant has already designed its proposals and submitted an application for development consent, whilst North Somerset Council's proposals have not yet been the subject of such a submission. The Applicant does not agree that it would be fair, or appropriate, for it to meet the full costs associated with design compatibility in all circumstances.

- 8.4.90 If the railway is built first, the protective provisions within the draft DCO would automatically operate for its protection, assuming the railway formed part of NRIL's network. As such, no assumption that the railway will be operational is considered to be necessary. However, if the railway is not built first, such an assumption places an unduly onerous burden on the Applicant, as it would effectively require it not only to design and operate the proposed development around a railway that does not yet (and might never) exist but also to bear all costs associated in doing so.
- 8.4.91 In addition, if the railway has yet to be built when the Applicant constructs the proposed development, any design compatibility would not only need to accommodate an operational railway but also the construction of a new railway. North Somerset Council's requirements during construction of its proposals must also be taken into account in such circumstances and to assume the existence of a railway yet to be built would not achieve this.
- 8.4.92 The Applicant does not agree that its powers under the draft DCO should be restricted in the manner suggested by North Somerset Council. In the Applicant's Position Statement in respect of NRIL [Doc 8.34.1], it sets out its submissions as to why it does not agree that it should be required to secure NRIL's consent to the exercise of Order powers to acquire land interests. The same arguments also apply here with regards to the nature of the land interests the Applicant is seeking to acquire.
- 8.4.93 The Applicant considers that it should exercise any Order powers as if an operational railway is 'planned'. The draft DCO already includes protective provisions that would apply to the benefit of any 'railway property' in existence when the Applicant seeks to construct the proposed development. The Applicant is seeking to agree terms for an agreement with North Somerset Council to provide appropriate protection to it in respect of its future plans. The Applicant does not consider it necessary, or appropriate, to propose new or additional protective provisions for the benefit of North Somerset Council or the proposed railway for inclusion within the draft DCO.

Nailsea Town Council - Objection No 1

- 8.4.94 At Deadline 5, the Applicant submitted a copy of its letter to Nailsea Town Council dated 27 May 2015 [REP5-041]. This indicates that it had used all reasonable endeavours to see if the cables could be laid under Engine Lane. The details of the work undertaken and the difficulties encountered were discussed at the ISH and the paper

detailing these issues has been sent to North Somerset Council for comment.

- 8.4.95 The Applicant's written summary of case put forward orally at the CAH [Doc 8.13.10], confirms that, as part of the s42 consultation, it had received a request from Nailsea Town Council and Backwell Rugby Club asking for the cables to be repositioned so as to minimise disruption. At the time of the request, the cable was positioned in such a way that it would cross the field diagonally to ensure as straight a line as possible between connection points.
- 8.4.96 The Applicant made a change to the route which involved the cable being moved to the southern boundary of the landholding. Consideration was also given to the routing of the cable under Engine Lane but this was not considered feasible, as detailed at paragraphs 2.9.4 to 2.9.8 of the ES Project Need and Alternatives [Doc 5.2.1]. It was not considered appropriate to place the cable under Engine Lane due to the disruption that it would cause to local residents, primarily due to traffic closures and also as a result of maintenance risks to third party services which are also laid under Engine Lane. After further discussion with Nailsea Town Council, this option was looked at once more but it decided that it was less preferable due to effects on traffic and third party services; vibration due to road breaking and compaction activities; and the effects on socio-economic receptors.
- 8.4.97 At Deadline 8, the Applicant submitted its response to questions raised by Colin Chandler of North Somerset Council [Doc 8.49]. The views of Wessex Water Services have been obtained with regard to the acceptable safe distances (vertical and horizontal) for their SW sewer system in the vicinity of 132kV cables. They have confirmed that a 900mm vertical and horizontal separation between their sewer system and the 132kV underground cables would need to be maintained.
- 8.4.98 The views of the Council's Biodiversity officer have been sought about the quality and importance of the hedgerow along Engine Lane. The hedge along Engine Lane is a landscape and biodiversity feature which would be lost if taken out to accommodate part of the cables easement. It would not be possible to replace the hedge to run along the top of the cables.
- 8.4.99 A C2 preliminary utility enquiry for Engine Lane and a topographical survey of the northern section of Engine Lane have been carried out. These have identified a number of utilities within, or in close proximity to Engine Lane, the majority of which lie within the footpath running along Engine Lane, with two Wessex Water pipes located underneath Engine Lane itself. Due to the number of services located in the footpath, the option of installing the cables there is not feasible. Similarly, the highway verge to the west of Engine Lane has insufficient width to accommodate the cable installation due to the presence of a large mature hedgerow and stone wall.

- 8.4.100 As the Applicant's Level 1 feasibility study identified fundamental issues associated with the installation of the underground cables within Engine Lane it does not consider that there is any merit in undertaking further detailed studies and it is content with its proposals for the cable route in this area. The arrangement that would be used within the field adjacent to Engine Lane would require a permanent easement of about 10m.
- 8.4.101 The Applicant does not consider that the installation of underground cables on this land would hinder any future development on the site. The cables would be routed as close as possible to the land boundaries and it would be happy to work with any potential developer in the future should this need arise.
- 8.4.102 The Applicant also provided a response to the Deadline 7 submissions of this objector in its letter dated 17 July 2015 [REP8-012]. This explains why it could not rely upon the provisions of the New Roads and Street Works Act 1991 to carry out cabling works within Engine Lane.

David Shepherd and Catherine Fisher - Objection Nos 4 and 5

- 8.4.103 At the CAH, the Applicant stated that it had addressed the issues raised in relation to route options in response to the ExA's previous questions [Doc 8.13.10]. As part of the identification of routes through this area, the Applicant sought to minimise the land required for the pylons, by siting them as close to the edge of landholdings as possible and minimising the use of angle pylons. It also sought to reduce the effects on existing land uses by minimising oversail and to minimise effects on the landscape and views by utilising standard height. The overhead line was routed to be further away from Mr Shepherd and Ms Fisher's property than the existing 132kV overhead line (which would be removed) and pylon LD32 was sited as close to the boundary of the adjacent property as practicable to minimise effects on the use of the land whilst also ensuring that no height extensions to the pylon were required to achieve statutory clearances.
- 8.4.104 In response to the ExA's questions at the Landscape and Visual ISH, the Applicant undertook a study to consider the options available for the movement of pylon LD32 within the limits of deviation [Doc 8.13.3.2]. This study concluded that the alignment and position of pylons proposed as part of its DCO present the preferred solution in this area. However, the option of increasing the height of pylons LD31 and LD32 would allow LD32 to move up to 40m further north. This would minimise effects on visual receptors on Mr Shepherd and Ms Fisher's land, but would also minimise increased visual effects on other visual receptors near Tarnock and Rooksbridge. Moving the pylon north would conflict with requests from the PIL on whose land the pylon would be sited for the pylon to be fixed in position, or as close to the southern boundary as possible.

- 8.4.105 The study also identified two further options, namely, Option 1 and Option 2. Option 1 would involve the relocation of pylons within the section between LD28 and LD34 without introducing the requirement for a new pylon, and Option 2 would involve the relocation of pylons within the section between LD27 and LD34 whilst introducing an additional pylon to the south of the A38.
- 8.4.106 The Applicant has only looked at changes to the tower positions between pylons LD27 and LD34. The rationale behind this decision was explained. An explanation was also provided of the effects of each option, in terms of the technical implications, and the impact on PILs and the landscape and visual effects, full details of which can be found in Note 3 [Doc 8.13.3.2]. A further note to update and clarify Note 3 (LD32) was produced at Deadline 5 [Doc 8.26.4].

Trapoc Ltd - Objection No 142

- 8.4.107 At the CAH, the Applicant explained that, as part of the identification of routes through this area, it sought to minimise the land required for the pylons, by siting them as close to the edge of landholdings as possible, and to reduce the effects on existing land uses by minimising oversail and increasing the height of pylons to minimise effects on the operation of businesses [Doc 8.13.10].
- 8.4.108 Potential overhead line routes in the area to the south-east of Seabank substation are constrained by existing and proposed development. This includes the Copart/Trapoc site (north of Ableton Lane); land proposed to be developed by Severnside Distribution Limited (immediately south-east of the Copart/Trapoc site and north of Severn Road); and the consented Viridor Resource Recovery Park (opposite the Trapoc site to the south of Ableton Lane). The route of the overhead line has taken these consented developments into account and has been sited to ensure that statutory clearances could be achieved from plant (stacks) within the consented Resource Recovery Park which would be about 90m high. It would not be possible to move pylon LD130 off the Copart/Trapoc site and to the south of Ableton Lane without encroaching these clearances.
- 8.4.109 In terms of the potential impact on the Trapoc site, the route had previously been a much straighter line that went through the middle of their site but as the project has developed further, and representations received, it has tried to minimise the effects on Trapoc by positioning the pylon as close to the boundary and by ensuring that the oversail runs along the southern boundary of the site. The pylon base would be about 9.5m long by 9.5m wide and some protection, akin to that of a motorway crash barrier, would be needed at the base of the pylon. As a result the area needed at the base would be about 10.5m long by 10.5m wide, although this would be slightly larger during the construction phase to include an area for construction work to take place. This would be approximately an additional 40-50m². The Applicant confirmed that access to the site could be maintained at all

times during construction through the use of a netted scaffold across the site entrance.

- 8.4.110 The Applicant has offered Trapoc Ltd assistance with the on-site relocation of its office building and the re-tarmacking of some areas of the site. This was discussed with representatives of Trapoc Ltd in a meeting in July 2014. For the Applicant, Mr Brown confirmed that he would be willing to meet with representatives of Trapoc Ltd to discuss the impacts of construction and to help mitigate these.
- 8.4.111 The Applicant also provided a response to the Deadline 7 submissions of Trapoc Ltd in its letter of 17 July 2015 [REP8-012]. This indicates that whilst the exact position of Pylon LD130 cannot be pinpointed at this stage, it would work with Trapoc Ltd and Copart Ltd to mitigate potential losses and impact upon their business operations. They would be paid in accordance with the statutory compensation code.

City Monument Properties Limited - Objection No 113

- 8.4.112 At the CAH, the Applicant provided an overview of the attempts made to negotiate with CMPL on a voluntary basis. It confirmed that it is committed to reaching an agreement with CMPL [Doc 8.13.10]. The Applicant also provided a response to the Deadline 7 submissions of CMPL in its letter of 17 July 2015 [REP8-012].
- 8.4.113 The Applicant indicates that there are no alternative routes that would avoid CMPL's site. This is due to a number of factors. As explained in its response to the ExA's Q3.19, there is only one location in which the overhead line can exit the Port area in order to avoid the recycling plant in which there is the possibility of explosions. That means that any route through this area must travel along Third Way or on a route broadly parallel to it. The Applicant has looked at routing the line to the north and south of Third Way but this was not considered feasible due to the density of development and the height and proximity of the buildings. Due to the location of a WPD substation and a fire station training tower, which it could not oversail, Pylon LD115 is effectively locked in position.
- 8.4.114 To avoid CMPL's site altogether, a much larger angle pylon would need to be used for LD115. Pylon LD116 would also need to be relocated south and would change from a suspension pylon to an angle pylon and pylon LD117 would either need to be changed from a suspension pylon to an angle pylon or relocated south. This route was considered more constrained than the proposed development firstly, because it would be less compliant with Holford Rule 3 as it would be less direct and would increase the number of angle pylons required, and secondly, it would increase effects on the Dowding and Mills site as the overhead line would oversail the cargo handling goods entrance and would affect a number of businesses (through oversail and the relocation of pylon LD116) which are not currently affected by the proposed development.

**THE CASE FOR STATUTORY UNDERTAKERS -
REPRESENTATIONS UNDER SECTIONS 127 AND 138 PA2008**

Network Rail Infrastructure Limited - Objection No 112

- 8.4.115 Network Rail Infrastructure Limited's (NRIL) written representation [REP2-046], explains that it objects to the compulsory acquisition of operational land and the extinguishment of rights in operational or third party land on which it relies for the carrying out of its statutory undertaking. It also objects to the seeking of powers to carry out works in the vicinity of the operational railway without first securing appropriate protection for its statutory undertaking.
- 8.4.116 In response to the ExA's Q3.5, NRIL provides a copy of the protective provisions which it would expect to be included in the recommended DCO. In terms of asset protection, it seeks protections to be put in place for the carrying out of work in the vicinity of the operational railway. The draft DCO includes works which pass over the London to Exeter line, the (Bristol Port) Freight Line, the Severn Beach Line and the disused Portishead line.
- 8.4.117 The Statement of Common Ground between the Applicant and NRIL [Doc 8.3.9] confirms that NRIL is the owner and operator of Great Britain's railway infrastructure. It is a statutory undertaker in respect of its railway undertaking, with statutory and regulatory obligations in respect of it. The parties agree, in principle, that the draft DCO should include specific provisions for the protection of NRIL; that the parties should enter into a framework agreement to make further provision for their respective interests so far as the construction and operation of the proposed development interfaces with NRIL's operational railway; that the parties should enter into a form of asset protection agreement to govern the construction of those parts of the proposed development which are located on operational railway land and that NRIL will grant an easement to the Applicant in respect of the permanent rights it requires over operational railway land for the proposed development.
- 8.4.118 NRIL submitted a Position Statement in lieu of attending the ISH 14 April 2015 [EV-043]. This attached the standard NRIL protective provisions which it wished to see included in the draft DCO. NRIL also submitted a Position Statement in lieu of attending the CAH 20 May 2015 [EV-122].
- 8.4.119 NRIL submitted a letter in lieu of attending the second ISH on the draft DCO and related matters [EV-148]. That letter dated 15 June 2015, attached protective provisions that NRIL wished to see included in the draft DCO which superseded those previously submitted. The letter explains the differences between the NRIL protective provisions and those included in the Applicant's draft DCO submitted for Deadline 6. It sets out its response to the amendments to the protective provisions proposed by the Applicant. Specific reference is made to the protective provisions, paragraphs 4, 15, 5(3) and 20.

- 8.4.120 The NRIL Deadline 7 submission [REP7-022], reiterates its strong wish for its protective provisions to be included in the Order. Protective provision, paragraph 15, is the indemnity provision in favour of NRIL. The Applicant has indicated by e-mail that it is willing to agree an indemnity with NRIL provided that it is included in an agreement between the parties. NRIL considers that it is in the public interest that this indemnity is given statutory force by being included in the Order. Furthermore, there is no guarantee that a form of indemnity would be capable of being agreed between the parties and there is a serious risk that NRIL would not have the benefit of an appropriate indemnity that would indemnify it in respect of any losses suffered as a result of the impact of the Applicant's scheme on railway property. The Applicant is asking the Secretary of State to make a decision that the protection afforded to NRIL by protective provisions should be reduced. NRIL submits that that would not be in the public interest and would create significant risk in terms of the safe operation of the railway.
- 8.4.121 NRIL also endorses the protective provisions sought by North Somerset Council in relation to the re-opening scheme for the Bristol to Portishead railway. In the absence of reaching agreement with the Applicant, NRIL submits that the Secretary of State could not come to the conclusion that the land and rights belonging to it, which the Applicant seeks to acquire, could be acquired without serious detriment to the carrying on of its undertaking unless its protective provisions are included in the Order.

RWE Generation UK plc - Objection No 145

- 8.4.122 RWE Generation UK plc (RWE) submitted written representations at Deadline 2 [REP2-062] and submitted letters in advance of the CAH [EV-123]. It also provided a response to the ExA's second written questions [REP5-018].
- 8.4.123 At the CAH, RWE explained that the land is used by it for the purposes of its undertaking. The land includes infrastructure which is used to offload imported coal from ships onto the National Rail network where it is then transported as fuel to the Aberthaw Power Station. It remains seriously concerned that the proposed development would cause serious detriment to its operations and infrastructure at Bristol Port. There is no alternative land available for use by it. A full summary of the oral submissions made at the CAH has been provided at Deadline 5 [REP5-006].
- 8.4.124 The RWE apparatus consists of conveyor belts, transfer stations, mobile cranes and coal stock areas in Portbury and Avonmouth. Its ability to access, use, operate, maintain, alter, reconstruct and demolish its apparatus in Bristol Port must remain unaffected at all times. It remains seriously concerned that the general protective provisions for electricity undertakers in Schedule 5 of the draft DCO does not cover its apparatus and undertaking at Bristol Port.

- 8.4.125 RWE contends that serious detriment would also be caused by the extent of the rights and powers being sought over its land. There is no downward vertical LoD in the draft DCO and the Applicant's submitted design drawings do not show enough clearance between the top of the conveyor belts and the proposed 400kV line to enable safe access and work.
- 8.4.126 The removal of the 132kV line would cross the primary access road to its coal stock areas; a route utilised 24 hours a day, 7 days a week for both maintenance and operational personnel. The ability of RWE to operate and maintain its coal yards would be seriously impaired. The 400kV works could also disrupt its access to its conveyor belts and transfer stations.
- 8.4.127 At Deadline 6, RWE provided a response to the CAH Action Point 6, relating to the status of negotiations with the Applicant. This indicates that agreement has not been reached with the Applicant. RWE considers that the proposed protective provisions would fail to cover all its relevant apparatus, ignore minimum lateral and vertical distances required by it for the safe operation of its undertaking, and fail to ensure unfettered access to its undertaking. It sought an opportunity to submit its own proposed protective provisions to the ExA.
- 8.4.128 At Deadline 7, RWE provided comments on the version of the draft DCO submitted by the Applicant for Deadline 6, and its own track changed version of that document identifying the wording that had been agreed and setting out its own proposed protective provisions [REP7-006]. It explains why it considers such changes to be necessary and justified.
- 8.4.129 At Deadline 8, RWE submitted its final comments [REP8-009]. It remains RWE's firm position that the protective provisions submitted on its behalf for Deadline 7 are required to avoid serious detriment to its statutory undertaking. It contends that the protective provisions suggested by the Applicant, and last submitted at Deadline 7, would not avoid serious detriment to its statutory undertaking.

First Corporate Shipping Limited trading as the Bristol Port Company - Objection No 65

- 8.4.130 The Bristol Port Company (BPC) provided oral summaries at Deadline 5 of its case at the ISH on 19 May and the CAH on 20 May [REP5-004 and REP5-006]. At Deadline 5, it also provided an update and responses to the ExA's second written questions [REP5-019 and REP5-020] and its comments on the revised DCO [REP5-023].
- 8.4.131 The CA summary explains that its primary position remains as set out in its written representation [REP2-064, REP2-065 and REP2-066]. The essential infrastructure of the commercial Port of Bristol is nationally important and of great strategic significance to the UK. The

BPC is the statutory harbour authority and the competent harbour authority for the Port.

- 8.4.132 The needs of its customers vary according to the demands of world change and are capable of changing frequently and often at very short notice. A statutory harbour authority needs a large flat expanse of concrete capable of bearing the heaviest loads and on which to build facilities to accommodate any customer's needs. Those developments are not permanent and may only serve short-term contracts before being replaced with new and different facilities. That is why ports have significant General Development Order (permitted development) powers to enable them to respond swiftly to changing market demand.
- 8.4.133 The BPC has sought to be constructive and has recognised the national imperative and the need for the proposed development to cross the Port. However, the development would cause serious detriment to the Port, both in its natural and ordinary meaning and also within the meaning of s127 PA2008. The BPC's case at the CAH concentrated on clearances (lateral, in relation to the potential use of T-pylons at Royal Portbury Dock (RPD), and vertical, at Avonmouth); and route Options A and B across RPD.
- 8.4.134 The BPC's operations at Avonmouth are not currently affected by any height restrictions. The Applicant's proposed development would therefore impose inflexible and disproportionate constraints and cause serious detriment to the BPC's statutory undertaking. Such serious detriment would be substantially avoidable if a modest and readily achievable change is made to the Applicant's scheme.
- 8.4.135 The BPC has assessed the level of acceptable detriment congruent with the performance of its statutory duties and concluded that it requires a minimum above-ground clearance of 15.4m, plus such safety margin – understood to be 5.3m - as the Applicant may require above that height. In that event, the BPC's minimum total above-ground clearance requirement is 20.7m. The BPC submitted four drawings which illustrate, by way of example, that minimum requirement by reference to shed development.
- 8.4.136 The BPC contends that the design drawings and draft DCO should be amended in two ways: first, to impose a minimum above-ground clearance of 20.7m and to prohibit downward deviation below that height; second, to ensure that the pylons – and thus the cables, conductors etc – can be raised to the extent necessary to achieve that minimum above-ground clearance. If those changes are made so that the BPC retains at least 20.7m above ground clearance, then the ExA and the Secretary of State could safely conclude that there would be no serious detriment.
- 8.4.137 The BPC also concludes that, for its purposes as the statutory harbour authority and having regard to its statutory duties, Option A would be significantly less detrimental to its undertaking than Option B, principally because of the lesser adverse impact on the motor vehicle

trade. In the BPC's view, that business and its customers would be materially less affected, safer and more secure if construction and maintenance of the Applicant's proposed development happened at the Port's periphery – Option A.

- 8.4.138 The BPC sets out the material, additional detriment, in both construction and operation, inherent in the use of T-pylons. It submits that these should be avoided. The BPC states that the use of "serious" is relevant not just for the purposes of s127, but also for determining whether or not there is a compelling case in the public interest – the "*planning balance*". That question must be determined on the basis of properly qualified and technically competent evidence. The Applicant has not produced any witness with relevant qualifications to show that no detriment would result and there is, therefore, from the Applicant, an evidential vacuum. In contrast, the ExA has heard from the BPC's senior personnel with an intimate knowledge of the Port, each of whom has clearly explained why the detriment caused would be serious. The only basis upon which any decision-maker can reach a decision is by reference to the evidence available and the BPC therefore respectfully submits that there is no tenable basis on which the ExA or the Secretary of State could conclude other than that serious detriment would exist.
- 8.4.139 At Deadline 6, the BPC submitted a summary of its oral submissions made at the ISHs held on 22 May and 15 June 2015 [REP6-005]. If, contrary to the BPC's view as a statutory undertaker, the Panel recommends Option B, and if the Secretary of State accepts that recommendation, the BPC objects to the proposed use of T-pylons and contends that lattice pylons should be used instead. The BPC's objections concern the far greater adverse impacts of T-pylons both during construction and operation/maintenance. In addition, while the BPC does not doubt the Applicant's ability to construct the sub-structure for T-pylons, it is concerned that the superstructure of T-pylons has yet to be proven through long-term use in estuarine environments.
- 8.4.140 The BPC contends that there is no reason why the Applicant could not produce revised design drawings to enable the use of lattice pylons which, through the operation of the relevant provisions set out in the draft DCO, would bring their construction within the LoD stated in the DCO. It is part of the BPC's case that the Applicant should now produce such revised drawings. Regardless of whether Option A or B is selected, or whether T-pylons or lattice pylons are constructed if Option B is chosen, the BPC requires minimum above ground clearances at Royal Portbury Dock (RPD) not to be any lower than those shown in the Applicant's current design drawings [Doc 4.8.6]. Those minimum clearances must be secured through the revised design drawings and the relevant provisions of the DCO.
- 8.4.141 At Deadline 7, the BPC submitted its final written submission [REP7-024]. This states that even if a formal legal agreement is concluded between the BPC and the Applicant, the following matters will remain

to be decided by the Panel and the Secretary of State: overhead line clearances at Avonmouth; the choice of route option, in relation to which the BPC says Option A should be selected; and the use of lattice and not T-pylons across all of the BPC's land, apart from one T-pylon (LD100) on Option A. The BPC contends that each of the above issues, if not resolved, would cause it, as the statutory undertaker, serious detriment.

- 8.4.142 The BPC points out that the Applicant has provided additional environmental information concerning the effect of the proposed amendment shown on the revised design drawing [Doc 5.34.1]. The document concludes that the proposed amendment to the scheme shown in the revised design drawing would result in no new effects and only one (adverse) change to the significance of any effect compared with the scheme as originally proposed, and that change was only to an effect of minor significance. The BPC submits that this small difference must be weighed in the balance against the substantial adverse socio-economic effects that would result if the scheme is not amended to increase the height of the conductors thus compromising the future operation of the Port, and the corresponding substantial beneficial effect that would result if the amendment is made. The BPC respectfully submits that the Secretary of State can safely make the DCO only in a form which includes the revised design drawing.
- 8.4.143 The BPC also states that Option A would be at the Port's periphery, while Option B would materially interfere with and bisect land areas used for motor vehicle handling and storage. Option A would reduce the potential for damage to the BPC's port operations and its undertaking activities, and it is therefore, by some margin, the less undesirable of the two route options. If Option B is chosen, the BPC submits that lattice pylons should be used instead of T-pylons because their impacts would be significantly less adverse. The ExA should also be aware that any reduction to the currently proposed above ground clearances at Portbury as shown in the design drawings, whether resulting from a change to pylon design or otherwise, would cause serious detriment to the BPC.
- 8.4.144 At Deadline 8, the BPC provided comments responding to Portbury Parish Council's letter of 8 July 2015 [REP8-001] and its final submissions [REP8-002]. The latter submission enclosed a copy of the Applicant's Position Statement in relation to the BPC annotated with the BPC's comments in red italicised text and the protective provisions in favour of the BPC for each of Options A and B and the revised Schedule 17 to the draft DCO, as referred to in the annotated copy of the Position Statement. It indicates that the Applicant and the BPC have agreed, subject to contract, all the substantive terms of the legal documentation to be concluded between them, but the legal agreements would not now be completed before the close of the Examination.

- 8.4.145 The BPC continues to submit that the DCO cannot be made in the form presently proposed without serious and unacceptable detriment to the statutory harbour undertaking. Similarly, until the powers sought under the DCO are modified to reflect the alternative solutions and amendments, the DCO cannot show a compelling case in the public interest nor can it achieve a positive overall planning balance.
- 8.4.146 The BPC states that, as part of their negotiations, which have been subject to contract, the Applicant and the BPC have agreed protective provisions for the benefit of the BPC. The BPC submits that their own versions of the protective provisions should substituted for the protective provisions which have been included by the Applicant in the latest version of the DCO [Doc 2.1.1E and Doc 2.1.2E].
- 8.4.147 Also as part of their subject to contract negotiations, the Applicant and the BPC have agreed that the references to the BPC's byelaws in Schedule 17 of the DCO would be deleted, so that none of the BPC's byelaws would be disapplied by the operation of the DCO. The BPC therefore submits that the DCO should be amended accordingly. The Applicant and the BPC have also agreed protective provisions for the benefit of the BPC as the Port authority, which the Applicant has included in the latest version of the DCO [Doc 2.1.1E and Doc 2.1.2E]. The BPC also comments in detail on the Applicant's response to amendments to the DCO requested by it.

Wessex Water Services Ltd - Objection No 116

- 8.4.148 A relevant representation was made by Wessex Water Services Ltd (WWSL) [RR-068] lodging a holding objection to the proposed development. The WWSL response to the ExA's Q3.52 [REP2-100] refers to its recently completed SoCG with the Applicant [Doc 8.3.6]. It indicates that agreement on protective provisions will be completed at a later date and negotiations are ongoing. It draws attention to the impact on operational land at the Avonmouth Sewage Treatment Works.

Bristol Water PLC - Objection No 115

- 8.4.149 A written representation was made by Bristol Water at Deadline 2 [REP2-007]. This indicates that it will need to ensure that its operational water network is protected at all times. A SoCG has been completed with the Applicant [Doc 8.3.14].

The Environment Agency - Objection No 135

- 8.4.150 The Environment Agency's (EA) submissions at Deadline 7 [REP7-007] confirms, in relation to the disapplication of flood defence byelaws and protective provisions that discussions between the EA and the Applicant's legal representatives have been successfully concluded. Protective provisions have been agreed to safeguard the EA's flood defence related interests. The agreed protective provisions are detailed in Schedule 15 of the latest iteration of the DCO.

EDF Energy Nuclear Generation Ltd - Objection No 146

- 8.4.151 By letter dated 19 May 2015 [EV-113], EDF Energy Nuclear Generation Ltd (EDF) confirms that it has reached agreement with the Applicant and has withdrawn its written representation. It confirms that the parties are satisfied that the electric lines as proposed can be installed in accordance with the agreed terms and within the Order limits.

NNB Generation Company Ltd - Objection No 147

- 8.4.152 By letter dated 19 May 2015 [EV-113], EDF acting through NNB Generation Company Ltd (NNB) has withdrawn its written representation. It confirms that agreement has been reached with the Applicant.

Wales and West Utilities Ltd - Objection No 148

- 8.4.153 No representations have been made by this statutory undertaker in relation to the s138 representation made in respect of its apparatus.

Western Power Distribution (South West) plc - Objection No 141

- 8.4.154 The relevant representation of Western Power Distribution (South West) plc (WPD) [RR-053], indicates that it has equipment which will be affected by the proposed development. It does not object, in principle, to the development and discussions between the Applicant and WPD are at advanced stage. It has reached agreement in relation to the drafting of the DCO and the relevant protective provisions and has agreed the basis on which it is prepared to cooperate with the Applicant. However, the full commercial terms on which WPD would be prepared to give its full and unqualified consent to the DCO had not been finalised.
- 8.4.155 A SoCG has been completed with the Applicant [Doc 8.3.13]. By letter dated 10 April 2015 [REP4-035], WPD confirms that agreement has been reached with the Applicant as regards protective provisions.

THE APPLICANT'S CASE AND RESPONSE TO PARTICULAR OBJECTIONS RAISED BY STATUTORY UNDERTAKERS - SECTIONS 127 AND 138 PA2008

Network Rail Infrastructure Limited - Objection No 112

- 8.4.156 The section 127 representation [Doc 3.6.2] states that the works to be carried out on NRIL's land include the removal of existing overhead lines and pylons, and the erection of new overhead lines and pylons. Some of NRIL's land would also be used as a compound area in connection with the works. No land owned by NRIL needs to be compulsorily acquired; only rights over land. Therefore, s127(3) and (4) are not engaged.

Serious detriment

- 8.4.157 The Applicant considers there would be no serious detriment to NRIL's undertaking if it were to acquire these rights and that the criteria in s127 are satisfied. This is because the rights would co-exist within the plot alongside those of NRIL and, for the most part, the rights would cause no interference to NRIL's undertaking. Furthermore, there are already overhead lines and pylons in situ. Other than during construction of the proposed development, the only exception would be possible interference on occasions of maintenance or emergency works to National Grid's equipment. On such occasions, National Grid would (as is its current practice) consult with NRIL in order to cause as little disruption as practicable during such maintenance or emergency works. As a result, it is the Applicant's view that any interference caused (if at all) would not be a serious detriment.
- 8.4.158 As the rights to be acquired would co-exist with those of NRIL and, for the most part, would cause no interference with NRIL's undertaking, the Applicant does not consider it necessary to replace the land over which interests are required for the proposed development. The procedure under s127(5) only applies to the compulsory acquisition of a right, so is not engaged by plots subject to Article 30 (temporary use).

Section 138

- 8.4.159 As regards s138, the Secretary of State can be satisfied that the power for the Applicant to extinguish the rights of, or remove or reposition the apparatus belonging to, NRIL is necessary for the purpose of carrying out the proposed development as the works associated with the proposed development could not be completed without such power.

Conclusions on compulsory acquisition

- 8.4.160 In conclusion, the Applicant submits that, given the need for the proposed development, there is a compelling case in the public interest for the inclusion of the compulsory acquisition powers within the DCO. The prescribed tests of s127 have been met and the statutory undertakers' land may be included for compulsory acquisition in the DCO. Furthermore, the power for the Applicant to extinguish the rights of, or remove, or reposition, the apparatus belonging to NRIL is necessary for the purpose of carrying out the proposed development, and the test of s138 has therefore been met.

Protective provisions

- 8.4.161 At Deadline 2, the Applicant and NRIL submitted a SoCG to the Examination [Doc 8.3.9] which agreed, amongst other things, that the draft DCO should contain specific provisions for the protection of NRIL. At the CAH, the Applicant provided an update in relation to the s127/138 application for NRIL land [Doc 8.13.10] to the effect that negotiations were ongoing. At Deadline 7, the Applicant provided a

Position Statement in respect of NRIL [Doc 8.34.1]. The Applicant also provided a response to the submissions of NRIL in its letter of 17 July 2015 [REP8-012].

- 8.4.162 The Position Statement explains that the parties are unlikely to reach full agreement as to the terms of the specific provisions to be included within the draft DCO for the protection of railway interests (Railway Protective Provisions) before the close of the examination on 19 July 2015. As explained in NRIL's letter of 15 June 2015, NRIL generally agrees the terms of the Railway Protective Provisions the Applicant has requested, save in four important respects. That letter explains NRIL's position with regards to the four matters of disagreement between the parties. A copy of the Applicant's preferred form of the Railway Protective Provisions is provided at Appendix 1 to the Position Statement. In addition, a comparison of the Applicant's preferred form with NRIL's preferred form can be found at Appendix 2 to the Position Statement.
- 8.4.163 The Applicant requests that the ExA recommends to the Secretary of State that the form of Railway Protective Provisions to be included within the draft DCO, if made, should follow that proposed by it. The areas of disagreement are discussed in detail in the Position Statement. They relate to the omission of the proposed paragraph 4 consent provision, the inclusion of additional wording within paragraph 5(3), the omission of paragraph 15 and the omission of paragraph 20.
- 8.4.164 The Applicant submits that the inclusion of paragraph 4 of NRIL's preferred form of the Railway Protective Provisions would be neither necessary, nor appropriate and it could compromise its ability to deliver the proposed development.
- 8.4.165 The Applicant has proposed the inclusion of some additional wording to paragraph 29(3) of the Railway Protective Provisions included within the draft DCO, or paragraph 5(3) of NRIL's preferred form of wording. The Applicant's proposed wording would allow the undertaker to specify that NRIL must also construct any adjoining part of the specified work it wishes to construct where it reasonably requires both parts of the specified work to be constructed in one operation. The proposed wording is not new or unprecedented wording, but rather has been included within the Railway Protective Provisions contained within other recently made Orders. There is no reason or basis for excluding it in this instance.
- 8.4.166 The provisions of paragraph 15 of NRIL's preferred form of wording would require the Applicant to indemnify NRIL in respect of any loss it might suffer by reason of the proposed development. The Applicant considers that adequate and proportionate protection for NRIL already exists in the form of sub-paragraph 30(2) of Part 4 of Schedule 15 to the draft DCO. The additional inclusion of an indemnity for the benefit of NRIL on the face of the draft DCO is not considered by the Applicant to be necessary or appropriate.

- 8.4.167 Without prejudice to its primary position, namely that the indemnity should not be included within the Draft DCO for the reasons explained above, if the Secretary of State concludes otherwise, the Applicant has proposed amendments to be incorporated into the form of wording NRIL has proposed. The Applicant's letter of 17 July 2015 [REP8-012] also indicates that it remains open to the inclusion of indemnity wording in an agreement with NRIL.
- 8.4.168 The provisions of paragraph 20 of NRIL's preferred form of wording would require the Applicant to give notice to NRIL before making an application to the Secretary of State under Article 7 of the draft DCO to transfer the benefit of the Order. The Applicant does not agree that it should be necessary for it to give notice to NRIL or indeed any other affected party should such an application be made to the Secretary of State. It is for the Secretary of State to decide, on such an application being made, whether to approve such a transfer, having regard to the nature and identity of the body to whom it is proposed that the benefit of the Order be transferred.
- 8.4.169 In addition to the four matters of disagreement identified in NRIL's letter of 15 June 2015, the Applicant has also proposed a minor amendment to the definition of 'Railway Property' in paragraph 27 of its proposed Railway Protective Provision. In sub-paragraph (a) of the definition, the word 'or' has been replaced with the word 'and' to make clear that it is only land held or used by NRIL which is connected with the railway that benefits from the protections and not land belonging to NRIL in general.

First Corporate Shipping Company Ltd trading as the Bristol Port Company - Objection No 65

- 8.4.170 At Deadline 7, the Applicant submitted a Position Statement in respect of the BPC [Doc 8.34.8] which provides a summary of its position in relation to matters of concern raised by the BPC. It also includes a schedule of amendments to the draft DCO requested by the BPC together with the Applicant's comments.
- 8.4.171 In relation to the case for compulsory acquisition, the Applicant confirms that it considers the scale of the rights requested to be reasonable and proportionate in order to complete Work 4G.
- 8.4.172 The Applicant has considered the BPC's comments on the BoR, and has made corrections where it agrees that the BoR contained inaccuracies. A table setting out the cases where amendments have not been made to the BoR following comments from the BPC is provided at Schedule 2 to the Position Statement.
- 8.4.173 At Deadline 8, the Applicant provided an update in respect of its negotiations with the BPC [Doc 8.52]. It is anticipated that the agreements would be concluded shortly after the close of the Examination. The Applicant understands that the BPC intends to submit for this deadline what is anticipated to be the agreed form of

these provisions to the Examination. As the legal agreements have not yet been concluded, the Applicant cannot confirm its agreement to these alternative provisions due to the restrictions they would impose on the exercise of the DCO powers. However, should the legal agreements be concluded in the form anticipated, the Applicant will write to the Secretary of State to confirm its agreement to the alternative provisions as presented by the BPC to Deadline 8 being included in the Order. Until such agreements are concluded, the Applicant's position remains as set out in its Deadline 7 submissions.

Serious detriment

- 8.4.174 At the CAH, the Applicant drew attention to the high threshold that Parliament had chosen to set in this instance, namely 'serious' as opposed to 'material' or 'significant' detriment. This was to be contrasted with the much lower threshold set in s132 for commons and open space, where what was in issue was whether the land was *"no less advantageous"* to those with an interest in it [Doc 8.13.10].
- 8.4.175 Whether detriment is 'serious' is not a technical matter but rather a matter, necessitating the calling of technical expert evidence, of planning judgement that the Secretary of State would have to make taking into account the full scale of the application. The matters addressed by the BPC's witnesses are not of a technical or specialist nature – the simple and common-sense point made by their evidence is that flexibility is important to a port operator because of the need to respond to changing conditions.
- 8.4.176 The Applicant's evidence has demonstrated that the impact of the proposed development on this flexibility would be very limited when regard is had to the vast scale of the land available to the BPC. In the context of such a large port and holding, the area affected would be small and the effect upon that small area is limited to a reduction in the height of what could be built in some parts of that small area, assuming that is the form of development that the BPC eventually decides it wants. There is no reason to believe that such development, if needed, could not successfully be accommodated elsewhere within the Port. Whilst it is not disputed that a small reduction in flexibility to develop in one small area is a detriment, it is not properly capable of amounting to a 'serious' detriment to the Port's operation.
- 8.4.177 The Applicant's position relating to 'serious detriment' to the operation of the Port remains as set out in its response to the BPC's written representation [Doc 8.5]. This position was reaffirmed at the ISH on Avonmouth Severnside Enterprise Area (ASEA) and Bristol Port, and the CAH [Doc 8.13.9 and Doc 8.13.10]. At the ASEA and Bristol Port ISH, the ExA heard expert evidence on behalf of the Applicant explaining why the area of the BPC's land affected by the proposed development would be small, and why it would have relatively little impact on the development potential of the areas that would be oversailed by the conductors.

Limits of deviation

- 8.4.178 The Applicant submits that a downward LoD would not be appropriate because the detailed groundworks required for the proposed development are currently unknown, and cannot be known until site-specific ground investigations have taken place. The issue of a downwards LoD should not be confused with the issue of the clearance of overhead lines. The Applicant is subject to statutory requirements governing the height of overhead lines, in particular the Electricity Safety, Quality, and Continuity Regulations 2002, which would guarantee minimum clearances.
- 8.4.179 In relation to the lateral LoD, the Applicant's position remains that the LoD provide it with a proportionate degree of flexibility in order to ensure that the proposed development can be delivered. Ground conditions may necessitate changes to the positions of pylons on the BPC's land, and these conditions will not be known until detailed site specific ground investigations are undertaken during the construction phase.

Potential increased height of pylons in Bristol Port

- 8.4.180 In response to representations made by the BPC, the Applicant's letter dated 18 June 2015 formally requested that the ExA accept for consideration, as an alternative to its original proposal, a change in the height of pylons numbered LD109 to LD113 within Bristol Port Avonmouth. This alternative proposal would allow for five pylons to be increased in height in order to provide a minimum vertical clearance of 20.7m that the BPC requested.
- 8.4.181 The ExA made a procedural decision on 24 June 2015 to accept the change to the application and to amend the examination timetable to enable interested parties and the wider public to engage in the consideration of the matter. The Applicant advertised the proposal on a non-statutory basis and invited comments. The compilation report of any responses provided to the ExA at Deadline 7 confirms that no responses have been received.
- 8.4.182 The proposal will remain as an alternative option for consideration by the ExA, and then by the Secretary of State. It will be for the Secretary of State to choose between the design of pylons LD109 to LD113 as applied for by the Applicant under the draft DCO, or to give consent to the alternative proposal to increase the height of the pylons. If the Secretary of State chose to give consent to the alternative proposal to increase the pylons, then an amended design drawing (submitted into the Examination at Deadline 5) showing the increased height of the pylons would be substituted for the design drawing in the Draft DCO.

Pylon type if Option B is approved

- 8.4.183 The Applicant considers that the use of the T-pylon for Option B in Sections F/G remains the pylon design most consistent with the NPPF

and its statutory duties and obligations. As a result, it does not intend to produce revised design drawings that would substitute the T-pylons proposed through the Port on Option B (pylons P-LD101 to P-LD105) with steel lattice pylons. The Applicant has considered the use of the T-pylon and traditional steel lattice pylons in each section of the route. This is documented in the Pylon Design Options Report, [Doc 5.2.2.6]. This assessment concluded that T-pylons should be adopted for an overhead line on Option B in Sections F/G.

- 8.4.184 The draft DCO provides for a vertical LoD of 4m for the 400kV overhead line pylons. The standard height T-pylons would be about 35m high with the standard height lattice pylons about 46.5m high. As the steel lattice pylons are about 11.5m higher than the T-pylons it would not be possible to substitute one pylon type for the other within the LoD set out in the draft DCO.
- 8.4.185 Whilst the T-pylon would take slightly longer to construct than the lattice equivalent, overall there are not anticipated to be significant differences between the pylon types with regards to their construction effects, duration or land take. The only differences between the pylon designs in the context of their effects on the Dock Estate would be the width of the cross arms and the base footprint. The cross arm of the T-pylon would be wider than the lattice pylon (31m for the T-pylon as opposed to 18.2m for the lattice pylon). However, its footprint on the ground, and therefore the area sterilised from development, would be considerably smaller (a 2m circular column on the T-pylon as opposed to a 7.1m x 7.1m square for the lattice pylons). The Applicant therefore considers that there are not substantial differences between the designs with respect to the effects on the Dock Estate.

Protective provisions

- 8.4.186 In the absence of an agreement with the BPC, the Applicant has included provisions in the draft DCO that it believes would provide effective and proportionate protection for the BPC's undertaking.

RWE Generation UK plc - Objection No 145

Protective provisions

- 8.4.187 At the CAH, the Applicant indicated that it understood RWE's concerns in relation to ensuring a safe distance from RWE's equipment for safe maintenance and is currently in negotiations with RWE to agree protective measures. As far as the Applicant is aware there are no practical difficulties arising in relation to the protection of these interests but these protective measures are yet to be agreed although there is no reason to think that they would not be. It confirmed that it would provide an update on negotiations by Deadline 6 [Doc 8.13.10].
- 8.4.188 The Applicant subsequently submitted a further iteration of the draft DCO [Doc 2.1.1D and 2.1.2D] and this included protective provisions for the benefit of RWE's coal conveyor (at Schedule 15, Part 8). These protective provisions are in the same form as the standard protective

provisions provided for the benefit of electricity undertakers (at Schedule 15, Part 1) save that, at the request of RWE, provisions relating to the removal or repositioning of apparatus (as are normally included in protective provisions) have been removed. RWE has submitted to the Applicant a set of protective provisions which it seeks to be agreed. As a result of these further negotiations, the Applicant proposes to include additional provisions for the benefit of RWE. The latest draft DCO submitted at deadline 7 [Doc 2.1.1E and 2.1.2E] includes these further protections. It is the Applicant's view that this more than adequately protects RWE's interests.

- 8.4.189 At Deadline 8, the Applicant submitted its response to the Deadline 7 submissions made by RWE [Doc 8.51]. It is content to agree provisions proposed by RWE where these are considered justified and reasonable, and in those cases it has included them in the draft DCO. There are a number of provisions which it does not agree to be necessary or reasonable for the reasons explained within the response.
- 8.4.190 The Applicant considers that the protective provisions submitted for the benefit of RWE in the draft DCO [Doc 2.1.1E and 2.1.2E] provide reasonable and appropriate protection for RWE's interests and that the additional provisions proposed by RWE are unnecessary, inappropriate and would adversely affect its ability to deliver the proposed development.

Serious detriment

- 8.4.191 RWE's letter to the Planning Inspectorate dated 18 June 2015 notes that *"At the hearing it was accepted by National Grid that there could be serious detriment to RWE's interests at Bristol Port as a result of its Project"* [REP6-013]. That is completely wrong – the Applicant has made no such statement. Nor would it in the context of the concerns raised by RWE. Given the limited scope of the proposed works at the affected land, and given the information provided at the hearing by Mr Brown on behalf of the Applicant in respect of clearances, it fails to see how the proposed development could give rise to serious detriment.

Limits of deviation

- 8.4.192 The Applicant's position on the need for the ability to be able to deviate *"...to any extent downwards as may be found to be convenient or necessary"* remains as previously stated throughout the Examination. For further details on this point see paragraphs 1.7.17 to 1.7.18 of the Applicant's response to the written representation of First Corporate Shipping Limited (trading as the Bristol Port Company) [Doc 8.5]; paragraphs 3.17 to 3.25 of the Applicant's Written Summary of Case Put Forward Orally at ISH on Development Consent Order, 14 April 2015 [Doc 8.13.1.1]; paragraphs 3.5 and 8.3 of the Applicant's Written Summary of Case Put Forward Orally at Avonmouth Severnside Enterprise Area and Bristol Port ISH, 19 May 2015 [Doc 8.13.9]; and paragraph 3.36 of the Applicant's Written

Summary of Case Put Forward Orally at ISH on Development Consent Order, 16 June 2015 [Doc 8.13.13].

Wessex Water Services Ltd - Objection No 116

8.4.193 At the CAH, the Applicant provided an update concerning the s127/138 representations in respect of the Wessex Water Services Ltd land. It indicated that negotiations were ongoing.

Bristol Water plc - Objection No 115

8.4.194 At the CAH, the Applicant provided an update concerning the s127/138 representations in respect of the Bristol Water plc land. It indicated that negotiations were ongoing.

The Environment Agency - Objection No 135

8.4.195 At the CAH, the Applicant provided an update in relation to the s127/138 representations made in respect of the Environment Agency (EA) land. It indicated that negotiations were ongoing. At Deadline 7, the Applicant provided a Position Statement in respect of the EA [8.34.5].

8.4.196 The Applicant has issued a revised set of protective provisions to the EA, which are the same as those included in the iteration of the DCO submitted at Deadline 6. With respect to overlapping definitions in paragraphs 51(6) and 53, the Applicant has amended the protective provisions to consolidate the paragraphs referred to in its final iteration of the DCO. The EA confirmed in writing on 13 July 2015 that the amendments proposed to the protective provisions were accepted and that the protective provisions are agreed.

8.4.197 As voluntary agreements have been reached with the EA, the Applicant would not need to exercise its compulsory acquisition powers in respect of the EA land unless an unknown third party interest arises. In any event, the use of these powers would only need to apply to the new interest and not that of the EA. The Position Statement explains that the EA confirmed in writing on 10 July 2015 that this position is agreed.

EDF Energy Nuclear Generation Ltd - Objection No 146

8.4.198 At the CAH, the Applicant provided an update concerning the s127/138 representations made in relation to the EDF land. It indicated that a settlement had been reached. EDF has withdrawn its representation [EV-113] and the Applicant has withdrawn its s127 representation [EV-121].

NNB Generation Company Ltd - Objection No 147

8.4.199 At the CAH, the Applicant provided an update concerning the s127/138 representations made in relation to the NNB Generation Company Ltd (NNB) land. It indicated that a settlement had been

reached. EDF acting through NNB [EV-113] has withdrawn its representation and the Applicant has withdrawn its s127 representation [EV-121].

Wales and West Utilities Ltd - Objection No 148

- 8.4.200 At the CAH, the Applicant provided an update concerning the s138 representation in relation to the Wales and West Utilities Ltd (WWU) land. It indicated that negotiations were ongoing.

Western Power Distribution (South West) plc - Objection No 141

- 8.4.201 At the CAH, the Applicant provided an update concerning the s138 representation made in respect of the WPD land. It indicated that negotiations were ongoing.

THE APPLICANT'S CASE IN RELATION TO SPECIAL CATEGORY LAND - COMMON LAND AND OPEN SPACE - SECTION 132 PA2008

- 8.4.202 The Applicant submitted at Deadline 4, 'Updated information regarding National Grid's application under section 132 PA2008 in respect of Special Category land' [Doc 3.8]. It confirms that the proposed development includes the compulsory acquisition of rights in land which are, or may form, part of a common or open space. These fall into three broad areas: Common Land Section H - common land to the south of the Hinkley Point Power Stations on North Moor, Wick Moor and Mann Moor that is used for grazing and grass conservation; Common Land Section G - common land on the foreshore of the River Avon in Portishead that is used for car storage, scrubland and foreshore; and Open Space Section F - open space in the Portbury Wharf Nature Reserve that is used as a wetland habitat for rare species open to the public for bird watching and viewing of wildlife.
- 8.4.203 At the CAH on 20 May 2015 the Applicant provided an update and a summary of its case on this topic [Doc 8.13.10]. It confirmed that the position remained as set out in the 'Supplementary Information in respect of Application under section 132 of the Planning Act 2008 in respect of Special Category Land' [Doc 3.8].
- 8.4.204 As regards Section G, for the most part, this area is within the landholding of Bristol City Council and is hardstanding used for car storage; it does not appear to be used as common land (i.e. such rights of common as are registered do not seem to be exercised, or to be capable of being exercised, in this area) and the BPC is of the opinion that it is not common land. However, as it is identified as such on the commons register, which is prima facie conclusive of its status, it is only right that the Applicant has made an application under s132.
- 8.4.205 The ExA's Q3.55 refers to the Statement of Reasons, Table 4, which indicates that Plot numbers G142 and G143 comprise the foreshore and bed of the River Avon. In response, the Applicant confirms that it

does not regard these plots as open space as they do not have any of the features of open space [Doc 8.1.1].

- 8.4.206 In relation to Sections H and F, the Applicant directed the ExA to look at s132 in the context in which it should be read, that is to say, no less advantageous as land to be used either as common or open space land by the public as appropriate.
- 8.4.207 The Section H land could still be used for grazing and grass conservation; there are already pylons on the land and overhead lines running above the land whose presence and maintenance does not impeded the use of this land; and the future use of pylon and overhead line would not be any different to the current situation.
- 8.4.208 It is only Option B that requires the imposition of any rights over the land in relation to Section F (the 'nature reserve'). In respect of the Section F land, there are already two existing lines to Portishead substation oversailing the land and the nature reserve is therefore currently used by those in whom it is vested with overhead lines running over it and they will be able to continue to do so once the new overhead line is installed. The public would still have access to the nature reserve. The height of new pylons would be the same as the current pylons, the cables would be at least 900mm below the surface and the inspection and maintenance regime would remain the same.

THE APPLICANT'S CASE IN RELATION TO CROWN LAND - SECTION 135 PA2008

- 8.4.209 The Applicant's update provided on 18 June 2015 indicates that it is awaiting draft documents from The Crown Estate [REP6-018]. The Position Statement submitted at Deadline 7 [Doc 8.34.10], in relation to plots D289, D292, D298.2, G-A142, G-A143, G-B142 and G-B143, explains that a draft Deed of Easement has been received by the Applicant from The Crown Estate but a draft Option agreement is still awaited. Furthermore, the draft Deed of Easement is not agreed and negotiations are continuing.
- 8.4.210 The Position Statement, in relation to plots D799, D835 and D837, explains that the land was formerly owned by Heron Garden Estates Limited which was dissolved with the land still vested in it. It then became bona vacantia and was subsequently disclaimed by the Treasury Solicitor to become subject to escheat and is dealt with by The Crown Estate. The latter has informed the Applicant that for land that is subject to escheat it will not undertake any act of management or consent and so it will not grant any right or consent for the works over these plots. The relevant plots are required for dismantling infrastructure and WPD will rely upon existing rights to enter the land and remove the apparatus. The Applicant will update the BoR [Docs 3.3] to exclude plots D799 and D837 from Part 4 before it is certified. Since the Land Registry has registered two freehold interests in respect of plot D835 it will remain in the BoR to the extent that it is

not subject to escheat and within the ownership of the other registered proprietor.

THE APPLICANTS CASE IN RELATION TO NATIONAL TRUST LAND - SECTION 130 PA2008

- 8.4.211 The Applicant's response to the ExA's Q3.59 [Doc 8.1.1], confirms that it has not received notification from the National Trust that the land is inalienable. Furthermore, the Applicant has agreed terms with the National Trust for the rights required over the relevant land.
- 8.4.212 In response to the ExA's Q2.3.13, the Applicant states that it has received written confirmation from the solicitor acting on behalf of the National Trust that the land is not held by it inalienably. This means that s130 PA2008 does not apply to the land [Doc 8.18.1].

8.5 THE PANEL'S CONCLUSIONS

PANEL'S APPROACH

- 8.5.1 The Panel's approach to the question of whether and what compulsory acquisition powers it should recommend to the Secretary of State to grant has been to seek to apply the relevant sections of the Act, notably s122 and s123, the Guidance⁴⁷, and the Human Rights Act 1998; and, in the light of the representations received and the evidence submitted, to consider whether a compelling case has been made in the public interest, balancing the public interest against private loss.
- 8.5.2 There are representations from statutory undertakers which have not been withdrawn and, therefore, s127 PA2008 is engaged in the consideration of the application. There are also relevant statutory undertaker rights and apparatus on land that is the subject of compulsory acquisition of new rights under the draft DCO. S138 PA2008 is, therefore, also engaged, and we have considered the application, and representations, accordingly.
- 8.5.3 The Panel understands, however, that the draft DCO deals with the development, itself, and compulsory acquisition powers. The case for compulsory acquisition powers cannot properly be considered unless, and until, the Panel has formed a view on the case for the development overall, and the consideration of the compulsory acquisition issues must be consistent with that view.
- 8.5.4 The Panel has shown in the conclusion to the preceding Chapter 7 that it has reached the view that development consent should be granted. The question therefore that we address here is the extent to which, in the light of the factors set out above, the case is made for compulsory acquisition powers necessary to enable the development to proceed.

⁴⁷ Planning Act 2008, Guidance related to procedures for compulsory acquisition (DCLG, 2013)

- 8.5.5 In these conclusions, we shall first consider a number of general matters relating to the Applicant's case for compulsory acquisition which are also pertinent to points raised by a number of objectors. We shall then consider the case for objectors before concluding on statutory undertakers' land and apparatus, special category land, Crown land, the tests set out in s122(2) and s122(3) and Human Rights issues.
- 8.5.6 Although we shall specifically refer to objections raised by Affected Persons, we appreciate that this represents only a proportion of the 4461 [Doc 8.3.10, para 4.3] or so parcels of land that would be affected. Even though a specific objection may not have been raised in relation to a particular plot of land, we have nevertheless applied the relevant tests to the whole of the land that would be subject to powers of compulsory acquisition, or temporary possession, in reaching our overall conclusions.
- 8.5.7 As explained earlier in this chapter, the compulsory acquisition powers sought also include Class 2 and 3 rights relating to the acquisition of rights by the creation of new rights. We shall consider the scope and implications of these powers in relation to the relevant tests in the same way as the powers sought in respect of the acquisition of freehold plots of land. We have already considered certain aspects of the new rights of access sought in Section 5.6 of this report, in the light of particular objections raised. We conclude that Article 23(9) of the draft DCO should be amended to require the undertaker to maintain any resulting works, including the provision of a means of access, constructed in pursuance of these powers. This change is incorporated within the recommended Order and it is explained further in Chapter 9 of this report.

THE TIME LIMIT FOR THE EXERCISE OF COMPULSORY ACQUISITION POWERS - ARTICLE 22

- 8.5.8 The recommended DCO, Article 22, requires the compulsory acquisition powers granted to be exercised within the period of eight years beginning on the day on which the Order is made. In response to the ExA's Q3.36 [Doc 8.1.1], the Applicant highlighted the uncertainty as to when the main construction works for the new nuclear power plant at Hinkley Point C would commence. This has a consequential impact on when the necessary connection works could commence. In addition, a decision on the proposed Seabank 3 power station is not expected until 2017. This also creates uncertainty as regards the start date of the proposed development. The DCO, Schedule 3, Requirement 2, therefore provides for an eight year period from the date of the Order within which the authorised development must be commenced to reflect the relationship between the current application and the new electricity generating projects that it is intended to serve.
- 8.5.9 Furthermore, construction work for such a long linear development involves the construction of lines and cables and bringing these into

operational use before the existing lines and cables can be removed, to ensure continuity of electricity supply. This, in turn, means that the Applicant needs to be able to exercise powers of compulsory acquisition and authority to occupy land at different times during the delivery of the project. It would not want to exercise such powers, and interfere with the interest or rights held by landowners, earlier than was necessary. At the first ISH on the DCO [Doc 8.13.1.1], the Applicant also drew attention to the long linear nature of the project and stated that to shorten this eight year period might force it to acquire land/rights before it was necessary which would have avoidable impacts on landowners.

8.5.10 At the CAH, the Applicant explained in further detail the degree of uncertainty around both the likelihood and timing of new generators actually progressing and connecting to the transmission network. Due to this necessary uncertainty, a certain degree of flexibility is needed to deal with that, hence the timings built into the DCO: if too short, the Applicant would have to promote another order which would add unnecessary cost and uncertainty to those affected [Doc 8.13.10].

8.5.11 The Panel has had regard to the concerns raised by individual objectors regarding the length of the eight year period and the associated uncertainty and prospect of blight that would be experienced by them. Nevertheless, having regard to the long linear nature of the scheme and the degree of uncertainty surrounding the start date for the proposed project, we conclude that it would be proportionate and sensible to allow an eight year time period for commencement of the development and the exercise of compulsory powers of acquisition.

8.5.12 We note that the Infrastructure Planning (Miscellaneous Prescribed Provisions) Regulations 2010 were revoked by the Infrastructure Planning (Interested Parties and Miscellaneous Prescribed Provisions) Regulations 2015, and that regulation 6 of the 2015 regulations replicates the 2010 regulations and provides that notice to treat must be served before the end of a five year period beginning on the date on which the order granting development consent is made.

8.5.13 Nevertheless, the effect of s154(3)(a) and (b) PA2008 is to enable the Secretary of State to grant a longer or shorter period should it be considered necessary. In this particular case, for the particular reasons given above, we recommend a period of eight years.

ASSOCIATED DEVELOPMENT

8.5.14 S122(2) of the Act sets out the purposes for which compulsory acquisition may be authorised. The DCLG 'Guidance related to procedures for compulsory acquisition, September 2003' (CA Guidance), at paragraph 7, explains that, in the light of s122, applicants must be prepared to justify their proposals for the compulsory acquisition of any land to the satisfaction of the Secretary of State.

- 8.5.15 S115 of PA2008 provides that, in addition to the development for which development consent is required under Part 3 PA2008 (the principal development), consent may also be granted for associated development. PA2008 defines associated development as development which is associated with the principal development.
- 8.5.16 The ExA's Q3.1 [PD-007], sought an explanation from the Applicant as to how the "associated development" aspects of the scheme, namely categories (a) to (m) set out in the draft DCO could be regarded as having been appropriately categorised as such. The Panel is satisfied, in the light of the Applicant's response set out at 3.1.2 [Doc 8.1.1], that each of the works listed has been appropriately classified as associated development. The majority fall within the lists in the two annexes to the guidance. All of the associated development satisfies the core principles that it has a direct relationship with the principal development and its aims are subordinate to the principal development. The associated development is not necessary as an additional source of revenue, nor is its nature or scale disproportionate to that of the principal development.
- 8.5.17 The Panel concludes that the associated development included within Schedule 1 of the recommended Order comprises development for which development consent is sought, and so the land required for that development can, in principle, be compulsorily acquired pursuant to s122(2)(a) PA2008. We shall consider later in this chapter whether all of the land in respect of which compulsory powers are sought is, in fact, required for the development.

THE PUBLIC BENEFIT

- 8.5.18 The need for new nationally significant energy infrastructure projects is recognised by NPSs EN-1, EN-3 and EN-5.
- 8.5.19 EN-1 explains that electricity meets a significant proportion of our overall energy needs and our reliance on it is likely to increase. It states, at paragraph 3.1.1, that the UK needs all the types of energy infrastructure covered by it in order to achieve energy security at the same time as dramatically reducing greenhouse gas emissions. It advises that all applications for such development should be assessed on the basis that there is a need for those types of infrastructure and that the scale and urgency of that need is as described for each of them in Part 3 of EN-1.
- 8.5.20 EN-1 sets out, in section 3.7, the key reasons why the Government believes that there is a need for new electricity network infrastructure. At 3.7.7, it states that *"Accordingly, new lines will have to be built and the location of renewable energy sources and designated sites for new nuclear power stations makes it inevitable that a significant proportion of those lines will have to cross areas where there is little or no transmission infrastructure at present or where it may be claimed should be protected from such intrusions. The urgency of need for new*

generating capacity means that the need for new transmission that is required to connect that capacity will be similar."

- 8.5.21 The NPPF acknowledges the pre-eminence of NPSs in policy terms when considering NSIPs. It is clear from the relevant NPSs that there is a national need for new electricity network infrastructure of the type that is the subject of the application.
- 8.5.22 The Panel asked a number of first round and second round questions concerning the particular need for the proposed development. The Applicant's response to Q3.12 sets out the factors that it puts forward as constituting a compelling case in the public interest [Doc 8.1.1]. These include that without this critical infrastructure, the transmission connection for Hinkley Point C, and other generators in the region, would not be compliant with the standards set out in the National Electricity Transmission System Security and Quality of Supply Standard (NETS SQSS) and would therefore not contribute to meeting the targets set by government and in providing an on-going reliable and affordable electricity supply. The various factors relied upon by the Applicant are explained further in response to Q3.30 [Doc 8.1.1].
- 8.5.23 The ExA's Q2.3.1 to 2.3.4, pursue the matter of the need case put forward by the Applicant in Need Case for the South West and Gloucestershire Regions [Doc 7.5]. The Applicant's response to Q2.3.2 [Doc 8.18.1] includes Table 2.3.2 which sets out the consent status of each of the contracted generators. This confirms that many of the projects listed have not yet achieved consent. Furthermore, the Applicant acknowledges, in its response to Q2.3.3, that there is a degree of uncertainty around both the likelihood and timing of new generators actually progressing and connecting to the transmission network. However, its role is to manage this uncertainty and invest in new transmission connections at the appropriate time and describes the way in which this uncertainty is managed, and assessed.
- 8.5.24 In response to Q2.3.4, the Applicant accepts that EDF Energy retains the ability to cancel, or vary, the connection agreement. It is also correct that the proposed scheme is dependent on the contract with EDF Energy. However, as outlined in the Need Case [Doc 7.5A], the scheme would also facilitate the connection of Seabank 3 in 2021.
- 8.5.25 EN-1, paragraphs 1.7.2, 3.3 and 3.7, and EN-5, paragraph 2.3, allow for the forward planning of projects in order to meet the delivery demand of national infrastructure, in this case the demand for electricity transmission. Given its contractual obligations the Applicant remains of the view that there is sufficient certainty regarding the new generation in the south west and now is the right time to seek consent. The Panel finds no substantive reasons to disagree with this conclusion and concludes that the Applicant's need case is reliable and robust.
- 8.5.26 There is a need in the public interest for the provision of the proposed development; to protect the overhead lines, underground cables and

associated development once installed, and to ensure that the supply of electricity is not impeded. That represents a significant public benefit to be weighed in the balance.

PRIVATE LOSS

- 8.5.27 In the light of the CA Guidance, paragraph 13, the ExA's Q3.13(a) asked what assessment had been made of the effect upon Affected Persons and their private loss that would result from the exercise of compulsory powers. In response, [Doc 8.1.1] the Applicant explained that it has not assessed the effect upon individual Affected Persons and their private loss that would result from the exercise of compulsory powers in each case. It points out that any private loss suffered by an individual Affected Person may become the subject matter of a claim for compensation, to the extent that such loss may be properly claimed under the statutory compensation code.
- 8.5.28 However, the Applicant has taken a number of steps to ensure its approach to land acquisition and the exercise of compulsory powers in respect of each plot and each individual Affected Person is proportionate and would not give rise to interference with private rights beyond what is absolutely necessary to deliver the proposed development. These steps are explained in the response to Q3.13(a) and Q3.30. They include keeping the areas of land affected to a minimum; minimising as far as possible any proposed permanent acquisition of land; seeking wherever possible to rely on temporary possession of land rather than permanent acquisition; and engaging with all persons with an interest in land affected with a view to reaching a voluntary agreement.
- 8.5.29 At the CAH, the Applicant confirmed the approach that it had taken when assessing the private loss to individuals and that there had not been a parcel by parcel analysis of the effect of the proposed development upon individual landowners. Nonetheless, the process of routing was iterative and included the consideration of a number of factors including the effect on land use, individuals, communities and the environment at each stage. At each stage in the iterative routing process, the Applicant also took into account feedback received from statutory consultees and local communities. Where landowners raised specific issues about the route of the overhead line and positioning of the pylons, the Applicant gave consideration to them as part of its Change Request process as set out in ES: Project Need and Alternatives [Doc 5.2.1].
- 8.5.30 The process by which individual requests for changes to the scheme were considered is explained in more detail in paragraph 2.9.5 of that document. The Panel considers that for a linear project of this size, with some 4461 parcels affected [Doc 8.3.10, para 4.3], this represents a proportionate approach and that to carry out an analysis on a parcel by parcel basis would be a disproportionate measure. It is clear that individuals who would be affected by the development have had an opportunity to make representations which the Applicant has

been obliged to take into account before making a final decision on the route and sitings to be included in the application.

- 8.5.31 We recognise that the proposed development has been designed so that the Order limits have been brought in as far as possible; where at all possible, temporary possession has been sought rather than permanent rights; and permanent rights have been sought in place of permanent possession. The route selected seeks to minimise interference with private rights and, in particular, avoid so far as possible interaction with residential property and non-agricultural businesses. The majority of land over which permanent rights are to be acquired would experience only minor interference with the use of the land. A significant proportion of the land over which permanent rights would be acquired is in agricultural use; the owners of such land would be able to continue to use the land for this purpose once construction is completed and it is likely that they would experience only limited interference over the lifetime of the development. The extent of any private loss has therefore been mitigated through the selection of the route. The acquisition of the freehold is limited to 12 plots. These factors must inherently reduce the extent of the private loss experienced by those affected by compulsory acquisition.

ALTERNATIVES

- 8.5.32 The CA Guidance requires (paragraph 8) that:
- "The applicant should be able to demonstrate to the satisfaction of the Secretary of State that all reasonable alternatives to compulsory acquisition (including modifications to the scheme) have been explored..."*
- 8.5.33 The Panel has considered this in terms of the selection of the site, the scale of the development proposed, the specific characteristics of the development and then in relation to the proposed acquisition of each parcel of land (in the sections on those parcels).
- 8.5.34 The updated Statement of Common Ground between National Grid and the Joint Councils [Doc 8.3.12A], Table 4.1, agrees that the description of the project development process presented in Project Need and Alternatives [Doc 5.2.1], is a reasonable description of the process.
- 8.5.35 The ES Project Need and Alternatives [Doc 5.2.1] gives an outline of the main alternatives to the proposed development studied by the Applicant, including alternatives to an overhead line solution, alternative overhead line routes and alternative sites for associated development. It also sets out the main reasons for the Applicant's choice of the proposed development taking into account environmental effects. It explains some pre-application modifications to the route which have been made in response to the consultation process with a view to minimising land use impacts. It also indicates that some proposed modifications were rejected and the reasons for that.

- 8.5.36 The Applicant has entered into negotiations with all landowners to seek to avoid the need to compulsorily acquire the relevant interests. At the time of the close of the Examination a number of the objections made by landowners had been withdrawn. These have been identified in the CA Appendix D to this report. The negotiations with statutory undertakers have also resulted in agreement and the withdrawal of s127 and 138 applications for WPD [REP4-035], NNB [EV-113], and EDF [EV-113]. As indicated above, compulsory acquisition powers are nonetheless sought where a negotiated settlement has been achieved for the reasons identified in the Statement of Reasons [Doc 3.1].

The site selected

- 8.5.37 A description of the route is set out in section 7 of the Statement of Reasons [Doc 3.1]. The ES Project Need and Alternatives [Doc 5.2.1] sets out the alternative routes, CSEs and substation locations considered by the Applicant in response to pre-application consultation. It provides details of the site selection process for both the overhead line and the underground cable route.
- 8.5.38 Further information on the question of alternatives is provided by the Applicant in response to the ExA's Qs 3.15, 3.17, 3.18, 3.19, 3.20, 3.30, 21.1 to 21.5 and 2.21.1 to 2.21.2 [Docs 8.1.1, 8.1.3 and 8.18.1]. In particular, the Applicant's response to the ExA's Q3.18, sets out a summary of the appraisal's conclusion for each Study Area in relation to the localised benefits of undergrounding. The Applicant's response to Q2.3.11, provides further details of the assessment process including the weighting of socio-economic considerations within the COR. In response to Q2.3.12, the Applicant provided a summary of the alternatives to the proposal included in the application that were considered and the reasons for the selection of the land chosen. The response includes reference to the project development process, the Strategic Optioneering Alternatives, the Outline Routing Stage, the Detailed Routing Stage, and the Change Request process.
- 8.5.39 The updated Statement of Common Ground between the Applicant and the Joint Councils [Doc 8.3.12A], Table 4.1, in relation to the Route Corridor Study Method (2009) [Doc 5.2.2.2] confirms that the Applicant consulted them on the method and preliminary findings of the Route Corridor Study and adapted its approach in relation to the comments received. It also confirms that when consulted on the route corridors, all of the Councils with the exception of Sedgemoor District Council and Somerset County Council (who did not express a preference) expressed support for adopting Corridor 1A as the basis for the preferred connection. Subsequently, Sedgemoor District Council commissioned a study to examine the comparison of route corridors and concluded that National Grid had drawn "*appropriate and logical conclusions*". In the case of North Somerset Council, any preference for Corridor 1A was caveated that National Grid should continue to explore a subsea option. In relation to the use of Corridor 2 in discrete sections of the route, the Joint Councils have no objection to the mix and match solutions selected for discrete sections of the

400kV route as set out in the Selection of Preferred Connection (2011) [Doc 5.2.2.3].

- 8.5.40 In the light of the DCLG CA Guidance, the ExA's Q3.15 sought assurances regarding the exploration of reasonable alternatives. The Applicant considers that it has explored all reasonable alternatives to the compulsory acquisition of land [Doc 8.1.1].
- 8.5.41 The Strategic Optioneering Report Additional Information (2010) [Doc 5.2.2.1, Appendix 2B], gives consideration to both underground cables and subsea cables in the light of consultation which had taken place in connection with potential route corridors. The report provides a cost summary for the subsea cable options and the two overhead line options. It concludes that given National Grid's statutory duties, which in effect seek to ensure that it makes the most economic technically compliant infrastructure investments, the comparison of costs associated with each option led to its decision to discount these options prior to the consultation on the potential route corridors.
- 8.5.42 The Strategic Optioneering Report (2011) [Doc 5.2.2.1, Appendix 2C], takes account of the consultation feedback received from stakeholders and the general public. The most relevant technology alternatives were assessed taking account of the specific parameters of each Potential Connection option and consultation feedback. The report concludes that the option of constructing an overhead transmission line between Bridgwater and Seabank would best meet National Grid's technical, economic and environmental obligations and should remain the preferred option to take forward for further investigation, taking its statutory obligations and its licence standards into account. It considered and discounted the subsea options for the reasons stated therein. It identified that any practicable alternative to the proposed development would similarly require the acquisition and use of land belonging to third parties.
- 8.5.43 The Update to the Strategic Options Report Cost Tables and Relevant Appendices [Doc 7.4] provides an updated cost estimate for the 2011 Preferred Connection Option which takes account of additional design considerations that have been identified as part of further development work. The review further considered the technology options that could be used for each of the potential connection options identified in the 2011 Strategic Options Report. The report concludes that the increase to the estimated costs of the preferred option is not of an extent that would suggest any other option should be progressed.
- 8.5.44 The response to Q3.15 [Doc 8.1.1] also makes reference to the Consultation Report [Docs 6.1] which accompanied the application, and led to a number of modifications to the proposed development in light of consultation feedback. This report also concludes that the acquisition of land and interests in land belonging to third parties could not be avoided. A structured change request process was implemented to consider all requests for changes to the scheme. The

process is described in full in the Project Need and Alternatives chapter of the ES [Doc 5.2.1]. Whilst it was not possible to accept all of the suggestions put forward, in a number of instances the route of the overhead line and the position of pylons was amended. These changes are explained in the Project Need and Alternatives Chapter of the ES [Doc 5.2.1] and the Consultation Report [Docs 6.1.].

Alternative technologies

- 8.5.45 The Consultation Report [Doc 6.1.3] recognises that a recurring theme during each stage of consultation was the desire of consultees to see the connection completely undergrounded, constructed in the sea using subsea cables or constructed with an alternative technology that did not require overhead transmission infrastructure. In response to these representations, National Grid employed a continual process of back-check and review which involved re-evaluating these technologies in light of new information and changes in the generation background.
- 8.5.46 The use of alternatives such as subsea and GIL was also a recurring theme of representations and objections made during the Examination. These matters were explored further at the Open Floor Hearings (OFHs) and ISHs, in addition to the CAH. The ExA also asked a number of written questions (21.1 to 21.5) specifically concerning alternative options including various underground options, subsea and GIL [PD-007].
- 8.5.47 The question of alternatives, including alternative technologies has already been considered and concluded upon in Chapter 5.14 of this report under the main heading of 'Other issues'. EN-1, Part 4, section 4.4, explains that it does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option. As required, the ES has provided information about the main alternatives studied and included an indication of the main reasons for the Applicant's choice. The Panel is satisfied that the Applicant has complied with national policy in this respect. Whether the 'best option' has been chosen in terms of choice of technology is a matter that national policy does not require us to assess.

The substation location

- 8.5.48 For the substation location, the updated Statement of Common Ground between the Applicant and the Joint Councils [Doc 8.3.12A], Table 4.1, confirms that the Joint Councils agree with the conclusion of the Substation Siting Study [Doc 5.2.2.8] which states a preferred location for the substation located at Sandford (Area 2) and the location of the substation within it. The Panel has given considerations to the concerns raised as regards the proposed location of this substation. However, the Panel is satisfied that the alternative siting options have been fully appraised by the 2012 Substation Siting Study. We find no reason to disagree with the conclusion reached that

the selected site represents the least environmentally constrained zone for the substation and provides other advantages compared to alternative options outlined in the report.

The cable sealing end compound locations

- 8.5.49 For the CSE locations, the updated Statement of Common Ground between the Applicant and the Joint Councils [Doc 8.3.12A], Table 4.1, confirms that whilst there remain outstanding concerns regarding the mitigation of effects for both the Bridgwater Tee CSE compounds and the South of the Mendip Hills CSE compound, the Joint Councils are not currently suggesting alternative locations. The Panel has given consideration to the various concerns raised as regards the proposed location of the CSEs. We are satisfied that the alternative siting options have been fully appraised by the Cable Sealing End Siting Study (2012) [Doc 5.2.2.5 Appendix 2J]. We find no reason to disagree with the conclusions reached that for the south of the Mendip Hills AONB Area B would be the most suitable location, and for the north of the Mendip Hills AONB Area E represents the least environmentally constrained area for a new CSE compound. Whilst cable sealing ends would be required, a separate compound would not be needed in this location, as the underground cables would connect directly into the proposed Sandford substation. It would also have advantages in terms of its proximity to settlements and individual properties.

The specific characteristics of the site

- 8.5.50 The Statement of Reasons [Doc 3.1], Section 4, describes the Order land, including its location, use and topography. The land which is to be subject to compulsory acquisition of land or rights, together with the land in respect of which temporary use powers are sought, is shown on the Land plans [Docs 4.2] and identified in the BoR [Doc 3.3].
- 8.5.51 The area within the proposed development's Order limits is about 1330ha principally extending from North Eastern Bridgwater to Avonmouth. It also includes an area (about 38ha) around Hinkley Power Station, and an area (about 9ha) near Churchill substation. The Order limits comprise about 1124 ha of agricultural land and 96ha of non-agricultural and urban land. Farming operations within the Wider Study Area are mainly livestock, although often mixed, with a small amount of arable agriculture.

The scale of the proposed development

- 8.5.52 In response to the Panel's Q3.3 [Doc 8.1.1], the Applicant explained the reasons behind the minimum size of each CSE compound; the size of the site for the proposed Sandford substation; the need for the extension of the operational boundary at the Seabank substation; and the need for the extent of the corridor width over which permanent

rights are sought for both the overhead line and the underground sections of the route.

8.5.53 In response to the ExA's Q3.4, at 3.4.8, the Applicant confirms that its intention is to minimise land take and to return land that was temporarily occupied subject, in some cases, to the acquisition of permanent rights where required. Having regard to that response and to the evidence given on behalf of the Applicant at the CAH, the Panel considers that the lateral LoD sought is necessary and proportionate to enable adaptation to unknown ground conditions in certain sections of the route. It is clear that the Applicant has no incentive to use more land than is absolutely necessary given that that would increase the amount of compensation that it would have to pay to landowners and occupiers [Doc 8.13.10].

8.5.54 At the CAH, the Applicant referred to Schedule 1 of the draft DCO [Docs 2.1] which defines the authorised development and the land over which compulsory acquisition powers is sought relates to that [Doc 8.13.10]. The Applicant indicated that the only powers of compulsory acquisition that the draft DCO grants for associated development are those which are 'necessary' or 'expedient' for the works to be carried out. The statutory tests for the exercise of compulsory acquisition power are, of course, the same whether the land is used for the NSIP itself or associated development.

Conclusions on alternatives

8.5.55 In response to the Panel's Q3.15 [Doc 8.1.1], the Applicant confirms that it has sought, and is seeking, to enter into voluntary agreements for the acquisition of land and interests in land with the affected parties in each case. At Deadline 7, the Applicant provided an Updated Appendix 2.14.6.1 (Current status of negotiations with affected parties) [Doc 8.30] which shows that in many instances a voluntary agreement has been reached or negotiations are continuing.

8.5.56 The Panel concludes that all reasonable re-routing options have been fully considered and discussed through the pre-application and consultation process. The use of alternative technologies, including subsea and GIL, have also been considered and discounted.

8.5.57 The Applicant has sought to use powers of temporary use, where appropriate, rather than compulsory acquisition of land or rights as the temporary use of land is more proportionate where the permanent acquisition of land or rights is not required.

8.5.58 The Panel does not consider that there is a need for further restraint within the recommended Order to ensure that the land to be acquired and permanent rights sought would be no more than is reasonably necessary for the purposes of the development.

8.5.59 The Panel concludes that the Applicant has explored all reasonable alternatives to compulsory acquisition, including modifications to the scheme.

THE PANEL'S CONSIDERATION OF OBJECTIONS

- 8.5.60 The Panel has considered all the objections received. Many of the issues raised by objectors have also been considered in earlier parts of this report when considering the planning issues arising in relation to the DCO application. The objections are considered here in the context of the application for the grant of compulsory acquisition powers and for the grant of powers of temporary possession.
- 8.5.61 In relation to the CA objections the Panel has examined them against the tests set out in s122 and s123 PA2008, having regard to the CA guidance and with regard to the provisions of the Human Rights Act 1998. They are distinguished from objection to the application for powers of temporary possession under Articles 30, 31 and 32 of the recommended DCO or by those who may be able to make a claim under section 10 of the Compulsory Purchase Act 1965 or Part I of the Land Compensation Act 1973. Similarly, we have had regard to the Human Rights Act in considering the application for the grant of powers of temporary possession and also the need and justification for such powers. There are plots where both CA and temporary possession powers are sought. In those instances, the temporary possession powers generally relate to the WPD works.

The case for specific parcels

North Somerset Council - Objection No 41

- 8.5.62 The North Somerset Council (NSC) is scheduled in the BoR as registered proprietor of a number of plots which form part of the title to the former Portishead railway line. For the majority of the plots, the Applicant seeks permanent powers of new rights over land, including access at ground level. The NSC objects on the grounds that the rights sought would be incompatible with an operational railway. It seeks terms that would be appropriate when granted by NRIL for crossings of railway infrastructure by the Applicant's apparatus.
- 8.5.63 It is intended that the DCO application will be submitted to the Planning Inspectorate in June 2016. If consent is given, then it is anticipated that works would commence in late 2017 and the railway would be operational (and become part of NRIL's network) by 2019. The NSC seeks to have in place, either in the DCO or in an agreement outside of the DCO, protections for the land as if it was operational railway land. These protections also need to apply for maintenance following the reinstatement of the railway. NRIL supports the position of the Council in relation to protective provisions for the former Portishead railway line.
- 8.5.64 The draft DCO contains detailed protective provisions for the benefit of NRIL. This means that any interests NRIL might acquire in new operational railway and associated land would benefit from those protective provisions. However, given that the land is not currently operational railway land, the Applicant does not agree that the terms

NRIL would ordinarily impose on crossings of existing railways would be appropriate, particularly where those terms relate to commercial matters or the allocation of risk associated with such a crossing.

- 8.5.65 The Applicant's Position Statement submitted at Deadline 7 [Doc 8.34.3] confirms that it agrees, and accepts, that the proposed development should accommodate the future re-opening of the railway and is in discussions with NSC to agree terms to achieve this. It would clearly be in both parties' interests that agreement is reached, as otherwise NSC might in future seek powers in respect of the Applicant's land interests, or the proposed development, when pursuing its own application for development consent.
- 8.5.66 Nonetheless, the Applicant states that where a new transmission line crosses existing operational railway, it is usually expected to bear the cost and risk associated with design compatibility. In contrast, where a new railway line crosses an existing transmission line, it would usually expect the railway developer to bear the cost and risk associated with design compatibility. The Panel does not consider that it would be reasonable or proportionate for the Applicant to meet the full costs associated with design compatibility for this land having regard to the stage that NSC's project has reached in the development consent process.
- 8.5.67 If the railway is built first, the protective provisions within the DCO would automatically operate for its protection, assuming the railway formed part of NRIL's network. However, if the railway is not built first, treating it as operational railway land at this stage would place a disproportionate burden on the Applicant in terms of the design and operation of the proposed development to accommodate the railway proposal together with the associated costs.
- 8.5.68 The Panel concludes that, in the light of the protective provisions that would be included in the recommended DCO for operational railway land, and the stage that the new railway project has reached in the development process, the powers under the DCO should not be restricted in the manner suggested by NSC. It is not necessary or appropriate to include new or additional protective provisions for the benefit of NSC, or the proposed railway within the DCO.
- 8.5.69 In reaching this conclusion, we have taken into account the fact that the new railway line would also be promoted as a nationally significant infrastructure project, and the public benefit associated with that scheme. We do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

Nailsea Town Council - Objection No 1

- 8.5.70 Nailsea Town Council has concerns regarding its land at Engine Lane, and the proposed undergrounding of the cable in this area. It seeks to

ensure that any future use of this land is not blighted by the grant of any easement over it and proposes that an alternative route be taken along Engine Lane and then south along its land. It accepts that if undergrounding the cables along Engine Lane is not technically feasible, then it is likely that they would have to be installed within the draft DCO limits, but it does not consider that it has been provided with technical evidence to show that to be the case.

- 8.5.71 The Applicant has considered and rejected the routing of the cable under Engine Lane, as detailed at paragraphs 2.9.4 to 2.9.8 of the ES Project Need and Alternatives [Doc 5.2.1]. Following further consideration, it was concluded that it would be less preferable due to effects on traffic and third party services; vibration due to road breaking and compaction activities; and the effects on socio-economic receptors.
- 8.5.72 The Applicant's response to questions raised by Colin Chandler of North Somerset Council [Doc 8.49], provides further information in relation to the views of WWSL regarding the acceptable safe distances (vertical and horizontal) for their SW sewer system in the vicinity of 132kV cables; the quality and importance of the hedgerow along Engine Lane; a C2 preliminary utility enquiry for Engine Lane; a topographical survey of the northern section of Engine Lane; visual assessments and ground measurements undertaken to determine the amount of available space for the installation of the underground cables; details of the WWSL surface water sewer and foul sewer within Engine Lane; the assumptions made in relation to the preliminary design of the underground cables; the depth at which the cables would be installed; details of the restrictions on planting trees or a hedgerow over newly installed 132kV cables; and details of the easement requirements if the cables are laid in the adjacent field (unconstrained) or in Engine Lane/highway verge.
- 8.5.73 The Panel notes that the Applicant proposes to route the cables as close as possible to the land boundaries. The Council has, albeit reluctantly, signed Heads of Terms with the Applicant over the land that it owns at Engine Lane. In any event, compensation would be available through the statutory compensation code should the compulsory acquisition powers be exercised.
- 8.5.74 Having regard to the route assessment made in the ES and the further information provided by the Applicant at Deadline 8, the Panel does not consider that an alternative route should be taken in this location, as proposed by Nailsea Town Council. We do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

David Shepherd and Catherine Fisher - Objections No 4 and 5

- 8.5.75 David Shepherd and Catherine Fisher submit that all reasonable alternatives to compulsory acquisition have not been explored. They

suggest that the public interest would be better served by one of the other options available. They also criticise the proposed positioning of pylons near their home.

- 8.5.76 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], sets out a summary of its response to their main grounds of concern.
- 8.5.77 We have addressed the general question of alternatives, including alternative technologies, earlier in this Chapter and also in Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. We have also had regard to the concerns raised over the location of pylons close to properties and businesses at the 'pinch-point' in Tarnock. The particular concerns regarding the impact upon their property, and the scope for the re-positioning pylon LD32, have been considered in Chapter 5 of this report. We are satisfied that the question of the positioning of pylons at this 'pinch-point', and whether pylon LD32 should be moved north, has been fully explored and concluded upon during the course of the Examination. The position of pylon LD32 would be secured by Article 5 of the recommended DCO.
- 8.5.78 They also raise the matter of the uncertainty surrounding the new Hinkley C nuclear power station and the Applicant's assessment of public interest and private loss. We have considered the need for the project earlier in this report and taken into consideration the uncertainty surrounding the Hinkley C scheme. We nevertheless conclude that there is a need in the public interest for the provision of the proposed development. We shall consider whether the public benefits that would be derived from the compulsory acquisition would outweigh the private loss that would be suffered by those whose land, or rights over that land, are to be acquired, and have regard to human rights considerations, in reaching our overall conclusions later on in this chapter.

Trapoc Ltd - Objection No 142

- 8.5.79 Trapoc Ltd and Copart Ltd, are the owners and occupiers of land adjacent to Ableton Lane, Avonmouth. The Copart business has a requirement for there to be suitable space to allow for the turning of large HGV vehicle transporters and no height hindrances within the site. It is claimed that the proposed development within the business yard would generate significant operational and financial implications and should not be permitted.
- 8.5.80 Trapoc suggests that the proposed pylon should instead be located on the opposite side of Ableton Lane. Although this site has the benefit of planning permission and conditions have been discharged, development has yet to commence and the five year permission attached to the site expires in April 2016.
- 8.5.81 It is clear that the Applicant has given serious consideration to the question of alternatives to the use of the Trapoc yard in this area.

However, there are obvious constraints imposed by existing and proposed development. The land opposite the Trapoc site to the south of Ableton Lane is the consented Viridor Resource Recovery Park. Since planning permission has been granted for this development we consider that it was entirely appropriate for the Applicant to take it into account when assessing the route of the proposed overhead line. The proposed route would ensure that statutory clearances could be achieved from plant (stacks) within the consented Resource Recovery Park which would be about 90m high. We do not consider that it would be feasible to move pylon LD130 off the Copart/Trapoc site and to the south of Ableton Lane without encroaching upon these clearances.

- 8.5.82 The Panel recognises that the Applicant has endeavoured to minimise the effects on the Trapoc site by positioning the pylon close to the boundary and by ensuring that the oversail would run along the southern boundary, rather than through the middle of the site. The Panel has already considered the general case in relation to alternatives earlier in this chapter. We do not consider that an alternative route should be taken in this location, as proposed by Trapoc.
- 8.5.83 We note that since the CAH there have been meetings which have taken place and correspondence which has been exchanged between the parties. Copart has issued a letter to the Applicant seeking an agreement to indemnify the company for any financial and operational losses they might sustain as a result of the proposed development. However, by Deadline 7, there had been no formal confirmation from the Applicant to Copart that it agreed to indemnify such losses. Trapoc therefore requests that, should the DCO be granted, no development should be allowed to take place on the Copart site until an agreement, in principle, has been reached by all parties as regards indemnifying any losses.
- 8.5.84 We appreciate that there are likely to be financial and operational implications for the Copart business as a result of the proposed development which are outlined in the representations made. However, in relation to the exercise of compulsory acquisition powers, there would be a compensation remedy available through the statutory compensation code. The absence of an indemnity agreement between the parties does not preclude the grant of compulsory acquisition powers in respect of this site. We shall weigh the matters raised in the balance in our overall conclusions, later on in this chapter.

***City Monument Properties Ltd and Hewden Stuart Ltd -
Objection Nos 113 and 126***

- 8.5.85 City Monument Properties Ltd (CMPL) acquired the property as an investment with the lease in place after it had been specifically modified for use by Hewden Stuart Ltd for its crane business. The exercise of the proposed rights and the construction of a high voltage electricity line above the property would be incompatible with its

current use. The written representation from Hewden Stuart Ltd [REP2-029] provides an operational impact report which confirms that they could no longer operate their business from this location if the development went ahead as planned. Both CMPL and its tenant seek a change of the route in this location. CMPL submits that the Applicant has not demonstrated that it has explored all reasonable alternatives to the compulsory acquisition, including modifications to the scheme.

- 8.5.86 In response to the ExA's Q3.19 [Doc 8.1.1] on this topic, the Applicant indicates that potential routes through the Avonmouth area are limited by existing built development and the nature of the activities which take place within this area of dense industrial, commercial and residential development. It has assessed potential routes against a range of technical and environmental considerations and against relevant policy considerations. The various options and the Applicant's assessment of them are further detailed in the COR [Doc 5.2.2.4, Appendix 2G].
- 8.5.87 At the CAH [Doc 8.13.10], the Applicant confirmed that there is only one location in which the overhead line could exit the Port area safely due to the need to avoid the metal recycling site which has the potential for fires and explosions to occur and other alternative routes in the vicinity of that business were similarly found not to be feasible. Following the statutory Stage 4 consultation, the Applicant gave consideration to a number of requests for changes to the preferred option. However, the various constraints identified mean that pylon LD115 is effectively locked in position.
- 8.5.88 The Panel considers that a route that avoided CMPL's land altogether would not be merited having regard to other constraints within the area, including the impact on the Dowdings and Mills site and other businesses. We are satisfied that the Applicant has thoroughly investigated all potential alternatives to the route through the Avonmouth area. In identifying suitable positions for the pylons, the Applicant has given consideration to the socio-economic effects and sought to minimise the land required and reduce the effects on existing land uses. There are no reasonable alternatives to the scheme which ought to be preferred. We are satisfied that the proposed interference with the rights of CMPL and its tenant is for a legitimate purpose and that it is necessary and proportionate.
- 8.5.89 CMPL also asserts that the Applicant has not done enough to reach a voluntary agreement and has not complied with the CA Guidance in this respect. At the CAH, the Applicant explained the negotiations and meetings held between it and CMPL. The Applicant has confirmed its commitment to achieving a voluntary agreement with CMPL.
- 8.5.90 The CA Guidance recognises that for long linear schemes it may not always be practicable to acquire by agreement each plot of land. We have had regard to the concerns expressed by CMPL in this respect, and it is disappointing to note the lack of progress that has been made since the CAH and that no agreement between the parties had been

achieved by the close of the Examination. Nevertheless, we are satisfied that the Applicant has taken appropriate steps in meeting and discussing this matter further with CMPL. We do not consider that the lack of progress to date towards a negotiated settlement precludes the grant of the compulsory acquisition powers sought in this case. We shall weigh the matters raised in the balance in our overall conclusions, later on in this chapter.

David James and Partners on behalf of clients - Objection Nos 9 to 21, 23, 26 to 34, 36 to 62 and 144

- 8.5.91 The relevant representation of David James and Partners [RR-034] lists those landowners for whom they act. The names of all these objectors can be found under the relevant objection number in Appendix D to this report. Most of the landowners are in favour of the project but they do have a few concerns about the route that would be chosen once the new line reaches the Portbury/ Portishead area. The question of whether Option A or Option B should be the route in this location was considered earlier in this report in Chapter 5.15. The matter of alternatives generally has been considered above and the Panel has concluded that all reasonable alternatives to compulsory acquisition, including modifications to the scheme, have been explored.
- 8.5.92 In response to Q3.43, David James and Partners provided a list of clients who had come to an agreement with the Applicant and therefore did not wish to make a representation at that time; three of their clients, namely, Mr J Thatcher, Mr M Thatcher and Thatchers Holdings who were still in negotiations with the Applicant and did not wish to make a representation but reserved the right to do so in the future; six clients who would be providing written responses, namely, Mr and Mrs C R and P E Blewitt, Mr B Campbell, Mrs K Dadd, Mr A Mead and Mr Raskovsky and Ms S J Dadd; and four clients who would be attending the OFHs, namely, Mr A Cole, Nailsea Town Council, Mr S Plant and Mr and Mrs D G Miles. They also indicated, in response to Q14.19, that three clients, namely, Mr M Amesbury, Mr M Amesbury and Mr P Body were still in negotiation with the Applicant and wished to reserve the right to make a representation in the future. We have given consideration to the objections raised by Nailsea Town Council and Mr A Cole elsewhere in this Chapter.
- 8.5.93 The Updated Appendix 2.3.15.1 which provides the Applicant's updated response to PIL objections to the proposed grant of compulsory acquisition [Doc 8.31] lists those objectors mentioned in the letter from David James and Partners as having reached agreement with National Grid and, as at 13 July 2015, there was no change to report.
- 8.5.94 As regards Thatchers Holdings Ltd, the update confirms that the Applicant is not aware of any subsequent representation made by this objector and, as at 13 July 2015, there was no change to report.

- 8.5.95 For Mary Louise Amesbury, Mark Henry Amesbury, and Peter Body the update states that the Applicant is not aware of any representation subsequently made by or on behalf of these objectors and, as at 13 July 2015, there was no change to report.
- 8.5.96 A written representation was made by Mr and Mrs Blewitt at Deadline 2 [REP2-008]. They raise various matters including their financial loss; their age and the effects on their health and their entitlement to enjoy their home and property. They also request that consideration be given to undergrounding in this location. We have given consideration to the impact upon Mr and Mrs Blewitt's property in Chapter 5 of this report. We consider that a site specific mitigation scheme should be approved and implemented. This would be secured by Requirement 43 of the recommended DCO. The Applicant's update indicates that it has continued to engage in positive discussions with their agents. The parties have agreed terms for the purchase of their property and, as at 13 July 2015, relevant documentation was being prepared.
- 8.5.97 A written representation was made by Mr B Campbell at Deadline 2 [REP2-013]. He raises various concerns including the potential loss of trees; decrease in the long-term value of his property; and impacts during the construction process such as inappropriate noise, dust and dirt levels.
- 8.5.98 Kathleen Sully Dadd made a written representation at Deadline 2 [REP2-021]. She proposes that the power lines should be routed underground. If there is no alternative then the pylons should be sited further away from her orchard. She also raises concerns relating to traffic and the value of her property. The Applicant's update refers to its response to the objections raised in its comments on written representations [Doc 8.5]. The update indicates that the parties have agreed terms for an option agreement which is expected to be exchanged shortly.
- 8.5.99 Mr Raskovsky and Ms S J Dadd made a written representation at Deadline 2 [REP2-022]. They request that the cables should be buried underground and that the route be moved further away from their home. They also raise concerns relating to the impact on the value of their property and disturbance from vehicles. The Applicant's update refers to its response to the objections raised in its comments on written representations [Doc 8.5]. The update indicates that the parties have agreed terms for an option agreement which is expected to be exchanged shortly.
- 8.5.100 As regards Derek George Miles and Julie Ann Miles, the Applicant's update states that it is not aware of any detailed representation having been made on their behalf beyond the initial letter provided by David James and Partners. Following discussions between the parties, the Applicant has agreed to relocate a pylon that was originally proposed to be positioned within their landholding and has given consideration as to whether the overhead line could be re-routed to avoid oversailing their property. However, this would have visual

implications and would move the route closer to other residential properties and a modification of the route was rejected for those reasons.

- 8.5.101 Mr Stewart Plant of Tickenham Court Farm Ltd attended the evening Nailsea OFH. He addressed topics relating to the underground cable and the haul road across the peat moor at Tickenham Court Farm, and the underground cabling at the roman villa at Tickenham Court Farm. The Applicant's PIL update in relation to Tickenham Court Farm Limited indicates that two option agreements have been exchanged with terms having been agreed for a third and a fourth was the subject of negotiations. Those negotiations were continuing, as at 13 July 2015. The Applicant has also provided an Update on discussions with Stewart Plant [Doc 8.22.5] which indicates that his concerns would be addressed during the pre-construction survey works, including ground investigation, and then mitigated in the detail design phase of the works in both civil and cable system aspects of the works.
- 8.5.102 Following the CAH, a further representation was received at Deadline 5 from Alex Pritchard on behalf of Mr Gary Robinson and Sharon Mary Moon concerning the potential movement of pylon LD31, as discussed at the CAH [REP5-034]. They object to the movement of Pylon LD31 from its original position. By moving LD31 north towards the A38 this, in turn, moves it closer to the two residential properties at Acacia Farm by more than 60m meaning it would be less than 140m away from both properties. Agreement has already been reached with the Applicant for the proposed overhead line to oversail the land on the understanding that LD31 was as per the original plans. They state that it would be unfair for this agreement to stand, if LD31 were to be moved.
- 8.5.103 The Panel has considered the potential movements of Pylon LD32 in Chapter 5 of this report and concluded that neither Option 1 nor Option 2 would be appropriate. We have addressed the question of alternatives earlier in this chapter and concluded that all reasonable alternatives to compulsory acquisition have been explored. Most other concerns raised by these objectors have been considered in various sub-chapters of Chapter 5 of this report and our conclusions reached in respect of these topics are set out in detail in that chapter. In some instances, additional mitigation to address those concerns has been secured in the recommended DCO. We have had regard to all objections made, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Greenslade Taylor Hunt on behalf of clients with existing pylons on land - Objection Nos 67 to 97

- 8.5.104 The relevant representations of Robert Stone of Greenslade Taylor Hunt, on behalf of clients with existing pylons on land [RR-056], lists clients with existing WPD pylons on their land. The names of all these objectors can be found under the relevant objection number in Appendix D to this report. Robert Stone raises the issue of how the concrete foundations would be addressed. He believes that the decision to leave most of the foundations in place has been made purely on cost grounds and this does not justify such a course of action.
- 8.5.105 In response to the ExA's first written questions [REP2-082], Greenslade Taylor Hunt set out plot details for each client listed in their relevant representation. They confirm that they are not objecting to the scheme but affected landowners wish to make constructive comments and would like additional clarification on what the Applicant proposes to do with the old existing foundations.
- 8.5.106 The final written submissions made by Greenslade Taylor Hunt on behalf of clients with existing pylons on their land [REP7-018], indicates that they still have issues with who would be liable for the concrete foundations if the Applicant leaves them in. They propose that any remaining liability for the foundations if they are left in the ground should be with National Grid or WPD or that they are held by some legal agreement or payment made to the landowner.
- 8.5.107 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], indicates that it responded to the matter of the foundations within its response to Q3.7 [Doc 8.1.1] and within section 2.4 of the Applicant's Response to Written Representations [Doc 8.5]. The Applicant's letter dated 17 July 2015 [REP8-102], also provides a response to the submissions made by Robert Stone on behalf of his clients. This also makes reference to its response to Q2.3.19 [Doc 8.18.1].
- 8.5.108 The Applicant explains that the effect of Article 25(3) of the draft DCO would be that the continuing presence of foundations below a depth of 1m would not give rise to a cause of action, even after the extinguishment of any wayleave that had previously permitted the foundations and associated apparatus to remain in place. The Applicant has been seeking a meeting with Mr Stone to discuss the questions he has raised and a meeting was scheduled to take place on 22 July 2015.
- 8.5.109 The Deadline 2 submission of Greenslade Taylor Hunt on behalf of Peter Penfold [REP2-052], raises issues relating to the amenity area adjacent to Moorland Park; noise and vibration issues; and the proposed new access from the approach road off the A370. These are matters which the Panel has already considered and concluded upon in Chapter 5 of this report. The Applicant's updated Appendix 2.3.15.1 states that it wrote to Mr Penfold on 2 July 2015 to confirm that its

proposals no longer involve running a construction access through Moorlands Park, but that a small area of that site might still be required for the proposed A370 bellmouth.

- 8.5.110 The Deadline 3 submission of Greenslade Taylor Hunt on behalf of Stuart Smith and John Gerrett [REP3-031] raises the matter of the proposed permanent access road over their land to the substation at Sandford. Their subsequent letter dated 30 April 2015 [REP4-024] indicates that agreement had been reached with the Applicant on behalf of these clients. The Applicant's Updated Appendix 2.3.15.1 indicates that further information has been provided in connection with the foundations of existing pylons to be removed and negotiations are continuing.
- 8.5.111 The Panel has considered and concluded on the issue of the existing foundations and other matters raised by individual objectors in Chapter 5 of this report. We have had regard to all objections made by the clients of Greenslade Taylor Hunt with existing pylons on their land, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Greenslade Taylor Hunt on behalf of clients with proposed new pylons on their land - Objection Nos 67, 69, 71-81, 88, 90, 93, 99-101, 103-111, 143

- 8.5.112 The relevant representations of Robert Stone of Greenslade Taylor Hunt, on behalf of clients with proposed new pylons on land [RR-057] provides a list of clients who would be affected in this way and makes comments in relation to the depth of cover over the new pylon foundations and the new access rights sought over third party land. The list also includes some clients who have existing pylons on the land and their concerns in relation to that matter have already been considered above. The names of all these objectors can be found under the relevant objection number in Appendix D to this report.
- 8.5.113 In response to the ExA's first questions [REP2-083], it is confirmed that they are not objecting to the scheme but wish to make constructive comments and seek clarification as to how the Applicant could reduce the impact of the new pylon/access on/over their land.
- 8.5.114 The final written submissions made by Greenslade Taylor Hunt on behalf of clients with proposed new pylons on their land [REP7-018], indicates that their comments still remain as per their original representation in relation to the new concrete foundations being at least 1.1m below ground level to reduce any impact on agricultural operations on the surrounding land.
- 8.5.115 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], indicates that for Objections 99 to 101 and 104 to 110, option agreements have been exchanged. It provided a response to the matters raised by

Robert Stone within section 2.4 of the Applicant's Response to Written Representations [Doc 8.5]. It is currently seeking a meeting with Mr Stone to discuss the questions he has raised and it was hoped that a date for a meeting would be fixed shortly.

- 8.5.116 At Deadline 5, submissions were made on behalf of Mr D and Mrs N Young by Robert Stone [REP5-038] in relation to the potential movement of Pylon LD32. They have signed an Option Agreement for oversail only and would object in the strongest terms against Option 2 as shown within Note 3 [Doc 8.13.3.2]. They do not want a pylon on their land, and submit that the position of this pylon would have an extremely detrimental impact as it is right in the way of the only access to their block of land as shown edged green on the plan attached to their representation.
- 8.5.117 Following the CAH, a further representation was received at Deadline 5 from Robert Stone on behalf of Mr M and Mrs D Ham concerning the potential movement of Pylon LD32, as discussed at the CAH [REP5-026]. They object to altering the position of any of the pylons on their land. They have reviewed the revised position of the pylon under Options 1 and 2 and are very much against the revised options because Option 1 would mean higher pylons on their land and be more visually intrusive. As regards Option 2, they object to the re-siting of the pylon for the same reasons, as it is within one of their silage fields, and would have a detrimental impact on their farming operations.
- 8.5.118 In response to the ExA's second written questions [REP5-016], Jeremy Bell on behalf of Mr J, Mrs E and Mr I Marshall provided clarification and further information in relation to the points raised. He states that pylons LD32, LD33 and LD34 would be located on their land. They have considered the possibilities regarding the location of Pylon LD32 as set out within [Doc 8.13.3.2] Note 3. They note the proposal to move a pylon 104m north which would then be located within Field No. 3372, as identified on the plan attached to their representation, and would be happy with this position. However if the pylon is to be located within Field No. 3964, as indicated on the plan, then the only position they would be happy with would be as agreed on the site of the originally proposed pylon with the Applicant, as any other location in this field would have a detrimental impact on their farming activities. They do not want the pylon located another 25-40m to the north.
- 8.5.119 The Panel has considered the potential movements of Pylon LD32 in Chapter 5 of this report and concluded that neither Option 1, nor Option 2 would be appropriate. However, we consider that it would be appropriate to be raised in height and moved 40m further north. In reaching this conclusion, we have had regard to the concerns raised by Mr J, Mrs E and Mr I Marshall.
- 8.5.120 The Panel has also considered and concluded on the issue of the existing foundations and other matters raised by individual objectors in Chapter 5 of this report. In Section 5.6 of this report, we consider

the question of responsibility for the maintenance of new access facilities. We conclude that Article 23 should provide for the undertaker to be responsible for the maintenance of such new means of access. This would be secured by the recommended DCO.

- 8.5.121 We have had regard to all objections made by the clients of Greenslade Taylor Hunt with proposed new pylons on their land, we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

King Lifting Ltd - Objection No 2

- 8.5.122 The relevant representation of King Lifting Ltd [RR-011], states that the proposed new power line would pass over the property and render the workshop and yard unsafe for its principal use, namely, the repair and maintenance of cranes. The Deadline 4 submission [REP4-027], confirms that they are currently in discussion with the Applicant concerning the proposed power lines that would oversail the property. They state that the business would be severely compromised if the development went ahead in its current form. They have not agreed a compensation package with the Applicant that would enable King Lifting to move out of the property and operate their business in separate premises elsewhere. It is acknowledged that there does not appear to be an alternative route for the power lines that avoids the site.
- 8.5.123 The Applicant's response to Q3.19 [Doc 8.1.1], sets out the consideration that has been given to the needs of certain industrial tenants to work unimpeded in terms of height. During the statutory Stage 4 consultation, a number of requests for changes to the route of the overhead line and positioning of the pylons were received. In the vicinity of Third Way, numerous such requests were made, including a request by King Lifting Ltd to avoid the oversail of their site.
- 8.5.124 All these requests have been assessed by reference to a range of factors on their own merits, and in combination with other suggested changes to the route in the same geographical area. Pylon LD115 was repositioned to the north west to avoid oversail of the WPD substation. As a result, pylon LD114 was relocated to the north east which pushed the alignment closer to the boundary and reduced the amount of oversail of the King Lifting site.
- 8.5.125 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], indicates that the proposed oversail of the King Lifting premises resulting from the proposed development would be minimal and would not render the site redundant for its current use. It is in negotiation with King Lifting Ltd to discuss its concerns and negotiations are ongoing.
- 8.5.126 The Panel has given consideration to the question of alternatives, including modifications to the route, earlier in this Chapter and in

Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. We have borne in mind that in relation to the exercise of compulsory acquisition powers, there would be a compensation remedy available through the statutory compensation code. We have had regard to the objection made by King Lifting Ltd, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

Peter Eccles - Objection No 3

- 8.5.127 The relevant representation of Peter Eccles [RR-012], states that his land has been registered in the call for sites to be included in the local Bristol plan for offices and warehousing, and any overhead cables and pylons would greatly reduce its value. He proposes that the line should be undergrounded to allow other development to take place.
- 8.5.128 The Applicant's response to Q3.18 [Doc 8.1.1], sets out the consideration given by the Applicant to greater use of undergrounding along the route. It explains how the assessment of the localised benefits of undergrounding was made and further details are provided by the COR [Doc 5.2.2.4].
- 8.5.129 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], indicates that the land is currently in agricultural use. The proposed 400kV line would oversail Mr Eccles' land and Pylon LD124 is proposed to be located there. The Applicant has been engaged in discussions with Mr Eccles who has requested certain changes to the proposed development within the limits of deviation. On 8 May 2015, the Applicant wrote to Mr Eccles to advise him that these changes would be made. He is also seeking to settle the alignment of the permanent route of access to be taken over the land and a meeting between the parties is still proposed.
- 8.5.130 The Panel has given consideration to the question of alternatives, including undergrounding the route, earlier in this Chapter and in Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. We have borne in mind that in relation to the exercise of compulsory acquisition powers, there would be a compensation remedy available through the statutory compensation code. The Panel has had regard to the objection made by Mr Eccles, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Gareth Williams, RB Autobodies - Objection No 6

- 8.5.131 The relevant representation of RB Autobodies [RR-020], indicates that its yard would be impacted to some degree by the power line coming

over their site. It seeks assurance that it would be able to continue to work from the site and, if any adjustments are needed to the way they work, then it could plan ahead for this.

8.5.132 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], indicates that it met with them on 18 March 2015 to provide advice on operational issues and impacts on their tenant's operation and a letter was issued on 27 March 2015 to provide further information.

8.5.133 The Panel has had regard to the objection made by RB Autobodies but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

Harley International Properties Ltd and Harry Yearsley Ltd - Objection Nos 7 and 8

8.5.134 The relevant representation of Harley International Properties Ltd and Harry Yearsley Ltd [RR-026], explains that the route of the proposed line passes over an operational cold store site occupied by the UK's largest National Cold Store operators, Harry Yearsley Ltd, and owned by Harley International Properties Ltd. It raises concerns about proposed route Option A which would interfere with their expansion plans, as the proposed overhead line would oversail the site of a planned new cold store chamber. It states that route Option A would threaten the viability of the site and would also undermine Harry Yearsley Ltd's ability to present an integrated UK strategy to its UK and International customers.

8.5.135 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], indicates that it has been in discussion with these parties in connection with the impact of the proposed development on the plans for a new cold store. At a meeting on 18 February 2015, it confirmed that, if route Option A were selected, within those parts of the site that would be affected by oversailing, the cold store extension could be constructed, but at a lower height than is proposed. Following the meeting, it was asked to consider whether a narrower, or higher, pylon could be used and the amount of cable sag reduced. The outcome is that the desired building could not be accommodated at the desired location but a building of the desired height but a reduced width of 14.6m could be accommodated with the remainder of the width of the building limited to a height of 7.3m. The parties remain in negotiation.

8.5.136 The Panel has given consideration to the question of route Options A and B in Chapter 5 of this report. We have concluded that route Option B should be adopted. In those circumstances, this objection would fall away. In the event that the Secretary of State should disagree with that recommendation, we acknowledge that there would be an impact on the expansion plans for this site and this is a factor to be weighed in the overall balance. Nonetheless, we do not find that the matters raised would, in themselves, preclude the exercise of the

compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

Daniel Thomas - Objection No 63

- 8.5.137 The relevant representation of Daniel Thomas [RR-035], raises concerns regarding the temporary compound to be built off the A38 in Tarnock and the impact on residents that might arise through its use, including light and noise pollution. He also raises matters concerning the use of the access, including speed limits and extra traffic noise.
- 8.5.138 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], confirms that it is not proposing to acquire any interests in land belonging to Mr Thomas. He is identified within Part 2 of the BoR [Docs 3.3] as a person who "would or might" be entitled to make a claim under section 10 of the Compulsory Purchase Act 1965, as a result of the Order being implemented, or Part 1 of the Land Compensation Act 1973, as a result of the use of the land once the Order has been implemented.
- 8.5.139 The Panel has taken into account the concerns raised by Daniel Thomas and has already given consideration to the use of the temporary compound and the access onto the A38 in Chapter 5 of this report.

Mrs Alison Nicole Bullett - Objection No 64

- 8.5.140 The relevant representation of Mrs Alison Nicole Bullett [RR-045], raises issues relating to the safety of the access route, the proximity of the pylons to residential properties in Tarnock and the options of taking the electric wires underground or subsea. She also made comments in lieu of attending the OFH held on 17 February 2015 [EV-034].
- 8.5.141 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that it does not believe her to be a PIL and confirms that no land interests are proposed to be acquired.
- 8.5.142 However, she is identified within Part 2 of the BoR [Docs 3.3] under her maiden name, Alison Nicole Sealey, as a person who "would or might" be entitled to make a claim under section 10 of the Compulsory Purchase Act 1965, as a result of the Order being implemented, or Part 1 of the Land Compensation Act 1973, as a result of the use of the land once the Order has been implemented.
- 8.5.143 The Panel has taken into account the concerns raised by her and has already given consideration to health and other safety issues in Chapter 5 of this report. The question of alternatives, including undergrounding and subsea, has already been considered both earlier in this Chapter and in Chapter 5 of this report.

Day Group Ltd - Objection No 66

- 8.5.144 The relevant representation of Day Group Ltd [RR-049], indicates that the Day Group site is at Avonmouth Dock. The site is permitted to operate a very substantial recycling facility, specifically dealing with incinerator bottom ash. This includes external and internal static and mobile plant as well as stockpiling of material internally and externally. The implications of the pylon location and overhead cables on the waste management operations permitted on the site remained to be clarified but are considered to be potentially significant. The objection is to any infrastructure being located so as to prejudice their land at Avonmouth docks, or the accesses needed to that land.
- 8.5.145 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], explains that it is not proposing to locate a pylon within the site. The limits of deviation for the proposed 400kV line would oversail a strip of land to the southern corner of the site. There are ongoing discussions concerning the scope for the continued use of the site as a recycling facility. The Applicant is confident that the proposed development would not preclude the permitted use of the site as a recycling facility.
- 8.5.146 The Panel has given consideration to the question of alternatives, including modifications to the route, earlier in this Chapter and in Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. The Panel has had regard to the objections made by Day Group Ltd, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

BSWIPP Trustees Ltd and The Baker Family - Objection No 121

- 8.5.147 The relevant representation submitted by the BSWIPP Trustees Ltd and The Baker Family [RR-078], indicates that they do not object to the proposed undergrounding of the cables but they consider that the proposed route needs to allow greater flexibility to facilitate the residential development of their land in accordance with North Somerset Council's proposals to allocate the land, and adjoining areas, for residential development in the period to 2026. They consider that, where possible, the route of the cable should follow either the route of existing or proposed services and/or roadways to be provided as part of the development, or should be laid through areas of proposed open space within the proposed development area.
- 8.5.148 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], draws attention to the response to this objection set out in its Comments on Written Representations [Doc 8.5]. It states that the relevant landholding is in Nailsea, through which underground cables are proposed to be installed. The response explains that there is a degree of flexibility in the siting of underground cables such that they could be accommodated within any future development design. It has offered to work with this PIL should the land be allocated for

development within the adopted Local Development Framework. The parties are currently negotiating option agreement terms.

- 8.5.149 The Panel has had regard to the objections raised by the BSWIPP Trustees and The Baker Family, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Persimmon Homes Severn Valley - Objection No 122

- 8.5.150 The relevant representation of Persimmon Homes Severn Valley [RR-081], provided comments on a range of matters including the replacement of existing lattice pylons with T-pylons at Puriton Ridge; the impact on the Portbury Wharf Nature Reserve; support for route Option A; support for undergrounding in the most sensitive areas; and that greater consideration needs to be taken of emerging development proposals.
- 8.5.151 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that in terms of the proposed grant of compulsory acquisition powers, it is Ideal Developments Ltd, a division of Persimmon Homes, who is the freehold owner of the affected land, namely, 176 land parcels between Portishead and Avonmouth Dock. The Applicant is seeking permanent rights over this land to facilitate the new 400kV overhead line (Option B) and undergrounding of the existing 132kV overhead line. The Applicant has been in discussions with Ideal Developments Ltd which has indicated that it is content to enter into voluntary option agreements.
- 8.5.152 The Applicant's Update on Status of Negotiations with Persimmon Homes [Doc 8.26.2], states that agreement has been reached with Ideal Developments Ltd on the basis of proposed agreements and lawyers are dealing with outstanding formalities in this respect.
- 8.5.153 The Panel has given consideration to the question of route Options A and B in Chapter 5 of this report. We have concluded that route Option B should be adopted. However, in so doing, we have taken into account the arguments in support of Option A and the impact on the Portbury Wharf Nature Reserve. The Panel has given consideration to the question of alternatives, including undergrounding, earlier in this Chapter and in Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. The Panel has had regard to the objections made by Persimmon Homes, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

Sevenside Distribution Land Ltd - Objection No 123

- 8.5.154 The relevant representation made on behalf of Sevenside Distribution Land Ltd [RR-082], asserts that the proposed line would adversely affect the development proposals for the site for which planning permission has been obtained. Additionally, the areas allocated for construction up to the application boundary further encroach into the site creating significant uncertainty and delay to development.
- 8.5.155 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], refers to the Applicant's Comments on Written Representations [Doc 8.5] and states that the proposed development has been sited to minimise effects on the Sevenside development site. The parties are actively engaged in negotiating the terms of voluntary option agreements.
- 8.5.156 The Panel has given consideration to the question of alternatives, including modifications to the route, earlier in this Chapter and in Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. The Panel has had regard to the objections made by Sevenside Distribution Land Limited, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

St Modwen Properties plc - Objection No 124

- 8.5.157 The relevant representation of St Modwen Properties plc, [RR-083], states that the site is currently being promoted for future employment use with the support from South Gloucestershire Council and will become a key site in the employment allocation for Bristol. The current route would significantly affect development proposals and would reduce the amount of employment use on site.
- 8.5.158 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], indicates that heads of terms have now been agreed for voluntary option agreements and the necessary legal documentation is being prepared.
- 8.5.159 The Panel has given consideration to the socio-economic implications of the development in Chapter 5 of this report. We have had regard to the objections made by St Modwen Properties plc, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Elzbieta Mozdwanowska Taylor - Objection No 125

- 8.5.160 The relevant representation of Elzbieta Mozdwanowska Taylor, [RR-084], states that she does not consider that adequate and reasoned justification has been given for the proposed route of the underground cable on this section of the network and in particular across the subject property. She contends that further consideration should be

given to laying this cable in a position further away from the existing dwelling house than is proposed to provide a route that is less intrusive in its effect. She also considers that the subject land might be suitable for future residential development and the proposed route should not prejudice this future development potential.

- 8.5.161 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], refers to the Applicant's Comments on Written Representations [Doc 8.5]. It also states that Mrs Taylor's property was discussed at the ISH in respect of air quality, noise, ground condition, water quality, and pollution prevention and flood risk. The Applicant has provided a summary of its case made orally at that hearing [Doc 8.13.6.1]. The Applicant has also provided further information in response to Qs 2.6.2, 2.15.9, 2.16.2 and 2.11.1 [Doc 8.18.1]. This includes information relating to the proposed construction compound and haul road required in connection with the proposed underground works and the alternatives in this area.
- 8.5.162 Mrs Taylor also attended the second ISH relating to the DCO on 16 June 2015. The Applicant's summary of its case put orally at that hearing [Doc 8.13.13], records its agreement to consider the impacts on this particular property. Following that ISH, the Applicant has provided a Note relating to Construction Noise Mitigation at Mrs Taylor's property [Doc 8.38.1]. The Applicant has provided Mrs Taylor with information regarding mitigation measures. Further written comments were submitted on behalf of Mrs Taylor at Deadline 7 [REP7-002]. She continues to be concerned about the potentially adverse effects of the scheme, insofar as they relate to her property.
- 8.5.163 The concerns raised by Mrs Taylor have been looked at in detail in Chapter 5 of this report. We propose that additional site specific mitigation should be provided for this property and an additional requirement has been included in the recommended DCO to secure this. The Panel has also given consideration to the question of alternatives, including modifications to the route, earlier in this Chapter, and in Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. The Panel has had regard to the objections made by Mrs Taylor but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

M E and M A Parrett - Objection No 127

- 8.5.164 The relevant representation of Robert Stone, on behalf of Mr and Mrs Parrett [RR-089], indicates that their concern relates to how the cables would cross the River Axe at Loxton. They understand that the cables would either be put underground, or would cross the River Axe on a bridge. Their preference would be for them to be put underneath the River Axe to reduce the visual impact.

- 8.5.165 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], refers to its response to Q2.14 [Doc 8.1.1]. It indicates that the parties have exchanged one option agreement, and another is currently being negotiated.
- 8.5.166 The concerns raised by Mr and Mrs Parratt have been considered during the course of this Examination. The recommended DCO contains Requirement 30 which specifically relates to the River Axe crossing and Requirement 38 applies the Design Approach to Site Specific Infrastructure to the River Axe crossing. The Panel has had regard to the objections made by Mr and Mrs Parratt, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Pan Investments Ltd - Objection No 128

- 8.5.167 The relevant representation of Pan Investments Ltd [RR-090], raises a number of issues relating to the impact on its property and requests that the submitted DCO, including all relevant documents, be amended by the removal of any reference to its land interests.
- 8.5.168 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], refers to the Applicant's Comments on Written Representations [Doc 8.5] and states that land parcel G30.2, the only plot identified in the BoR in respect of which Pan Investments Ltd has an interest, is not required for the proposed development. The Applicant confirms that no compulsory acquisition powers are being sought in respect of this land.

Alistair Cole - Objection No 129

- 8.5.169 The relevant representation of Alistair Cole [RR-095], refers to the potential impact that the pylons would have on his family. He states that his concerns have been completely ignored by the Applicant, as nothing has changed in respect of the siting of the pylons. He explains the stress and worry that this has caused to his family. He subsequently wrote to the ExA on 9 January 2015 [EV-001] to explain further the impact on his property, Spindlewood, at the south end of Cadbury Camp Lane that would arise from its proximity to the proposed pylons, including the impact on the existing vista and its value. He is also concerned as regards driving under the overhead lines to access his property.
- 8.5.170 Mr Cole made oral representations at the evening OFH at Nailsea on 18 March 2015, and the ISH on Highways and Transport at Weston-super-Mare on 28 April 2015. The notification of his wish to be heard at the OFH sets out the range of topics covered [REP1-002].
- 8.5.171 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that in terms of the proposed grant of compulsory acquisition powers, two parcels of land in respect of which Mr Cole enjoys an interest (land

parcels E73 and E74) have been identified within the BoR. Permanent rights are required in respect of these parcels in connection with the undergrounding of the existing 132kV overhead line. Horizontal drilling is proposed and, as such, physical works are not proposed to the surface of the landholding.

- 8.5.172 In terms of the proposed siting of the 400kV overhead line and T-pylon LD86, the Applicant does not agree with Mr Cole that this would have a material effect on the value of his property for the reasons set out in the Updated Appendix. The Applicant met with Mr Cole on 20 March 2015 when he requested that it consider relocating pylon LD86 further away from Spindlewood. At his request, the Applicant reviewed this matter, but having undertaken that review, it does not propose to relocate this pylon.
- 8.5.173 In response to the ExA's request, the Applicant provided further information regarding the location of works within the vicinity of Spindlewood, as part of its Deadline 5 submission [Doc 8.21.4].
- 8.5.174 The Panel has considered the various impacts on Mr Cole's property that would arise from the proposed development in Chapter 5 of this report. We conclude in Section 5.3 that the property should be provided with additional mitigation measures. A site specific mitigation scheme for the property would be secured by Requirement 43 of the recommended DCO. In Section 5.7 we conclude that the net effect upon this property would not involve a radical change of outlook and an overbearing visual element would not be introduced into residents' lives. We also conclude that the health concerns expressed are not supported by the evidence presented to the Examination. In Section 5.9, we agree with the Applicant's assessment of visual effects for Spindlewood as being moderate adverse during both construction and operation.
- 8.5.175 We have had regard to the objections made by Mr Cole, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Connie Chilcott - Objection No 130

- 8.5.176 The relevant representation of Connie Chilcott [RR-100], supports the choice of route Option B. She has also made a written representation [REP2-015] and attended the ISH relating to the Portbury/ Portishead route options. Her concerns include the proximity of the high voltage lines to the play area that many children in Portbury use and the visual impact of the overhead lines and noise.
- 8.5.177 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that it does not consider her to be a PIL. No land interests are proposed to be acquired. In any event, it responded to the matters raised by Miss

Chilcott within section 3.14 of the document entitled Applicant's Comments on Written Representations [Doc 8.5].

- 8.5.178 Connie Chilcott is not named in the BoR, but her address is in Part 1 of the BoR against other names. No objection has been raised by those persons, and it would seem to be correct that Connie Chilcott has no land interests that are proposed to be acquired. In any event, the matters raised by Miss Chilcott have been considered during the course of the Examination. The Panel has concluded on the Portbury/Portishead route option, and related visual, noise and health issues, in Chapter 5 of this report. They are not matters that would, in themselves, preclude the exercise of the compulsory acquisition powers sought, but will be weighed in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Philip Saunders - Objection No 131

- 8.5.179 The relevant representation of Philip Saunders [RR-107], states that the pylons would blight land owned by his family and should not be erected. He also states that they would blight the levels/moors as a whole, ruining the area.
- 8.5.180 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that it does not consider him to be a PIL and no land interests are proposed to be acquired. Philip Saunders is not named in the BoR but the property is in Part 1 of the BoR under other names.
- 8.5.181 No objection has been raised by those persons and it would seem to be correct that Philip Saunders has no land interests that are proposed to be acquired. In any event, the matters raised by him have been considered during the course of the Examination. The Panel has concluded on Landscape and Visual issues in Chapter 5 of this report. Those matters would not, in themselves, preclude the exercise of the compulsory acquisition powers sought but will be weighed in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Avon Fire and Rescue Services - Objection No 132

- 8.5.182 The relevant representation of Avon Fire and Rescue Services [RR-116], raises concerns about the effect of the proposed development on its operational site in Avonmouth. They state that it would affect those premises by way of oversail of elevated cables and there are also concerns in terms of potential highways and access disruption during the construction period.
- 8.5.183 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that as explained in response to Q2.15.5 [Doc 8.18.1], it has now agreed the terms of a legal agreement with Avon Fire and Rescue Services in order to address its concerns about operational impacts and the proposed grant of compulsory acquisition powers. It indicates that

negotiations are ongoing regarding the terms of a legal agreement and it is anticipated that agreement will be reached shortly.

- 8.5.184 The Panel has also given consideration to the question of alternatives, including modifications to the route, earlier in this chapter and in Chapter 5 of this report. We conclude that all reasonable alternatives to compulsory acquisition have been explored. The Panel has had regard to the objections made by Avon Fire and Rescue Services but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

Avonmouth Estates Ltd - Objection No 133

- 8.5.185 The relevant representation of Avonmouth Estates Ltd [RR-117], states that it is an investor leaseholder and owner/landlord of a group of industrial premises affected by the route of the proposed development. It has no issue with the principle of the scheme but is concerned that the proposed route acquisitions of land and easements would have an impact on the quiet enjoyment of premises by its tenants and occupiers such as through operating restrictions on the safe use and/or development of its land and premises which could result from the direct impingement or proximity of the scheme on such land and premises. The businesses which occupy them could also suffer disruption to their vehicular access routes during construction.
- 8.5.186 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that the parties have continued in positive discussions and Avonmouth Estates Ltd has confirmed that it is willing to be a party to any option agreement entered into with its landlord, Bristol City Council. No further representations have been submitted in respect of the application by this PIL.
- 8.5.187 The Panel has had regard to the objection made by Avonmouth Estates Ltd but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

Bristol City Council - Objection No 134

- 8.5.188 The relevant representation of Bristol City Council [RR-132] and written representation [REP2-006], set out its concerns. The written representations outline its position in its capacity as landowner. It reiterates its concerns in relation to the diminution in value of its land holdings.
- 8.5.189 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that positive discussions with Bristol City Council have taken place and terms have been agreed for nine option agreements. Discussions continue with regards to the remaining options agreements sought, some of which have been complicated by a potential sale of the land

to First Corporate Shipping Ltd. In respect of plots G460, G461 and G462, agreement has not been reached as the Council is seeking to develop this land as a solar park and has deposited a planning application, to which the Applicant has objected.

- 8.5.190 The Panel has also given consideration to socio-economic issues in Chapter 5 of this report. We have had regard to the objections made by Bristol City Council in its capacity as landowner, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, later on in this chapter.

Elizabeth Ann Celer - Objection No 136

- 8.5.191 The relevant representation of Elizabeth Ann Celer [RR-121], raises concerns regarding the safety of the proposed access road off the A38, consultation, the proximity of the pylons to properties, the health implications of the proposed development and alternatives including subsea, or undergrounding.

- 8.5.192 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that it is not proposing to acquire any interests in land belonging to Elizabeth Ann Celer. She was identified within Part 2 of the BoR [Docs 3.3], which contains the names and addresses of persons whose land is not directly affected under the Order, but who would or might be entitled to make a claim under section 10 of the Compulsory Purchase Act 1965, as a result of the Order being implemented, or Part 1 of the Land Compensation Act 1973, as a result of the use of the land once the Order has been implemented.

- 8.5.193 The Panel has taken into account the concerns raised by Elizabeth Ann Celer and has already given consideration to the safety of the access onto the A38, the effect on residential amenity and the health implications of the development in Chapter 5 of this report. The Panel has also given consideration to the question of alternatives, including modifications to the route, earlier in this chapter and in Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored.

Brian Stephen Keedwell and the personal representatives of the late Albert Frank Keedwell - Objection Nos 137 and 138

- 8.5.194 The relevant representations of Brian Stephen Keedwell [RR-138] and the personal representatives of the late Albert Frank Keedwell [RR-139] object to the acquisition of permanent and temporary land and rights in land at Droveaway Farm, to facilitate construction activities comprising the construction of a 400/132kV substation adjacent to Nye Road in Sandford, North Somerset. The grounds of objection include the prospect of an alternative site to Droveaway Farm, Human Rights, noise and the time limit for exercising powers of compulsory acquisition.

- 8.5.195 Their response to the ExA's first written questions [REP2-088], provides further information as to the impact that the proposed development would have on the farming operation.
- 8.5.196 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], refers to its response to the ExA's Q3.35 and Q3.36 [Doc 8.1.1] and section 2.16 of the Applicant's Comments on Written Representations [Doc 8.5]. It indicates that heads of terms for a voluntary transfer of land interests to National Grid have now been agreed between the parties and the necessary legal documentation is being prepared.
- 8.5.197 The Panel has taken into account the objections raised by Brian Stephen Keedwell and the personal representatives of the late Albert Frank Keedwell. We have already given consideration to noise issues in Chapter 5 of this report. We have also given consideration to the time period for the exercising of compulsory acquisition powers, and the question of alternatives, including the substation location, earlier in this chapter. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. We shall conclude on Human Rights issues later on in this chapter in the overall balancing exercise, but we do not find that the other matters raised by Mr Keedwell or the personal representatives of the late Albert Frank Keedwell would, in themselves, preclude the exercise of the compulsory acquisition powers sought.

Holly Thomas - Objection No 139

- 8.5.198 The relevant representation of Holly Thomas [RR-142], raises concerns relating to the impact of the proposed compound at Tarnock, including visual impact, light and noise pollution, and highway safety issues.
- 8.5.199 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that it is not proposing to acquire any interests in land belonging to Holly Thomas. She was identified within Part 2 of the BoR [Docs 3.3], which contains the names and addresses of persons whose land is not directly affected under the Order, but who would or might be entitled to make a claim under section 10 of the Compulsory Purchase Act 1965, as a result of the Order being implemented, or Part 1 of the Land Compensation Act 1973, as a result of the use of the land once the Order has been implemented. It refers to its response to the ExA's Q2.15.7 [Doc 8.18.1] which responds to matters raised by Holly Thomas in her relevant representation.
- 8.5.200 The Panel has taken into account the concerns raised by Holly Thomas and has already given consideration to the safety of the access onto the A38, visual and other impacts of the proposed compound at Tarnock in Chapter 5 of this report.

Cadbury Water Company Ltd - Objection No 140

- 8.5.201 The Chairman of the Cadbury Water Company Ltd, Mr Miles, made a relevant representation [RR-148]. He explains that the company owns

Cadbury Camp Lane which is a private lane with 45 properties. He raises the matter of the environmental damage arising from such massive pylons spoiling the countryside and the area in which they reside. He also raises the health issue associated with residents entering or departing the lane and having no choice but to pass under the new 400kV cables.

- 8.5.202 The Cadbury Water Company Ltd submitted comments in lieu of attending the Preliminary Meeting [EV-003]. The Company expresses environmental and health concerns relating to stringing 400kV cables overhead across the entrance to Cadbury Camp Lane and also tunnelling a 132kV cable under the lane. The residents all have one way in and one way out therefore have no option but to pass through a total of 532kV power cables which they are informed could be extremely detrimental to their health. Cadbury Camp Lane is a bridleway only for horses or pedestrians or for vehicles which are driving to properties in the lane with residents or their permission. It is considered that an alternative route should be used that would not affect Cadbury Camp Lane and the stance of the Wraxall and Failand Parish Council in that respect is supported.
- 8.5.203 Mr Miles spoke at the evening OFH held at Nailsea, and the topics covered are outlined in his notification of a wish to be heard at an OFH [REP1-001].
- 8.5.204 The Company also made submissions in lieu of attending the ISH on the 30 April 2015 [EV-082]. This confirms the support for the GIL alternative following the route of the motorway which has been suggested by Chris Ambrose and Dr Hugh Pratt. The Deadline 6 submission [REP6-006], expresses additional concerns with regard to adverse effect on air quality due to construction traffic etc., dust from proposed tunnelling and the access road up the valley. It states that it is likely to cause immense noise and dirt transmission.
- 8.5.205 The Applicant's Updated Appendix 2.3.15.1 [Doc 8.31], states that, as part of its statutory Stage 4 consultation, a number of requests for changes to the route of the overhead line and positioning of pylons on Tickenham Ridge were received. These are addressed in paragraphs 2.9.71 to 2.9.83 of the Project Need and Alternatives Chapter of the ES [Doc 5.2.1].
- 8.5.206 Two existing 132kV overhead lines cross Tickenham Ridge (the F Route and the W Route). Both of these overhead lines would be removed as part of the proposed development. Alternative alignments which crossed the Ridge in a different location to the existing 132kV overhead lines were not considered feasible due to the topography of the landform, residential properties and various blocks of woodland, including some ancient woodland, which are present on the ridge. These constraints were recognised in paragraphs 8.42 and 8.43 of the RCS [Doc 5.2.2.2, Appendix 2D] and paragraph 11.12 of the COR [Doc 5.2.2.4, Appendix 2G].

- 8.5.207 In response to representations received during the Applicant's statutory Stage 4 consultation, consideration was given to an overhead line route which avoided oversailing Cadbury Camp Lane [Doc 5.2.1, paragraphs 2.9.76 to 2.9.81]. However, following investigation, this was considered to be less compliant with Holford Rules 3, 4, and 5; it would bring the overhead line closer to properties on Cuckoo Lane and Whitehouse Lane; and there would be potential construction difficulties in locating the pylon foundations due to the proximity of a gas main.
- 8.5.208 The Panel has taken into account the concerns raised by Cadbury Water Company Ltd and has already given consideration to various issues raised by it in different sections of Chapter 5 of this report. The Panel has also given consideration to the question of alternatives, including modifications to the route and alternative technologies, earlier in this chapter and in Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. The Panel has had regard to the objections made by Cadbury Water Company Ltd, but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Richard Wall – Objector No 149

- 8.5.209 Richard Wall objects to the use of Factory Lane, Bason Bridge as a haul road [REP7-086]. The proposed route would pass between his new farmhouse and farm buildings. He raises concerns in relation to the impact on his farming activities and also for the safety of his children and their friends going to and from Bason Bridge as pedestrians, cyclists and horse riders.
- 8.5.210 The Panel has considered the concerns raised by both Mr and Mrs Wall in Section 5.3 of this report. We believe that it is necessary to include within the recommended DCO, a specific requirement designed to secure mitigation for Riverview Farm. This would be secured by an addition to Requirement 6 to require the submission, approval and implementation of a Riverview Farm Traffic Management Plan. Whilst the mitigation measures that would be secured through the recommended DCO represent an improvement, they do not provide a wholly satisfactory outcome for Riverview Farm.
- 8.5.211 The Panel requested the Applicant to undertake a 'bright ideas study' and investigate the provision of an alternative to the use of Factory Lane, East Huntspill as an access route [EV-068]. The Applicant and Somerset County Council have reviewed all bellmouths and transport routes, including Factory Lane, but remain satisfied that the accesses proposed as part of the DCO are the most appropriate. We have considered the use of Factory Lane as a haul road in Section 5.13 of this report.

- 8.5.212 In our overall conclusions in Chapter 7, we have had regard to the potential adverse impacts on the occupants of Riverview Farm in the light of the degree of interference with their human rights. We nevertheless conclude that the potential benefits of the proposed development strongly outweigh its adverse impacts. In reaching this conclusion, we have taken into account the best interests of the children living on the site as a primary consideration.
- 8.5.213 The Panel has also given consideration to the question of alternatives, including modifications to the route, earlier in this chapter, and in Chapter 5 of this report. We have concluded that all reasonable alternatives to compulsory acquisition have been explored. The Panel has had regard to the objections made by Mr Wall but we do not find that the matters raised would, in themselves, preclude the exercise of the compulsory acquisition powers sought. We shall weigh them in the balance in our overall conclusions, and in our consideration of human rights, later on in this chapter.

Statutory Undertakers' land

Sections 127 and 138 PA2008

- 8.5.214 S127(2) provides that a DCO may include provisions authorising the compulsory acquisition of statutory undertakers' land only to the extent that the Secretary of State is satisfied of the matters set out in subsection (3).
- 8.5.215 The matters set out in subsection (3) are that the nature and situation of the land are such that:
- it can be purchased and not replaced without serious detriment to the carrying on of the undertaking; or
 - if purchased it can be replaced by other land belonging to, or available for acquisition by, the undertakers without serious detriment to the carrying on of the undertaking.
- 8.5.216 S127(5) provides that a DCO may include provisions authorising the compulsory acquisition of a right over statutory undertakers' land by the creation of a new right over land only to the extent that the Secretary of State is satisfied of the matters set out in subsection (6).
- 8.5.217 The matters set out in subsection (6) are that the nature and situation of the land are such that:
- the right can be purchased without serious detriment to the carrying on of the undertaking; or
 - any detriment to the carrying on of the undertaking, in consequence of the acquisition of the rights, can be made good by the undertakers by the use of other land belonging to or available for acquisition by them.
- 8.5.218 The Applicant's s127 representations made in respect of each statutory undertaker set out the rights to be acquired in Table 1 of

those submissions. However, since those representations were submitted, the position has been updated by the later BoR's provided before the close of the Examination [Docs 3.3]. The BoR's set out the most accurate position as to the plots affected and the nature of the rights that are sought.

- 8.5.219 S138(4) provides that a DCO may include provision for the extinguishment of the relevant right, or the removal of the relevant apparatus, only if the Secretary of State is satisfied that the extinguishment, or removal, is necessary for the purpose of carrying out the development to which the order relates.

Network Rail Infrastructure Limited - Objection 112

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- 8.5.220 There is no issue between the parties that the land in question is operational land that is used for the purposes of NRIL's statutory purposes and/or an interest is held for those purposes. No land owned by NRIL needs to be acquired; only rights over land. Therefore, s127(3) and (4) are not engaged. The provisions of s127 only apply to the compulsory acquisition land or a right over land, so is not engaged by plots subject to Article 30 (temporary use).
- 8.5.221 The Applicant is of the view that there would be no serious detriment to NRIL's undertaking, if it were to acquire the rights set out in Table 1 of the s127 representation [Doc 3.6.2], as updated by the relevant BoR.
- 8.5.222 Whilst the parties have been in negotiation with a view to the Applicant acquiring these rights voluntarily, no agreement had been reached by the close of the examination.
- 8.5.223 The Panel is satisfied that, pursuant to s127(1)(b) PA2008, a representation has been made by NRIL about the application and not withdrawn and, pursuant to s127(1)(c) PA2008, the land is used for the purpose of the undertaking.
- 8.5.224 The rights would co-exist alongside those of NRIL. Apart from the construction phase, the only possible interference would be on those occasions when maintenance or emergency works were being carried out to the Applicant's equipment. The Panel is satisfied that rights required by the Applicant over the operational land in question could be taken without serious detriment to the carrying on of the undertaking, but only if protective provisions safeguarding NRIL's assets are included in the DCO.
- 8.5.225 NRIL has submitted the protective provisions that it wishes to see included in the draft DCO [EV-148]. Its letter of 15 June 2015 also explains the four matters of disagreement between the parties. The main areas of dispute are in relation to paragraphs 4, 15, 5(3) and 20 of the draft protective provisions. The Applicant, in response, has provided a Position Statement at Deadline 7 in respect of NRIL [Doc

8.34.1]. The NRIL Deadline 7 submission [REP7-022], reiterates its strong wish for its protective provisions to be included in the DCO. Its concern is to ensure the safe operation of the railway and compliance with its Network Licence.

NRIL's protective provisions, paragraph 4

- 8.5.226 The Panel has given consideration to the protective provisions which are in dispute. The protective provisions, paragraph 4, provides that the Applicant shall not exercise powers of compulsory acquisition, contained in a number of articles in the draft DCO, in relation to railway property, without the consent of NRIL.
- 8.5.227 The effect of paragraph 4, would be that the Applicant would not be able to acquire the interests it needs to implement the proposed development without first securing NRIL's consent. No freehold interests are proposed to be acquired from NRIL, nor are any pylons proposed to be situated on railway land. As such, NRIL would remain the freeholder of all land belonging to it and affected by the proposed development. NRIL has not provided any substantial evidence to show that the grant of a permanent easement over the airspace of the railway for the proposed overhead lines comprised within the proposed development would in any way compromise or otherwise adversely affect the safe and efficient operation of the railway.
- 8.5.228 Given the scope of paragraph 28 of the form of protective provisions proposed by the Applicant which requires the undertaker to secure NRIL's approval before carrying out any 'specified work', NRIL would still retain a right of approval over such works. NRIL points out that many of the interfaces of the HPCC project and railway property consist of operational railway lines. The Panel has most certainly borne in mind the need to ensure the safety and integrity of the operational railway. However, NRIL has not objected in principle to the proposed development, nor presented any evidence to suggest that the proposals would be incompatible with the efficient and safe operation of the railway. The Panel does not believe that the omission of paragraph 4 would, in practice, compromise those matters.
- 8.5.229 NRIL points out that paragraph 4 has been included in protective provisions in Transport and Works Act Orders and DCOs for schemes across the UK. The Applicant draws attention to other DCOs which affect railway land that do not include this provision. The Panel has had regard to the merits of including this particular provision in the context of the scheme before it.
- 8.5.230 The Panel considers that it is not necessary, nor would it be reasonable, to include paragraph 4 of NRIL's preferred form of the protective provisions and that it could compromise the Applicant's ability to deliver the proposed development.

NRIL's protective provisions, paragraph 15

- 8.5.231 Paragraph 15 provides an indemnity in favour of NRIL in respect of losses it suffers, including claims by train operators because of delays caused by reason of the construction or maintenance of a specified work or failure thereof or by reason of any act or omission of the undertaker or any of its employees or contractors while engaged on a specified work.
- 8.5.232 The Applicant considers that adequate and proportionate protection already exists for NRIL in the form of sub-paragraph 30(2) of Part 4 of Schedule 15 of the draft DCO. The parties agree that sub-paragraph (30)(2) of National Grid's proposed protective provisions is much narrower than the wording proposed by NRIL in its paragraph 15. NRIL points out that it does not include an indemnity in respect of claims made by train operating companies following disruption to the network resulting from the specified work.
- 8.5.233 The Panel agrees with NRIL that it would be in the public interest for an indemnity to be included on the face of the DCO and that this should be greater in extent than that which would be provided by sub-paragraph 30(2). However, the Panel considers that the wording proposed by NRIL is unduly onerous and that the amended wording proposed by the Applicant in its Position Statement is to be preferred.

NRIL's protective provisions, paragraph 5(3)

- 8.5.234 The Applicant explains that paragraph (5)(3) relates to the situation whereby NRIL has exercised its right to give notice to National Grid to say that it would prefer to construct any part of a specified work itself where it considers that work will or may affect the stability of railway property or the safe operation of traffic on the railway. The Applicant has proposed the inclusion of some additional wording which would allow, in such circumstances, the undertaker to specify that NRIL must also construct any adjoining part of the specified work NRIL wishes to construct where it reasonably requires both parts of the specified work to be constructed in one operation.
- 8.5.235 NRIL states that it would only seek to construct part of the specified work because it considers that it needs to do so to ensure the safe and efficient operation of the railway. The Panel agrees that it would not be appropriate for NRIL to be obliged to carry out works that would not raise such safety and efficiency concerns. Whilst we note that such a provision has been included within the railway protective provisions contained within other recently made Orders, we believe that in this case the obligation imposed on NRIL should be more limited in extent. The Panel concludes that paragraph 5(3) should not therefore be amended in the manner proposed by the Applicant.

NRIL's protective provisions, paragraph 20

- 8.5.236 Paragraph 20 requires the undertaker to give written notice to NRIL if the undertaker proposes to ask for the Secretary of State's consent to

transfer the benefit of the DCO. The Applicant has asked for this paragraph to be deleted. NRIL considers that it is essential that it has notice of any proposed transferee so that it can make representations to the Secretary of State as regards their suitability.

- 8.5.237 The Panel does not consider that it should be necessary for the DCO to require notice to be given to NRIL, should such an application be made to the Secretary of State. Whilst we consider, as set out in the Marine and Navigation section of Chapter 5, that consultation should take place with the MMO in relation to any transfer of the DML, we do not believe that there is a more general need for other parties to be notified. It will be a matter for the Secretary of State to decide, if such an application is made, whether to approve such a transfer, having regard to the nature and identity of the body to whom it is proposed to transfer the benefit of the DCO. The Secretary of State will adopt such procedures, and seek the views of affected third parties, as she considers appropriate in the circumstances. This is not a matter that needs to be incorporated within the protective provisions.

Conclusion

- 8.5.238 The Panel concludes that, provided appropriate protective provisions are imposed, the Secretary of State can be satisfied that the prescribed tests set out in s127 are met and the DCO granted can include provision authorising the compulsory acquisition powers sought over this statutory undertakers' land.

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- 8.5.239 The construction of the proposed development may require relocation of NRIL's apparatus. The Panel considers that the powers sought to extinguish the rights of, remove or reposition apparatus belonging to NRIL is necessary for the purpose of carrying out the proposed development. S138 requires the relevant Secretary of State to consider authorising such powers where there is an application by an applicant for compulsory acquisition powers, as is the case here. The Panel is satisfied that the extinguishment of rights and removal of apparatus sought by the Applicant in relation to NRIL's land is also necessary for the purpose of carrying out of the proposed development.

RWE Generation UK (plc) - Objection No 145

Section 127

- 8.5.240 RWE has a coal conveyor on land at the Port of Bristol. This is used to offload imported coal from ships onto the National Rail network where it is transported to RWE's Aberthaw Power Station in South Wales, and to other third party facilities. RWE occupies a total of 319,598m² of land at the Port, of which 13,427m² is land within the Order limits. The Applicant does not propose to remove, or reposition, the coal conveyor, but would string electric overhead lines across it.

- 8.5.241 There is no issue between the parties that the land in question is operational land that is used for the purposes of carrying on RWE's statutory undertaking and/or an interest is held for those purposes. No land owned by RWE needs to be acquired; only rights over land. Therefore, s127(3) and (4) are not engaged.
- 8.5.242 The Applicant is of the view that there would be no serious detriment to RWE's undertaking if it were to acquire the rights set out in Table 1 of the s127 representation, as updated by the relevant BoR, for the reasons set out therein.
- 8.5.243 Whilst the parties have been in negotiation with a view to the Applicant acquiring these rights voluntarily, no agreement had been reached by the close of the Examination.
- 8.5.244 The Panel is satisfied that pursuant to s127(1)(b) PA2008 a representation has been made by RWE about the application and not withdrawn and pursuant to s127(1)(c) PA2008 the land is used for the purpose of the undertaking.
- 8.5.245 RWE remains seriously concerned that the proposed development would cause serious detriment to its operations and infrastructure at Bristol Port. It is critical of the specific protective provisions relating to its undertaking set out in Part 8 of the draft DCO. Its position is that the protective provisions submitted by the Applicant at Deadline 7 would not avoid serious detriment to its statutory undertaking and it requires that its own suggested protective provisions submitted at Deadline 7 should be adopted.

Definition of "apparatus" - RWE's protective provisions, paragraph 56

- 8.5.246 RWE states that the current definition set out in the draft DCO, Part 8, paragraph 75, is insufficient to protect the full extent of its operational assets. Given the constrained nature of its site at Bristol Docks, it is vital that all elements of its apparatus associated with the delivery of its undertaking are protected to avoid serious detriment. For avoidance of doubt, and in order to safeguard the interests of this undertaker, the Panel believes that RWE's definition of "apparatus" should be adopted. However, we do not consider that should extend the protections afforded within the protective provisions to "operations", as suggested by RWE.

RWE's protective provisions, paragraph 57

- 8.5.247 RWE seeks to include a provision providing for minimum vertical and lateral separation distance between the proposed overhead line and its apparatus to ensure the ongoing safety of its operation. RWE submits that it is critical that the DCO secures minimum separation distances from its apparatus to ensure the ongoing safety of its operations. It indicates that the suggested safety distances have been proposed by the Applicant during the course of discussion between the parties [REP7-006].

- 8.5.248 The Applicant is strongly opposed to the inclusion of such a provision. Since it has not yet reached agreement with the head leaseholder (BPC) as to the height and location of pylons at the Port, it has not been possible to agree these matters with RWE. The Applicant explains that discussions with the BPC on this matter have been detailed and it is necessary to allow a degree of flexibility in order to deliver the proposed development [Doc 8.51].
- 8.5.249 At the CAH, the Applicant indicated that it understood RWE's concerns in relation to ensuring a safe distance from its equipment to allow for safe maintenance and, as far as it was aware, there would not be practical difficulties arising in relation to the protection of those interests [Doc 8.13.10]. The Applicant also explained that during construction, it would be able to use netted scaffold to ensure that access to RWE's site and equipment would not be compromised. The Applicant suggests that details relating to the height and location of the pylons could form part of an agreement between itself and RWE which could be completed once the agreement with the BPC is finalised.
- 8.5.250 The Panel agrees with the Applicant that there is a need for the DCO to allow for a degree of flexibility in this matter, particularly given that it has not yet reached agreement with BPC. The Applicant is subject to statutory requirements under other legislation governing the height of overhead lines which would guarantee minimum clearances. We are satisfied that there are no practical difficulties that would prevent the provision of safe separation distances between the overhead line and RWE's apparatus from being achieved. Although no formal agreement between the parties has yet been completed, we do not consider that it is necessary for the protective provisions to prescribe the separation distances in the manner sought for this location. The Panel does not consider the inclusion of paragraph 57 to be necessary to avoid serious detriment being caused to this statutory undertaker.

RWE's protective provisions, paragraphs 58 and 59

- 8.5.251 RWE proposes that the words "*otherwise than by agreement*" should be deleted from paragraph 58 which would otherwise prohibit the Applicant from acquiring any apparatus. Paragraph 59 would prevent the acquisition or overriding of any interests or land held by RWE otherwise than by agreement. The Applicant is opposed to the inclusion of these provisions.
- 8.5.252 Given the scope of the protective provisions set out in the draft DCO, the Panel considers that the additional protection sought by RWE in this respect is neither necessary nor appropriate. The Applicant should not be further restricted in its ability to exercise the powers granted by the DCO and construct the proposed development.

RWE's protective provisions, paragraph 60

- 8.5.253 RWE seeks the inclusion of this provision to ensure that any acquisition by the Applicant of new rights would not interfere with its operations. Having regard to the other protective provisions proposed by the Applicant and included in the draft DCO, the Panel does not believe that this provision would be necessary to safeguard RWE's apparatus. Paragraph 60, as drafted, is broad in its scope. The Panel agrees that it could be interpreted widely in a manner that could potentially be detrimental to the Applicant's ability to deliver the proposed development. We do not consider that it is necessary for this provision to be included in the protective provisions for RWE.

RWE's protective provisions, paragraph 61

- 8.5.254 This provision seeks to restrict the Applicant's ability to exercise powers under s271 of the Town and Country Planning Act 1990 (as amended). However, s271, which makes provision for the extinguishment of a statutory undertaker's rights of access in certain circumstances, already includes protections for affected statutory undertakers. The Panel is satisfied that satisfactory protection would be provided for RWE by the provisions of s271, itself, and there is no need for any additional protection to be provided by the provisions of the DCO.

RWE's protective provisions, paragraph 62

- 8.5.255 RWE submits that this provision should be included in order to protect the ongoing safe operation of its undertaking. This provision would require RWE's consent to the exercise of various compulsory acquisition and temporary use powers granted by the DCO. The Applicant resists the inclusion of this provision. It is seeking these powers within the DCO in order to enable it to deliver the proposed development.
- 8.5.256 The Panel agrees that it would not be reasonable to require the Applicant to secure RWE's consent in this way, particularly given the other protective provisions that would be included for the benefit of RWE. We conclude that it is not necessary or proportionate to include this provision.

RWE's protective provisions, paragraph 63

- 8.5.257 This proposed amendment of draft DCO, paragraph 77, would include reference to RWE's suggested paragraphs 59 to 62. Since the Panel does not consider it necessary to include RWE's paragraphs 59 to 62 this proposed change is likewise unnecessary. The other suggested changes to this paragraph have already been included in the draft DCO.

RWE's protective provisions, paragraph 64

- 8.5.258 This amendment has been agreed by the parties and is reflected in the draft DCO protective provisions, paragraph 78(4) with the addition of the word "*reasonable*". The Panel agrees that this provision should be included as set out in the draft DCO.

RWE's protective provisions, paragraph 65

- 8.5.259 The Applicant draws attention to paragraph 77 of the draft DCO protective provisions which would protect RWE's right to "*use, maintain, or renew*" apparatus. The Panel is satisfied that that provision would provide adequate safeguards for RWE and does not consider it necessary to include paragraph 65.

RWE's protective provisions, paragraph 66

- 8.5.260 Paragraph 66, refers to the repayment of RWE's reasonable costs, charges and expenses including in relation to the construction of any alternative apparatus that may be required. The draft DCO protective provisions, paragraph 77, provides that apparatus must not be removed, and paragraph 79, requires the undertaker to repay to RWE the proper and reasonable expenses reasonably incurred by RWE in, or in connection with, the inspection, alteration or protection of any apparatus. Given the nature of the apparatus in this case and the works proposed, the Panel is satisfied that the protective provisions included in the draft DCO are sufficient to safeguard the interests of RWE and it is not necessary to include paragraph 66.

RWE's protective provisions, paragraph 67

- 8.5.261 Paragraph 67, would require the Applicant to indemnify RWE in respect of any damage caused to any apparatus or property of RWE, or to operations, or any interruption in any service provided to RWE, or by RWE, or in the supply of goods to RWE, or by RWE, or if RWE becomes liable to pay any amount to any third party as a result of the proposed development.
- 8.5.262 The Applicant points to paragraph 80 of the draft DCO and submits that this renders RWE's proposed provision unnecessary and inappropriate. It suggests that should such a loss be suffered, it would remain open to RWE to pursue recovery of that loss from National Grid in accordance with the general law of tort.
- 8.5.263 The Panel does not agree with the Applicant that paragraph 67 would introduce an unduly onerous obligation on it. The indemnity provision proposed by RWE is not excessive in its scope and the Panel considers it to be necessary and proportionate to include this provision. In reaching this conclusion, we have had regard to the fact that RWE contracts with third parties in the course of its undertaking and the potential impact that could result from the Applicant's activities on this constrained site.

Conclusion

- 8.5.264 The Panel concludes that, provided appropriate protective provisions are imposed, the Secretary of State can be satisfied that the prescribed tests set out in s127 are met and the DCO granted can include provision authorising the compulsory acquisition powers sought over this statutory undertaker's land.

First Corporate Shipping Company Limited trading as the Bristol Port Company - Objection No 65

Section 127

- 8.5.265 There is no issue between the parties that the land in question is operational land that is used for the purposes of carrying on the BPC's statutory undertaking and/or an interest is held for those purposes. The BPC either owns or has an interest in the plots set out in Table 1 of the s127 representation, as updated by the relevant BoR. The purpose for which the land is required and the rights that would need to be acquired are set out in Table 1 as updated by the relevant BoR.
- 8.5.266 The works to be carried out to the BPC's land include the removal of existing overhead lines and pylons, the erection of new overhead lines and pylons, the temporary diversion of existing overhead lines, and the installation of new underground cables. Some of the land would also be used as a compound area in connection with the works.
- 8.5.267 The Applicant is of the view that there would be no serious detriment to the BPC's undertaking if it were to acquire the rights set out in Table 1 of the s127 representation, as updated by the relevant BoR, for the reasons set out therein.
- 8.5.268 Whilst the parties have been in negotiation with a view to the Applicant acquiring these rights voluntarily, no agreement had been reached by the close of the Examination.
- 8.5.269 The Panel is satisfied that, pursuant to s127(1)(b) PA2008, a representation has been made by the BPC about the application and not withdrawn and, pursuant to s127(1)(c) PA2008, the land is used for the purpose of the undertaking.

Serious detriment

- 8.5.270 The BPC has explained that its operations at Avonmouth are not currently affected by any height restrictions. It submits that the proposed development would therefore impose inflexible and disproportionate constraints and cause serious detriment to its statutory undertaking. It therefore sought a change to the proposed development. The BPC proposed that the design drawings and draft DCO should be amended in two ways, first, to impose a minimum above-ground clearance of 20.7m and to prohibit downward deviation below that height, and secondly, to ensure that the pylons – and thus the cables, conductors etc. – could be raised to the extent necessary

to achieve that minimum above-ground clearance. The BPC accepted that, if those changes were made so that it retained at least 20.7m above ground clearance, then the Secretary of State could safely conclude that there would be no serious detriment.

- 8.5.271 The Applicant has formally requested that the ExA accept for consideration, as an alternative to its original proposal, a change in the height of pylons numbered LD109 to LD113 within Bristol Port Avonmouth. This alternative proposal would allow for five pylons to be increased in height in order to provide a minimum vertical clearance of 20.7m that the BPC requested. The ExA made a procedural decision on 24 June 2015 to accept the change to the application and to amend the examination timetable to enable IPs and the wider public to engage in the consideration of the matter [PD-013]. This proposal provides an alternative option for consideration by the ExA, and then by the Secretary of State.
- 8.5.272 This matter has been considered earlier in this report in various sub-chapters of Chapter 5. The conclusion reached is that this option is to be preferred within the Port area. In the event that the Secretary of State agrees with that conclusion, the BPC acknowledges, and the Panel agrees, that no serious detriment would be caused to the statutory undertaking.
- 8.5.273 However, since this has been put forward as an alternative proposal, it is necessary to consider whether any serious detriment would be caused by the original scheme. The BPC has explained that the needs of its customers are capable of changing frequently and at short notice and it needs to be able to build facilities to meet any customer's needs. It contends that the proposed development would impose inflexible and disproportionate constraints and that it requires a minimum above-ground clearance of 20.7m for the performance of its statutory duties.
- 8.5.274 The Applicant acknowledges that detriment would be caused, but questions whether this is capable of amounting to serious detriment to the Port's operation. The Applicant contends that the actual impact on the BPC's flexibility would be limited given that the area of land affected would be small in contrast to the scale of land available to the BPC and the effect upon that small area would be limited to a reduction in the height of what could be built in some parts of that small area. Furthermore, the undertaking has grown up successfully around the existing overhead lines which would be removed creating new development opportunities.
- 8.5.275 Nonetheless, it must be borne in mind that the essential infrastructure of the commercial Port of Bristol is nationally important and of great strategic significance to the country. To meet the varying and changing demands of its customers, and world trade, the BPC needs flexibility to develop its land and provide the necessary buildings and facilities upon it. The BPC's senior personnel explained at the ISH, the way in which the Port needs to operate and impact that the proposed

development would have on the way in which their operation is carried on.

- 8.5.276 We recognise that the area affected would be relatively small in comparison to the whole of the land available to the statutory undertaker. However, we have been persuaded by those with an intimate knowledge of the Port that the constraints imposed by the proposed development in this particular location would be likely to cause serious detriment to the carrying on of the undertaking. The land affected represents an important part of the resource available to the BPC, and there is a paramount need to retain the ability to use this land in a flexible manner. However, as indicated above, this concern would be overcome by the alternative proposal that provides for an increase in the height of the pylons, and hence ground clearance in this location.
- 8.5.277 The BPC also submits that Option A would be significantly less detrimental to its undertaking than Option B, principally because of the lesser adverse impact on the motor vehicle trade. This matter has been considered in detail in the earlier Chapter 5.15 of this report dealing with the Portbury/ Portishead route options. The Panel has taken into account the impact upon the BPC's customers, but we conclude that Option B is to be preferred. Furthermore, we have also considered the BPC's submissions in relation to any additional detriment that would be caused, in both construction and operation, by the use of the T-pylons for Option B. As explained earlier in this report, the Panel has reached the view that the use of T-pylons, rather than lattice pylons would, indeed, be appropriate for this section of Option B. In the light of the conclusions reached in Chapter 5, the Panel does not agree that serious detriment would be caused to the BPC by the choice of Option B as the route for the overhead line, or by the use of lattice and not T-pylons across some of the BPC's land.

Protective provisions for the BPC

- 8.5.278 The BPC's Deadline 8 submissions confirms that it has agreed with the Applicant's protective provisions for the benefit of the BPC as Port Authority and the Applicant has included these in the latest version of the draft DCO [Doc 2.1.1E and Doc 2.1.2E]. Furthermore, as part of their negotiations, which have been subject to contract, the Applicant and the BPC have agreed protective provisions for the benefit of First Corporate Shipping Limited trading as the BPC. It submits that the version attached to its Deadline 8 submissions [REP8-002] should be included in substitution for the protective provisions which have been included by the Applicant in the latest version of the DCO [Doc 2.1.1E and Doc 2.1.2E].
- 8.5.279 At Deadline 8, the Applicant provided an update in respect of its negotiations with the BPC [Doc 8.52]. It is anticipated that the agreements would be concluded shortly after the close of the Examination. As the legal agreements have not yet been concluded, the Applicant was not in a position to confirm its agreement to these

alternative provisions. Until such agreements are concluded, the Applicant's position remains as set out in its Deadline 7 submissions [Doc 8.34.8].

- 8.5.280 The Panel has given consideration to the protective provisions put forward by the BPC at Deadline 8 (the "BPC Protective Provisions") in comparison to those set out in the latest version of the DCO, Schedule 15, Part 5. The BPC Protective Provisions include a definition of "*construction access rights*" and "*private access*" within paragraph 45. The latter identifies as a "*private access*" both The Drove and Victoria Road. The Panel agrees that it would be appropriate to include these definitions within paragraph 45.
- 8.5.281 The BPC proposes that paragraph 46(b) should be amended to instead state "*references to BPC's consent, agreement or approval are to BPC's prior consent, agreement or approval given in writing*". The Panel considers that this provides an acceptable clarification as to the nature of the consent to be provided and should be adopted.
- 8.5.282 In paragraph 47, the BPC seeks to substitute "*best*" for "*reasonable*" endeavours and to delete the reference to the development being constructed "*in accordance with the levels shown on the sections*". The BPC also proposes the addition of 47(2) and (3) which would restrict both lateral and vertical LoD in respect of the BPC's land. In addition, it requires that the pylon design should be as specified in the design drawings rather than in "*general accordance with the design drawings*". Having regard to the operational demands placed upon the BPC's land, including the needs of the statutory undertaking and the physical environment at the Port, as more fully explained in the BPC's submissions, the Panel agrees that it is both reasonable and necessary for the LoD to be restricted in this way. The Panel finds the changes proposed to paragraph 47 to be appropriate and proportionate.
- 8.5.283 The BPC proposes the inclusion of a new paragraph 48 that would prevent the exercise of the powers conferred by Articles 17, 19, 20, 23, 24, 27, 29 and 32 of the DCO without its consent. The Panel has considered similar provisions sought by other statutory undertakers and has rejected those proposals for the reasons given. Likewise, the Panel does not consider that it would be reasonable to require the Applicant to secure the BPC's consent in this way, particularly given the other protective provisions that would be included for the benefit of the BPC. The Panel concludes that it is not necessary or proportionate to include this provision.
- 8.5.284 The BPC Protective Provisions at paragraph 49(1) and (2), set out a proposed amendment to paragraph 48 - Access, streets and public rights of way within the draft DCO. This would exclude the application of Article 10 (street works) and Article 12(1) (power to alter layout of streets etc) to The Drove and Victoria Road and Article 12 (2) to any private street or any dock public road or any part of the BPC's land. Paragraph 49(5) proposes various restrictions on the application of Article 13 (temporary stopping up of streets and public rights of way)

and Article 41 (traffic regulation). Paragraph 49(7) requires the BPC's agreement to exercise powers under Articles 13 and 41 to use or authorise the use of any private street or public right of way on the BPC's land or any dock public road as a temporary working site or as a parking place.

- 8.5.285 The BPC has explained the need for such restrictions in its written representations. It has raised concerns in relation to the Applicant's proposed scheme for construction access to the dock estate and the potential for interference with its operations. In its Deadline 8 submissions, it states that the changes make provision for a more limited closure of public right of way LA/15/22 than it originally sought. The Panel considers the restrictions sought by the BPC access, street works and the like to be necessary and reasonable. However, it disagrees that sub-paragraph (7) should be excluded from the application of sub-paragraph (9) which relates to the granting of the BPC's consent, approval or agreement not being unreasonably withheld or delayed.
- 8.5.286 The BPC puts forward substantial changes to paragraph 49 - Watercourses and drainage, in its proposed paragraph 50. The Panel considers that the changes proposed represent necessary and reasonable restrictions on the exercise of powers granted by the DCO in relation to watercourses and drainage within the BPC's land.
- 8.5.287 There are also changes proposed by the BPC to paragraph 50 - Surveys in order to control the operation of Article 18 (authority to survey and investigate land). The Panel finds the proposed changes to be reasonable and proportionate in the context of the Port land and the need to safeguard the interest of the statutory undertaker.
- 8.5.288 For paragraph 51 - Use of land and execution, maintenance and use of the authorised development, BPC proposes an addition (paragraph 52(1)) restricting the exercise of construction access rights over its land, except for certain specified parcels of land. The BPC's concerns relating to the Applicant's proposed scheme for construction access to the dock estate are set out in its various submissions to the Examination. For example, it has specifically identified the potential difficulties regarding the proposed construction access for different pylons, the use of The Drove and certain parcels of land. The BPC's Deadline 8 submission explains that those concerns have not been resolved and it therefore seeks the inclusion of this protective provision. The Panel agrees that this provision should be included and that it would be necessary for the agreement of the Port to be required for the exercise of those construction access rights over its land. However, this should also include a provision to the effect that the BPC's agreement should not be unreasonably withheld to avoid an unreasonable restriction being placed upon the Applicant's activities.
- 8.5.289 The BPC Protective Provisions include new paragraphs 53, 54, 55, 56 and 57 under the heading of 'Use of land and execution, maintenance and use of the authorised development'. These relate to ancillary

works, the exercise of powers of temporary possession, the extent of removal of foundations on a specified part of the BPC's land, and the taking of steps to minimise the impact of construction and other activities on the operation of the Port and on the activities of owners and occupiers of the BPC's land and customers of the Port. The Panel considers the changes proposed by the BPC in connection with these matters to be necessary and reasonable to safeguard its interests as a statutory undertaker.

- 8.5.290 There is a slight change proposed to paragraph 55 - BPC's apparatus, (The BPC Protective Provisions, paragraph 58(1)). The Panel finds this minor change to be acceptable.
- 8.5.291 The BPC also proposes a new paragraph 61 which would have the effect of disapplying Article 47(3) - Procedure regarding certain approvals etc and paragraphs 3, 4 and 5 of Schedule 4 (discharge of requirements). It submits that the mechanisms in Article 47(3) and paragraphs 3, 4 and 5 of Schedule 4 are inappropriate in relation to it. Nevertheless, the Panel agrees with the Applicant that the power conferred under Article 47(3) is proportionate in relation to the BPC and should be retained.

Conclusion

- 8.5.292 The Panel is satisfied that, provided the revised scheme relating to the increased height of pylons within the Port area is adopted, the powers sought over its land are proportionate and necessary to complete the proposed development. There is a compelling case in the public interest for the acquisition of the land interests and rights sought. The Panel concludes that, provided appropriate protective provisions are imposed, the Secretary of State can be satisfied that the prescribed tests set out in s127 are met and the DCO granted can include provision authorising the compulsory acquisition powers sought over this statutory undertaker's land.

Section 138

- 8.5.293 The construction of the proposed development may require relocation of the BPC's apparatus. The Panel considers that the powers sought to extinguish the rights of, remove or reposition apparatus belonging to the BPC are necessary for the purpose of carrying out the proposed development as the works associated with the proposed development could not be completed without such power. In relation to s138, this requires the relevant Secretary of State to consider authorising such powers where there is an application by an Applicant for compulsory acquisition powers as is the case here. The Panel is satisfied that the extinguishment of rights and removal of apparatus sought by the Applicant in relation to the BPC's land is necessary for the purpose of carrying out of the proposed development.

Wessex Water Services Ltd - Objection No 116

Sections 127 and 138

- 8.5.294 There is no issue between the parties that the land in question is operational land that is used for the purposes of carrying on WWSL's statutory undertaking and/or an interest is held for those purposes. WWSL either owns or has an interest in the plots set out in Table 1 of the s127 representation. The purpose for which the land is required and the rights that would need to be acquired are set out in Table 1, as updated by the relevant BoR.
- 8.5.295 The works to be carried out to WWSL's land include the removal of existing overhead lines and pylons, the erection of new overhead lines and pylons, the temporary diversion of existing overhead lines, and the installation of new underground cables. Some of the land would also be used as a compound or work area in connection with the works.
- 8.5.296 The Applicant is of the view that there would be no serious detriment to WWSL's undertaking if it were to acquire the rights set out in Table 1 of the s127 representation, as updated by the relevant BoR, for the reasons set out therein.
- 8.5.297 The Applicant's updated response to PIL objections to the proposed grant of compulsory acquisition [Doc 8.31] indicates that it has now agreed the terms of a legal agreement with WWSL and it was anticipated that this would be completed by the close of the Examination. Nonetheless, whilst the parties have been in negotiation with a view to the Applicant acquiring these rights voluntarily, no notification was received by the ExA of an agreement having been reached by the close of the examination.
- 8.5.298 The Panel is satisfied that pursuant to s127(1)(b) PA2008 a representation has been made by WWSL about the application and not withdrawn and pursuant to s127(1)(c) PA2008 the land is used for the purpose of the undertaking.
- 8.5.299 The relevant representation of WWSL [RR-068] raises issues concerning the impact upon public water mains, sewers and ancillary assets along the proposed route. In particular, it objects to the proposals relating to land adjacent to Avonmouth Sewage Treatment Works and the restriction of access to powered screens, transformers, control kiosks and pumping station. It also mentions the provision of easements upon land safeguarded for sewage works expansion by planning policy DM39 of the Bristol City Council Core Strategy. However, that representation did not raise concerns in relation to the protective provisions included in the draft DCO. Further information was provided in response to the ExA's first round questions [REP2-100].
- 8.5.300 In the light of those concerns, the Applicant, by letter dated 26 February 2015 [REP2-124], formally requested the ExA to allow a

minor amendment to be made to the lateral limits of deviation on sheet numbers 4 and 5 of the Works Plans for Section G. The ExA has made a procedural decision to accept the change [PD-010]. The Statement of Common Ground between the Applicant and Wessex Water [Doc 8.3.6] confirms that that the minor route alignment change would address the concerns raised in respect of oversailing operational land.

Conclusion

- 8.5.301 The Panel is satisfied that, in the light of the change made to the application, the powers sought over WWSL's land are proportionate and necessary to complete the proposed development. There is a compelling case in the public interest for the acquisition of the land and rights sought. The protective provisions set out in the recommended DCO Schedule 15, Part 5, provide adequate safeguards for the interest of this statutory undertaker. The Panel concludes that the Secretary of State can be satisfied that the prescribed tests set out in s127 are met and the DCO granted can include provision authorising the compulsory acquisition powers sought over this statutory undertakers land.

Section 138

- 8.5.302 The construction of the proposed development may require relocation of WWSL's apparatus. The Panel considers that the powers sought by the Applicant to extinguish the rights of, remove or reposition apparatus belonging to WWSL are necessary for the purpose of carrying out the proposed development as the works associated with the proposed development could not be completed without such power. The Panel also notes that there are protective provisions in Schedule 15, Part 1 of the recommended DCO which relate to apparatus.
- 8.5.303 In relation to s138, this requires the relevant Secretary of State to consider authorising such powers where there is an application by an Applicant for compulsory acquisition powers as is the case here. The Panel is satisfied that the extinguishment of rights and removal of apparatus sought by the Applicant in relation to WWSL's land is necessary for the purpose of carrying out of the proposed development.

Bristol Water plc - Objection No 115

Sections 127 and 138

- 8.5.304 There is no issue between the parties that the land in question is operational land that is used for the purposes of carrying on Bristol Water plc's (BW plc) statutory undertaking and/or an interest is held for those purposes. BW plc either owns or has an interest in the plots set out in Table 1 of the s127 representation, as updated by the relevant BoR. The purpose for which the land is required and the

rights that would need to be acquired are set out in Table 1 as updated by the relevant BoR.

- 8.5.305 The works to be carried out to BW plc's land include the removal of existing overhead lines and pylons, the erection of new overhead lines and pylons, the temporary diversion of existing overhead lines, and the installation of new underground cables. Some of the land would also be used as a compound or work area in connection with the works.
- 8.5.306 The Applicant is of the view that there would be no serious detriment to BW plc's undertaking if it were to acquire the rights set out in Table 1 of the s127 representation, as updated by the relevant BoR, for the reasons set out therein.
- 8.5.307 The Applicant's updated response to PIL objections to the proposed grant of compulsory acquisition [Doc 8.31] indicates that it is close to agreeing the terms of a legal agreement and it is anticipated that all outstanding matters will be resolved shortly. However, no confirmation of any such agreement was received by the ExA by the close of the examination.
- 8.5.308 The Panel is satisfied that pursuant to s127(1)(b) PA2008 a representation has been made by BW plc about the application and not withdrawn and pursuant to s127(1)(c) PA2008 the land is used for the purpose of the undertaking.
- 8.5.309 BW plc raises a number of matters in its written representation [REP2-007]. The SoCG [Doc 8.3.14] and the Applicant's response to written representations [Doc 8.5] confirms that it has proposed, within Part 1 of Schedule 15 to the draft DCO, protective provisions for the benefit of all water undertakers, including BW plc. These protective provisions include a package of measures which, in general terms, would control the exercise of powers under the draft DCO in so far as the exercise of those powers might affect any apparatus belonging to water undertakers. These provisions would ensure BW plc's operational water network is appropriately protected, diverted or replaced. In terms of costs, the protective provisions include, at paragraph 7, an obligation upon the undertaker carrying out the works, to repay to the statutory undertaker in question proper and reasonable expenses reasonably incurred in or in connection with the inspection, removal, alteration or protection of any apparatus. These provisions would apply for the benefit of BW plc.

Conclusion

- 8.5.310 The Panel is satisfied that the powers sought over BW plc's land are proportionate and necessary to complete the proposed development. There is a compelling case in the public interest for the acquisition of the land and rights sought. The protective provisions set out in the recommended DCO Schedule 15, Part 5, provide adequate safeguards for the interest of this statutory undertaker. The Panel concludes that

the Secretary of State can be satisfied that the prescribed tests set out in s127 have been met and the DCO granted can include provision authorising the compulsory acquisition of land and rights over this statutory undertaker's land.

Section 138

- 8.5.311 The construction of the proposed development may require relocation of BW plc's apparatus. The Panel considers that the powers sought by the Applicant to extinguish the rights of, remove or reposition apparatus belonging to BW plc are necessary for the purpose of carrying out the proposed development as the works associated with the proposed development could not be completed without such power. The Panel also notes that there are protective provisions in Schedule 15, Part 1 of the recommended DCO which relate to apparatus.
- 8.5.312 In relation to s138, this requires the relevant Secretary of State to consider authorising such powers where there is an application by an Applicant for compulsory acquisition powers as is the case here. The Panel is satisfied that the extinguishment of rights and removal of apparatus sought by the Applicant in relation to BW plc's land is necessary for the purpose of carrying out of the proposed development.

The Environment Agency - Objection 135

Sections 127 and 138

- 8.5.313 There is no issue between the parties that the land in question is operational land that is used for the purposes of carrying on the Environment Agency's (EA) statutory undertaking and/or an interest is held for those purposes. The EA either owns or has an interest in the plots set out in Table 1 of the s127 representation, as updated by the relevant BoR. The purpose for which the land is required and the rights that would need to be acquired are set out in Table 1, as updated by the relevant BoR.
- 8.5.314 The works to be carried out to the EA's land include the removal of existing overhead lines and pylons, the erection of new overhead lines and pylons, and the installation of new underground cables.
- 8.5.315 The Applicant is of the view that there would be no serious detriment to the EA's undertaking if it were to acquire the rights set out in Table 1 of the s127 representation, as updated by the relevant BoR, for the reasons set out therein.
- 8.5.316 The Applicant's updated response to PIL objections to the proposed grant of compulsory acquisition [Doc 8.31] refers to the Position Statement [Doc 8.34.5] submitted at Deadline 7. This indicates that the EA has sought confirmation from the Applicant that it would exercise land agreements in respect of its land in preference to the use of compulsory acquisition rights. The Applicant has explained that

compulsory powers will remain in the DCO even though voluntary agreements have been reached. It considers that this is essential to ensure that any third party rights not identified in the BoR can still be acquired. However, as voluntary agreements have been reached with the EA, the Applicant would not need to exercise its compulsory powers in respect of the EA land unless such an unknown third party interest arises. A revised set of protective provisions has been issued to the EA. With respect to overlapping definitions in paragraphs 51(6) and 53, the Applicant has amended the protective provisions to consolidate the paragraphs referred to in its final iteration of the DCO.

- 8.5.317 At Deadline 7, the EA confirmed [REP7-007] that discussions between it and the Applicant have been successfully concluded. Protective provisions have been agreed to safeguard the EA's flood defence related interests. The agreed protective provisions are detailed in Schedule 15 of the latest iteration of the DCO [Doc 2.1.1E and Doc 2.1.2E]. The EA confirmed that it has received appropriate assurances from the Applicant to allay its earlier concerns regarding the manner in which land issues are likely to proceed if it remains in the BoR.
- 8.5.318 Whilst the parties have been in negotiation with a view to the Applicant acquiring these rights voluntarily, by the close of the Examination neither the EA's objection, nor the s127/138 representations had been formally withdrawn.
- 8.5.319 The Panel is satisfied that pursuant to s127(1)(b) PA2008 a representation has been made by the EA about the application and not withdrawn and pursuant to s127(1)(c) PA2008 the land is used for the purpose of the undertaking.
- 8.5.320 The s127 representation explains that the rights sought would co-exist within the relevant plots alongside those of the EA and, for the most part, the rights would cause no interference to the EA's undertaking. Other than during construction of the proposed development, the only exception would be possible interference on occasions of maintenance and emergency works to the Applicant's equipment. On such occasions, the Applicant would consult with the EA in order to cause as little disruption as practicable during the carrying out of those works.

Conclusion

- 8.5.321 In the light of the Deadline 7 submissions made by the EA and the Applicant, the Panel is satisfied that the powers sought over the EA's land are proportionate and necessary to complete the proposed development. There is a compelling case in the public interest for the acquisition of the rights sought. The protective provisions set out in the recommended DCO Schedule 15, Part 7, provide adequate safeguards for the interest of this statutory undertaker. The Panel concludes that the Secretary of State can be satisfied that the prescribed test set out in s127 has been met and the DCO granted can include provision authorising the compulsory acquisition of rights over this statutory undertaker's land.

Section 138

- 8.5.322 The construction of the proposed development may require relocation of the EA's apparatus. The Panel considers that the powers sought by the Applicant to extinguish the rights of, remove or reposition apparatus belonging to the EA are necessary for the purpose of carrying out the proposed development as the works associated with the proposed development could not be completed without such power.
- 8.5.323 In relation to s138, this requires the relevant Secretary of State to consider authorising such powers where there is an application by an Applicant for compulsory acquisition powers as is the case here. The Panel is satisfied that the extinguishment of rights and removal of apparatus sought by the Applicant in relation to the EA's land is necessary for the purpose of carrying out of the proposed development.

Wales and West Utilities Limited - Objection No 148

Section 138

- 8.5.324 The construction of the proposed development may require the extinguishment of rights or, remove or reposition the apparatus belonging to Wales and West Utilities Limited (WWU). The s138 representation [Doc 3.6.9] sets out the affected plots and the rights to be acquired in Table 1, as updated by the relevant BoR.
- 8.5.325 The Panel considers that the powers sought by the Applicant to extinguish the rights of, remove or reposition apparatus belonging to WWU are necessary for the purpose of carrying out the proposed development as the works associated with the proposed development could not be completed without such power. Furthermore, there are protective provisions in Schedule 15, Part 1 of the recommended DCO which relate to apparatus.
- 8.5.326 Having regard to the need for the proposed development, and other general compulsory acquisition matters already considered in this chapter, the Panel is satisfied that there is a compelling case in the public interest for the inclusion within the DCO of the compulsory acquisition powers sought.
- 8.5.327 In relation to s138, this requires the relevant Secretary of State to consider authorising such powers where there is an application by an Applicant for compulsory acquisition powers as is the case here. The Panel is satisfied that the extinguishment of rights and removal of apparatus sought by the Applicant in relation to WWU's land is necessary for the purpose of carrying out of the proposed development.

Western Power Distribution (South West) plc - Objection No 141

Section 138

- 8.5.328 The construction of the proposed development may require the extinguishment of rights which exist for the benefit of, or the relocation of apparatus belonging to, Western Power Distribution (South West) plc (WPD). The s138 representation [Doc 3.6.10] sets out the affected plots and the rights to be acquired in Table 1, as updated by the relevant BoR.
- 8.5.329 The Panel considers that the powers sought by the Applicant to extinguish the rights of, remove or reposition apparatus belonging to WPD are necessary for the purpose of carrying out the proposed development as the works associated with the proposed development could not be completed without such power. Furthermore, there are protective provisions in Schedule 15, Part 1 of the recommended DCO which relate to apparatus.
- 8.5.330 Having regard to the need for the proposed development, and other general compulsory acquisition matters already considered in this chapter, the Panel is satisfied that there is a compelling case in the public interest for the inclusion within the DCO of the compulsory acquisition powers sought.
- 8.5.331 In relation to s138, this requires the relevant Secretary of State to consider authorising such powers where there is an application by an Applicant for compulsory acquisition powers as is the case here. The Panel concludes that the extinguishment of rights and removal of apparatus sought by the Applicant in relation to WPD's land is necessary for the purpose of carrying out of the proposed development.

Other section 127 representations

- 8.5.332 At the CAH the Applicant confirmed that settlement had been reached with EDF Energy Nuclear Generation Limited and NNB Generation Company Limited and that it had withdrawn the s127 representations made in respect of these statutory undertakers.

Special category land

Common land - section 132 PA2008

- 8.5.333 The Applicant has made a request to the Secretary of State pursuant to s132 PA2008 for confirmation that special parliamentary procedure is not required in relation to rights that will be acquired over special category land. The s132 representation [Doc 3.7] explains that this is required because the DCO will authorise the compulsory acquisition of rights over land forming part of a common or open space. No land is identified in the DCO that is, or may be a fuel or field garden allotment.

- 8.5.334 The Supplementary Information in respect of the s132 representation [Doc 3.8], identifies the three broad areas of land affected, namely, Common Land Section H - common land to the south of the Hinkley Point Power Stations on North Moor, Wick Moor and Mann Moor that is used for grazing and grass conservation; Common Land Section G - common land on the foreshore of the River Avon in Portishead that is used for car storage, scrubland and foreshore; and Open Space Section F - open space in the Portbury Wharf Nature Reserve that is used as a wetland habitat for rare species open to the public for bird watching and viewing of wildlife.
- 8.5.335 In order to avoid a DCO authorising the compulsory acquisition of a right over a common or open space being subject to special parliamentary procedure s132(2) provides that the Secretary of State must be satisfied that one of the subsections (3) to (5) applies. In this instance, the Applicant claims that subsection (3) applies, namely, that the Order land, when burdened with the order right, will be no less advantageous than it was before to (a) the persons in whom it is vested; (b) the other persons, if any, entitled to rights of common or other rights, and (c) the public. We shall consider each of these areas, in turn, in the light of the test set out in s132(3).

Common land Section H

- 8.5.336 The land is subject to rights in common of foreshore (ie cropping grass from the land for hay) between 15 February and 31 July in each year and of stockage or grazing (ie allowing livestock to graze on the land once the crop has been taken) between 1 August and the following 14 February. The Applicant's s132 representations indicate that the rights sought are: in relation to plots H8, H10, H21, H22, H23, H26, H42, H46, H47, H48, H49, H50, H54, H55, H56, H58, H71, H72, H73, H74, H75, H76, H77, H101, H102, H103, H104, the right to construct, operate and maintain the authorised development; and in relation to plots H12, H13, H14, H15, H16, H17, H18, H19, H20, H27, H57 and H70, access rights. The updated relevant plots and rights are as set out in the BoR.
- 8.5.337 The Applicant states that owners and occupiers of this land use it for grazing and grass conservation and voluntary agreements have been entered with all known owners of the common land in this location, bar one. There are already pylons on, and overhead lines running above, the Moors which would be replaced by the proposed development. The authorised development would not be located in exactly the same location as the existing apparatus. However, it is unlikely that the rights sought would have any greater impact on the use of the land for grazing and grass conservation. The Panel finds that the overall impact on the land would make it no less advantageous for those in whom it is vested.
- 8.5.338 The Applicant's response to the ExA's Q2.3.26 [Doc 8.18.1], indicates that it has been able to identify commoners who have rights in this area and their agent has confirmed in writing that they are content

with the rights being sought in respect of this land. The rights of common over this land are rights to use the land either as a source of hay or for grazing livestock. Neither the presence of overhead lines, nor the replacement of the existing pylons by the authorised development, would materially affect those rights. The rights sought for access and inspection or maintenance of the works would not be likely to have any greater impact on the exercise of these rights than the access and inspection and maintenance of the existing pylons and lines. The Panel concludes that the land would be no less advantageous for those with rights of common.

- 8.5.339 The Panel notes that there are public rights of way over this land. The presence of overhead lines on a slightly different alignment from the existing lines, and continuance of the current maintenance regime would not make the land any less advantageous when burdened with the Order rights.

Common land Section F

- 8.5.340 The open space land in question is known as the Portbury Wharf Nature Reserve. In this area there are two route options (A and B) for the new 400kV overhead line connection under consideration (Work No. 1F). However, only Option B requires the imposition of rights over open space. As indicated earlier in this report, Option B is the Panel's preferred option.

- 8.5.341 The land over which rights are sought under Option B consists of 25 plots amounting to 97,899m². The Applicant's s132 representations indicate that the rights are sought: in respect of plots F175, F197, F198, F204, F205, F206 and F216, rights to construct, operate and maintain authorised works (overhead line); and in respect of plots F195, F205, F206, F207, F208, F209, F210, F211, F212, F215, F220, F221, F241, F242, F252, F256, F257, F273, F274 and F275 rights to construct, operate and maintain authorised works (underground cable). The updated relevant plots and rights are as set out in the BoR. The land is all owned by Ideal Developments Ltd, and leased to Avon Wildlife Trust, Arthur Hardwick or Colin Crossman, and occupied by Avon Wildlife Trust, Mr Hardwick or Mr Crossman. It is used as a nature reserve and as agricultural land.

- 8.5.342 There are already two existing overhead lines to Portishead substation oversailing the land. The nature reserve is, therefore, currently used by those in whom it is vested with overhead lines running over it and they would be able to continue to do so once the new overhead line is installed and the existing ones are removed and undergrounded. Any interruption of the owners' rights would, following construction and installation, be only on a temporary basis for access and maintenance purposes. No representation has been made by the owner of the land, Ideal Developments Ltd, and they have entered into a voluntary agreement with the Applicant. There have also been discussions between the Applicant and Avon Wildlife Trust and amendments have been made to the proposed Biodiversity Mitigation Strategy (BMS), as

a result. The SoCG between the Applicant and Avon Wildlife Trust sets out the current position between them [Doc 8.3.2A]. The Panel is satisfied that compliance with the requirements in the DCO in relation to mitigation would mean that the land, as a whole, would be no less advantageous as a nature reserve when burdened with the Order rights.

- 8.5.343 The Applicant is not aware of any parties claiming rights of common, or other rights, over this land. The Panel agrees that the land would be no less advantageous to the persons having rights of common, or other rights, when burdened by the rights sought pursuant to the DCO.
- 8.5.344 The public has access to the nature reserve. At present, there are two electric lines installed above the reserve, which are occasionally accessed, inspected and maintained by WPD. There is no evidence to suggest that the land would be any less advantageous to the public following the completion of the authorised works and subject to a right to access, operate and maintain them from time-to-time.

Common land Section G

- 8.5.345 The land is identified as common land on the commons register. For the most part, this area is within the landholding of the Port of Bristol. The land within the Port estate is hardstanding and is currently used commercially for car storage.
- 8.5.346 The remainder of the land is predominately the foreshore of the River Avon, which is tidal at this location. There is a public footpath to the foreshore and there is a general public right of way to navigate in tidal waters, which would include the water over the foreshore when the tide is in. There is no known access through the Port estate.
- 8.5.347 The Applicant's response to the ExA's Q2.3.26 [Doc 8.18.1], indicates that it has been unable to identify any commoners who might hold rights over this area. Nevertheless, the land is identified on the commons register. That provides prima facie evidence as to its status. The BPC is of the opinion that the land within Section G is not common land. In response to Q2.3.26, the BPC provides further information in relation to grazing cattle, sheep and horses at The Landun to the effect that the rights registered have been released and should no longer appear on the commons register. We consider, on the balance of probabilities, that the position shown on the commons register has been rebutted by the evidence provided by the BPC. Nevertheless, in recognition of the fact that the Secretary of State might take a different view on this matter, we shall still give consideration to the impact upon this land in the light of the s132 tests.
- 8.5.348 The Applicant's s132 representations indicate that rights sought in respect of plots G114, G115, G116, G117, G131, G132, G133, G134, G135, G136, G137, G140 and G141 to construct, operate and maintain the authorised development and in respect of plots G128 and

G129, access rights. The updated relevant plots and rights are as set out in the BoR.

- 8.5.349 The land is currently owned by Bristol City Council and leased to the BPC. At present, it is predominately used for commercial car storage, and there is no evidence that the rights of common to graze cattle, sheep and horses, are exercised as the land is now hardstanding. The BPC has raised concerns that the land would become sterilised by the new overhead line and would prevent its development. However, it is necessary to consider the effect on its use as common land. There is no substantial evidence before us that the presence of overhead lines and pylons, and their occasional access, inspection and maintenance would inhibit the use of the land, as common land, in the future. The Panel is satisfied that the land when burdened with the Order rights would be no less advantageous as common land to the persons in whom it is vested.
- 8.5.350 As regards persons having rights in common, not all of the plots have explicit rights in common identified, although rights of common to graze cattle, sheep and horses have been recorded for The Landun. No representations have been made concerning the authorised development and the use of those rights from those persons who are identified in the BoR with rights in common. Given that the land is covered in hardstanding, and that the infrastructure is similar in nature to the existing overhead lines in the same vicinity, the construction, operation and maintenance of overhead lines is unlikely to have any impacts on the exercise of rights of grazing in so far as they are exercised. Accordingly, the land when burdened with the Order rights would be no less advantageous to persons having rights of common.
- 8.5.351 The Applicant states that it is unclear what use, if any, the general public makes of this land. There is a footpath which provides access to the area known as the foreshore but the remainder of the land is within the Port's security fence. It is possible that public rights of navigation are exercised over the foreshore when the tide is in. The construction, operation and maintenance of overhead electric lines above the foreshore would not have any permanent impact on those public rights, or the footpath, other than occasional temporary interferences for maintenance and to string the overhead lines across the river and therefore the imposition of the Order rights would not make the land any less advantageous to the public.

Conclusion

- 8.5.352 The Panel concludes that the compulsory acquisition of rights over the common land and open space to allow the construction, operation and maintenance of the authorised development would leave that land no less advantageous to those in whom it is vested; those with rights of common or other rights, and the public.

Crown land

- 8.5.353 The Statement of Reasons [Doc 3.1], paragraph 10.3, and Table 4 of that document identifies plots where the acquisition of rights over Crown Land is sought. The Applicant has also provided a Schedule of Information relating to Crown Land at Deadline 2 [Doc 3.5] which sets out the relevant plots.
- 8.5.354 The Applicant's covering letter to The Planning Inspectorate dated 18 June 2015 [REP6-018] provides an update on negotiations with two entities, namely, Highways England and The Crown Estate, listed within Table 4. That letter indicates that it was understood that the functions of the Highways Agency had passed to Highways England but it was not then known whether land owned by the Secretary of State for Transport (care of the Highways Agency) had transferred to Highways England.
- 8.5.355 In response to Q2.3.27, [Doc 8.18.1], the Applicant indicated that negotiations were ongoing with both the Secretary of State for Transport, and The Crown Estate, for the rights sought across Crown land. The Applicant also referred to the letter from Burges Salmon on behalf of The Crown Estate submitted for Deadline 4 [REP4-032].
- 8.5.356 The Position Statement in respect of Crown land submitted by the Applicant at Deadline 7 [Doc 8.34.10], confirms that all of the highways land recorded as being in the ownership of the Secretary of State for Transport has now passed to Highways England under a transfer scheme made by the Secretary of State pursuant to the Infrastructure Act 2015. The Applicant indicates that the BoR will be updated to exclude Highways England land from Part 4 before it is certified by the Secretary of State should the decision be to make the Order. Those affected plots can be identified by the Schedule of Information [Doc 3.5].
- 8.5.357 As of the date of the Position Statement, the Applicant had not received any further details on the transfer scheme. The Panel takes the view that it is likely that the land now owned by Highways England is not Crown land for the purposes of s135 PA2008. However, the Secretary of State may wish to seek confirmation from Highways England that the ownership of all the relevant plots of land has indeed been transferred to it by means of a Transfer Scheme and that it is no longer Crown land.
- 8.5.358 The Position Statement also provides an update in respect of Plots D289, D298.2, G-A142, G-A143, G-B142 and G-B143. The latter two plots relate to an area of foreshore and bed of the River Avon. At the close of the Examination, the Applicant was still negotiating in connection with a draft Deed of Easement received from The Crown Estate. Unless and until, the relevant Crown authority consents to the powers of compulsory acquisition sought in respect of these plots this is not a matter which can be authorised by the DCO.

- 8.5.359 Turning now to Plots D799, D835 and D837, formerly owned by Heron Garden Estates Ltd. Following the dissolution of that company, the letter from Burges Salmon explains that the property has been deemed subject to escheat to the Crown at common law. In practical terms, the Crown Estate was not able to participate in statutory examination procedures in respect of this land as this could be construed as an act of management, possession or ownership.
- 8.5.360 The Applicant's Position Statement indicates that the relevant plots are required for dismantling infrastructure and WPD will rely upon existing rights to enter the land and remove the apparatus. The Applicant will update the BoR [Docs 3.3] to exclude plots D799 and D837 from Part 4 before it is certified. Since the Land Registry has registered two freehold interests in respect of plot D835 it will remain in the BoR to the extent that it is not subject to escheat and within the ownership of the other registered proprietor. Thus, no consent from the Crown authority will be required for the compulsory acquisition powers sought in respect of this land.

National Trust land

- 8.5.361 The proposed development would affect land owned by the National Trust. S130 PA2008 applies to land belonging to the National Trust which is held by the Trust inalienably. In those circumstances, a DCO is subject to special parliamentary procedure to the extent that the order authorises the compulsory acquisition of such land, if the condition in subsection (3) applies. That condition relates to a representation containing an objection to the compulsory acquisition of land having been made by the National Trust and the objection has not been withdrawn.
- 8.5.362 The Applicant's response to the ExA's Q3.59 [Doc 8.1.1], indicates that it has agreed terms with the National Trust for the rights required over the relevant land. The Applicant's response to Q2.3.13, states that it has received written confirmation from the solicitor acting on behalf of the National Trust that the land is not held by it inalienably. Given that the land is not held inalienably by the National Trust, s130 PA2008 does not apply to the land [Doc 8.18.1]. In any event, there is no outstanding objection made by the National Trust to the compulsory acquisition of this land, as required by s130(3).

Temporary possession

- 8.5.363 In some instances, temporary possession has been sought as an alternative to compulsory acquisition. The recommended DCO contains powers for temporary possession which we consider are appropriate for inclusion to support the delivery of the scheme in respect of all plots noted for temporary possession in the revised Land Plans and BoR.
- 8.5.364 As indicated above, these powers are not compulsory acquisition powers and accordingly the tests under s122 and s123 PA2008 are not

applicable. However, the request for the power in order to enable the proposed development to be implemented and maintained must be justified. The inevitable interference with human rights must be justified, and there must be adequate compensation provisions in place for those whose land is affected.

8.5.365 We have considered the objections raised by those persons affected by the application for the permanent acquisition of land and the permanent acquisition of rights in land. We have also taken all relevant objections into account in reaching our conclusions on the application for temporary possession and rights in the same way as for permanent acquisition, but set against the appropriate tests.

8.5.366 We are satisfied that the temporary possession powers sought are needed both to facilitate implementation of the proposed development and to maintain it and that adequate compensation provisions are in place in the recommended DCO. We shall now consider the human rights implications of both the temporary and permanent interests and rights sought.

Human Rights Act 1998

8.5.367 In assessing whether there is a compelling case in the public interest for the land to be acquired compulsorily, it is necessary to consider the interference with human rights which would occur, if compulsory acquisition powers were granted

8.5.368 The European Convention on Human Rights (ECHR) was incorporated into domestic law by the Human Rights Act 1998⁴⁸. The relevant articles are:

- Article 1 of the First Protocol (the peaceful enjoyment of possessions and not to be deprived of possessions except in the public interest and subject to the conditions provided for by law and by the principles of international law);
- Article 6 (fair and public hearing within a reasonable time by an independent and impartial tribunal); and
- Article 8 (right to respect for private and family life, home and correspondence).

8.5.369 The Statement of Reasons [Doc 3.1] indicates that as no dwellings are proposed to be compulsorily acquired as part of the proposed development, Article 8 of the ECHR is not engaged. However, in response to the Panel's Q2.3.23 [Doc 8.18.1], the Applicant acknowledges that Article 8 would be engaged in some locations, for example, in relation to Mr and Mrs Blewitt at Sunnysdene where their property would be oversailed by the overhead line. Article 1 would be engaged more generally, for example, in relation to the acquisition of agricultural land and businesses.

⁴⁸ <http://www.legislation.gov.uk/ukpga/1998/42/contents>

- 8.5.370 In assessing whether the interference with the rights of individuals would be for a legitimate purpose, the Panel has attributed substantial weight to the need described in NPS EN-1 for new electricity transmission infrastructure and how the project would assist in meeting this need.
- 8.5.371 The Statement of Reasons, section 6, [Doc 3.1] sets out the purpose for which the powers are sought. The plots where the land would be acquired outright are set out in Table 1; those plots for which temporary use only is required are set out in Table 2; and those plots where it is sought to extinguish private rights and restrictive covenants relating to apparatus to be removed from land that is to be subject to temporary possession are set out in Table 3.
- 8.5.372 The updated BoR [Docs 3.3], the Land Plans [Docs 4.2] and Work Plans [Docs 4.1] show the land that falls within the Order limits and the works proposed on such land and the rights required as well as and how such land, and rights in land, would be used as part of the proposed development. All of the land has been incorporated within the recommended Order for a legitimate purpose. The provision of the proposed development, and its operation and maintenance, thereafter represents a legitimate wider public interest to be balanced against the degree of interference with the individual's human rights.
- 8.5.373 At the CAH, [Doc 8.13.10], the Applicant explained that, although it did not carry out a plot by plot analysis of the effects of the proposed development on the human rights of those with an interest in the land affected, this did not mean that this had not been taken into account. In response to the Panel's Q3.30 [Doc 8.1.1], the Applicant states that it has taken a number of steps to ensure its approach to land acquisition is proportionate and would not give rise to interference with private rights beyond what is absolutely necessary. The Applicant has varied the Order limits as they travel along the line of the proposed development, to ensure that the land affected has been kept to a minimum. Only 12 parcels of land, and no residential dwellings are proposed to be acquired outright; reliance has been placed upon temporary possession, rather than permanent acquisition, and it has sought to reach voluntary agreements with all persons with an interest in the land affected.
- 8.5.374 Freehold interests are sought for the site of the new substation, the CSE compounds and the extension to the existing substation at Seabank. The acquisition of lesser interests would clearly not be appropriate for that purpose. For the overhead line and underground route corridors, only temporary possession and permanent rights to access and maintain the development are being sought rather than freehold interests. In many cases, the land would be returned to its original purpose and use following the construction of the project. This would apply to a significant proportion of the land which is in agricultural use.

- 8.5.375 The Applicant's response to Q3.10 [Doc 8.1.1] explains in detail why, and in what instances, the exercise of the new rights and powers sought would be necessary. The rights and powers sought have been drafted in a way that provides appropriate protection for the project with the minimum necessary interference with the owners of the CA Land. They avoid the need for outright acquisition, whilst safeguarding the supply of electricity through the cable route. This represents a proportionate approach.
- 8.5.376 It is clear that the Applicant has endeavoured to minimise the impact that compulsory acquisition would have on those individuals who would be affected by the scheme. In addition, compensation would be payable to be assessed on an individual basis. As regards the powers sought to authorise temporary use of land, the interference with rights would be less and this power is intentionally used to minimise the extent of compulsory acquisition that would otherwise be required. In addition, compensation would also be payable for temporary use to construct or maintain the proposed development.
- 8.5.377 We have considered the individual rights interfered with and have borne in mind the best interests of children. We are satisfied that, in relation to Article 1 of the First Protocol and Article 8, the proposed interference with those rights would be for legitimate purposes that would justify such interference in the public interest. The extent of that interference would be proportionate. In reaching this conclusion, we have had regard to the compensation to which those individuals would be entitled.
- 8.5.378 In relation to Article 6, the Applicant has consulted the persons set out in the categories contained in s44 of the 2008 Act which include owners of the CA Land and those who might be able to make claims either under s10 of the Compulsory Purchase Act 1965 or Part 1 of the Compensation Act 1973. All scheduled interests were able to make representations to the Panel. In the event that the order is made, persons aggrieved may also challenge the DCO in the High Court, if they consider that the grounds for doing so are made out pursuant to s118 of the 2008 Act. Furthermore, Affected Persons would have the right to apply to the Upper Tribunal, if compensation were disputed. All Affected Persons had the opportunity to participate in the Examination process and to attend the CAH. The Panel is satisfied that the requirements of Article 6 have been met.
- 8.5.379 Since the same opportunities for objections to be raised, heard and considered, during the Examination were afforded to those whose land is proposed to be subject to temporary possession powers, we are satisfied that the requirements of Article 6 have also been made in relation to those persons.

Adequacy of funding

- 8.5.380 The CA Guidance, paragraph 9, advises that the applicant should be able to demonstrate that there is a reasonable prospect of the

requisite funds for acquisition becoming available. Otherwise, it will be difficult to show conclusively that the compulsory acquisition of land complies with s122.

- 8.5.381 The CA Guidance, paragraph 17, explains that the funding statement that accompanies an application should provide as much information as possible about the resource implications of both acquiring the land and implementing the project for which the land is required. Paragraph 18 also requires applicants to be able to demonstrate that adequate funding is likely to be available to enable the compulsory acquisition within the statutory period following the order being made, and that the resource implications of a possible acquisition resulting from a blight notice have been taken into account.

The funding required

- 8.5.382 In accordance with the CA Guidance, the application was accompanied by a Funding Statement explaining how it would be funded [Doc 3.2]. This indicates, at paragraph 4.3, that the total cost of payments for land acquisition, incentive payments, disturbance, injurious affection and related professional fees is estimated at £50.2m. The Funding Statement, at paragraph 1.11, gives an estimated project cost in excess of £600m.
- 8.5.383 In response to the Panel's questions, the Applicant has subsequently explained in greater detail how the resource implications of the project have been assessed [Doc 8.1.1 and Doc 8.18.1]. The response to the Panel's Q3.24, sets out its approach to assessing the cost of payments for the acquisition of rights required by the project. The Applicant has published a scale of fees for payments to acquire easements and it has also estimated all likely heads of claim. The figures used include a 10% contingency. The response to Q3.23 confirms that the possibility of the receipt of Blight Notices has been factored into the cost of its financial calculations.
- 8.5.384 At the ISH on Landscape and Visual including Arboricultural Matters, the Applicant commented on the current project costs [Doc 8.13.3.1]. The figure previously given in the Update to SOR Cost Tables [Doc 7.4] for PC4P is £678m. This cost estimate includes the Mendip Hills undergrounding (£189m), T-pylon costs (£51m) and the WPD Works (£45m) but does not include any risk/contingency adjustment. Other costs not included are Land Rights Costs (£50.2m) and s106 costs (£7-20m). Adding these to the costs of PC4P increases the cost estimate to £735-748m.
- 8.5.385 In response to Q2.3.8, the Applicant confirms that the updated cost of the project including land acquisition and mitigation, but excluding contingency and weather related risk, has increased from £678m to about £750m. In terms of construction costs, the Applicant has developed these using its internal cost estimating database. Costs within the database are informed by cost information obtained from discussions and budgetary estimates from manufacturers and

installers as well as recent costs obtained in tenders and completed contracts. The unit costs closely align with the findings of the Institute of Engineering and Technology Electricity Transmission Costing Study (2012).

- 8.5.386 The Panel finds the manner in which the Applicant has assessed the funding required for compulsory acquisition, and the likely cost of the implementing the project, to be entirely satisfactory and reliable.

The source of the funding

- 8.5.387 The Funding Statement [Doc 3.2] indicates that the Applicant owns and operates the high voltage electricity transmission network in England and Wales. It has a duty under the Electricity Act 1989 to develop and maintain an efficient, co-ordinated and economical system of electrical transmission. The RIIO - T1 price control arrangement for National Grid which began on 1 April 2013, put in place all funding arrangements to allow National Grid licensed entities, including the Applicant, to discharge its duties as Transmission Operator and Owner.
- 8.5.388 At the CAH, the Applicant explained that National Grid is bound by the legal obligations primarily set out in the Electricity Act and the Transmission Licence [Doc 8.13.10]. The response to the ExA's Q3.21 indicates that the Electricity Act 1989, and the Transmission Licence issued pursuant to that Act, require National Grid to deliver a connection to contracted customers. EDF Energy is the contracted customer for the Hinkley C Connection Project.
- 8.5.389 Licence condition B7 requires National Grid to have the financial resources to continue its business and comply with the various obligations in the Licence and Electricity Act. Licence condition B10 also requires it to maintain investment grade credit ratings, which ensures it has ready access to the money markets to fund future network investments. Ofgem monitors the financial status of National Grid and requires it to publish Regulatory Accounts and Business Plans that demonstrate that it has in place the necessary financial resources to continue to develop, operate and maintain the nation's electricity network.
- 8.5.390 The Applicant has a regulatory asset value over £10bn whilst National Grid plc has a regulatory asset value over £33bn. National Grid typically raises £3bn in borrowing each year and has access to liquid funds in excess of £2bn.
- 8.5.391 At the CAH, the Applicant confirmed that the WPD works are required only as a direct result of the proposed development and, therefore, it would be unfair to expect WPD and its customers to fund these works. The Applicant would, therefore, be responsible for ensuring that adequate funding is available for the total costs of the scheme. The Applicant's response to Q3.29 confirms that, in practice, it will be managing the process, negotiation and payment for any

land/easements on behalf of WPD. The Applicant therefore asks the Secretary of State to judge this matter on the basis of National Grid's ability to fund the project, and not WPD's.

- 8.5.392 The Panel has no reason to doubt that the Applicant, is of sound financial standing and that the necessary funds would become available to finance the project. The source of the funding provides no cause for concern or reason to doubt that the project would, in fact, be implemented, if granted consent.

Securing the funding

- 8.5.393 The Funding Statement makes reference in section 3 to the contractual arrangements with WPD. In response to the ExA's Q3.27, the Applicant states that the principles referred to in paragraph 3.3 of the Funding Statement are underpinned by an indemnity agreement between National Grid and WPD in respect of WPD's reasonable and proper costs.

- 8.5.394 In response to Q2.3.6 [Doc 8.18.1], the Applicant confirmed that National Grid and WPD signed an indemnity agreement on 30 September 2011. Since then, both parties signed a Framework Agreement on 16 March 2015. The Framework Agreement contains the detailed terms and provisions for payment. The general principles of the agreement are that WPD is indemnified for the costs and expenses of the project works.

- 8.5.395 The Panel concludes that there is a reasonable prospect of the requisite funds for acquisition becoming available within the statutory period following the Order being made. The financial resource necessary to accommodate possible acquisition resulting from a blight notice has also been satisfactorily secured. The Funding Statement and other documentation support the existence of a compelling case for the grant of compulsory acquisition powers.

The ExA's overall conclusions on the granting of compulsory acquisition and temporary possession powers

s122(2) - The purpose for which compulsory acquisition is sought

- 8.5.396 This section of the Act sets out the purposes for which compulsory acquisition may be authorised. In the light of the CA Guidance, it is necessary to consider whether the Applicant has justified its proposals for the compulsory acquisition of the land.
- 8.5.397 The Panel is satisfied that the legal interests in all the plots of land included in the revised BoR and shown on the Land Plans (as amended) would be required for the development to which the development consent relates. Both the principal development, and the associated development, identified by the application would be needed for that purpose. The requirements of s122(2)(a) PA2008 are, therefore, met.

s122(3) - Whether there is a compelling case in the public interest

- 8.5.398 The Panel has had regard to the objections raised by all Affected Persons. Nevertheless, we conclude that the public benefits associated with the proposed development would strongly outweigh the private loss which would be suffered by those whose land would be affected by compulsory acquisition powers to enable the construction, operation and maintenance of project.
- 8.5.399 We have also taken into account the particular points made by various objectors in relation to alternatives, including modifications to the route and alternative technologies. However, we are satisfied that the Applicant has explored all reasonable alternatives to compulsory acquisition, including modifications to the scheme. The objections raised do not dissuade us from the conclusion that there are no alternatives to the compulsory acquisition powers sought which ought to be preferred.
- 8.5.400 The Applicant has demonstrated a clear idea of how it intends to use the land rights which it proposes to acquire. It has shown that there is a reasonable prospect of the requisite funds both for acquiring the land and implementing the project becoming available.
- 8.5.401 The Panel concludes that:
- the development for which the land is sought would be in accordance with national policy as set out in the relevant NPSs and development consent should be granted;
 - the NPSs identify a national need for new electricity transmission infrastructure of the type that is the subject of the application;
 - the need to secure the land and rights required and to construct the development within a reasonable commercial timeframe, and to ensure that the supply of electricity is not thereafter impeded, represents a significant public benefit to weigh in the balance;
 - the private loss to those affected has been mitigated through the selection of the application land, and the extent of the rights and interests proposed to be acquired;
 - the Applicant has explored all reasonable alternatives to the compulsory acquisition of the rights and interests sought and there are no alternatives which ought to be preferred;
 - adequate and secure funding would be available to enable the compulsory acquisition within the statutory period following the Order being made; and
 - the resource implications of a possible acquisition resulting from a blight notice have been taken into account.
- 8.5.402 Taking these various factors together, there is a compelling case in the public interest for the compulsory acquisition powers sought in respect of the CA land shown on the Land Plans (as amended). The proposal would comply with s122(3) PA2008.

s120(5)(a) and s126 - the incorporation of other statutory powers

- 8.5.403 The recommended Order seeks in a number of instances to apply s120(5)(a) and apply, modify or exclude a statutory provision. Since the DCO is in the form of a statutory instrument, it would comply with s117(4). Furthermore, no provision would contravene the provisions of s126 which relates to the modification or exclusion of a compensation provision.

s127 and s138

- 8.5.404 The Applicant has confirmed that, in the case of EDF and NNB it has been possible to reach agreement with the relevant statutory undertaker. Since their representations have been withdrawn, at least to the extent that they relate to this particular matter, there has been no need for the s127 representations made by the Applicant in respect of their land to be considered further.
- 8.5.405 The s127 and s138 representations made by the Applicant in respect of Wessex Water Services Limited, Network Rail Infrastructure Limited, Bristol Water plc, The Environment Agency, First Corporate Shipping Limited, RWE Generation UK plc, Wales and West Utilities Limited and Western Power Distribution (south west) plc have not been withdrawn. These representations have been considered as set out above. In the case of each s127 representation, the Panel concludes that the Secretary of State can be satisfied that there would be no serious detriment caused to the carrying on of the undertaking of the statutory undertaker in question should the compulsory acquisition powers sought be granted. In the case of each s138 representation, the Panel is satisfied that the extinguishment of the relevant right, or the removal of the relevant apparatus would be necessary for the purpose of carrying out the development to which the Order relates.

s132 - Common land

- 8.5.406 All the Order land, when burdened with the order rights, would be no less advantageous than it was before to the persons in whom it is vested, other persons, if any, entitled to rights of common or other rights and the public. The Panel concludes that the Order land complies with s132(3) PA2008 and the DCO should not therefore be subject to special parliamentary procedure.

s130 - National Trust land

- 8.5.407 Since none of the Order land is held by the National Trust inalienably, the provisions of s130 PA2008 do not apply.

s135 - Crown land

- 8.5.408 The Secretary of State may wish to seek confirmation from Highways England that the ownership of all the relevant plots of land has been

transferred to it by means of a transfer scheme and that it is no longer Crown land. If that is confirmed to be the case then, no consent from the Crown authority will be required for the compulsory acquisition powers sought in respect of the Order land, apart from Plots D289, D298.2, G-A142, G-A143, G-B142 and G-B143. The DCO may not authorise the compulsory acquisition of an interest in this land, as no such consent has been obtained.

Temporary possession

8.5.409 The temporary possession powers sought are necessary both to facilitate implementation of the proposed development and to maintain it and adequate compensation provisions are in place in the recommended DCO.

The ExA's recommendations on the granting of compulsory acquisition and temporary possession powers

8.5.410 In the event that the Secretary of State is minded to grant development consent for the proposed development, we recommend that:

- the compulsory acquisition powers included in the recommended DCO be granted, except as set out below in relation to Crown land;
- the temporary possession powers included in the recommended DCO be granted;
- the compulsory acquisition powers sought in respect of Crown land should not be granted until either Highways England has confirmed that the ownership of all the relevant plots of land has been transferred to it by means of a transfer scheme and that it is no longer Crown land, or the necessary consent from the Crown authority is obtained. For plots D289, D298.2, G-A142, G-A143, G-B142 and G-B143, the compulsory acquisition powers sought should not be granted until the consent of the Crown authority is obtained;
- the powers authorising the compulsory acquisition of statutory undertakers' land and rights over land included in the recommended DCO be granted;
- the powers authorising the extinguishment of rights, and removal of apparatus, of statutory undertakers included in the recommended DCO be granted;
- the powers authorising the compulsory acquisition of rights over common land and open space included in the recommended DCO be granted;
- the Order granting development consent should not be subject to special parliamentary procedure; and
- the powers included in the recommended DCO to apply, modify or exclude a statutory provision be granted.

9 DRAFT DEVELOPMENT CONSENT ORDER AND RELATED MATTERS

9.1 INTRODUCTION

- 9.1.1 A draft Development Consent Order (DCO) incorporating a deemed marine licence (DML) [Doc 2.1] and Explanatory Memorandum [Doc 2.2] was submitted as part of the application for development consent by the Applicant. The Explanatory Memorandum describes the purpose and effect of the provisions in the application draft DCO. The Explanatory Memorandum indicates that the application draft DCO is based on the General Model Provisions (the "general model provisions") in the Infrastructure Planning (Model Provisions) (England and Wales) Order 2009 (the Model Provisions Order 2009) unless otherwise stated. The general model provisions were followed because there are no model provisions for electric lines.
- 9.1.2 The application, if granted development consent, would authorise works to the national electricity transmission system between Hinkley Point and Seabank. A more detailed description of the proposed development is provided in the ES Project Description [Doc 5.3.1] which accompanied the application. Full details of the proposed development are provided in Chapter 2 of this report.
- 9.1.3 During the course of the Examination, the Panel has looked at the detail of the structure and effectiveness of the draft DCO through written questions and two Issue Specific Hearings (ISHs) on the draft DCO and other agreements and related matters. The question of separate draft DCOs for the route Options A and B was also raised. In response, the Applicant has submitted a further eight versions of the draft DCO including three successive versions each of different versions for Option A and Option B respectively. The sequence of the submission of the various draft DCO's is set out in the Guide to the Application [Doc 1.7I].
- 9.1.4 At Deadline 6, the Applicant submitted its updated draft DCO for Option A and Option B [Doc 2.1.1D and Doc 2.1.1D]. At Deadline 7, final comments on the updated draft DCOs were submitted by the Joint Councils [REP7-004], the MMO [REP7-005], and RWE [REP7-006]. The latest versions of the Applicant's draft DCOs for Options A and B were submitted at Deadline 7 [Doc 2.1.1E and Doc 2.1.2E].
- 9.1.5 At Deadline 7, the Applicant provided a Comparite (1) of Draft DCO - Option A (13 July 2015 and 18 June 2015 versions) [Doc 2.1.1E.1] and Comparite (2) of Draft DCO - Option A (13 July 2015 and May 2014 applications versions) [Doc 2.1.1E.2]. For Option B, the Applicant submitted a Comparite (1) of Draft DCO - Option B (13 July 2015 and May 2014 application versions) [Doc 2.1.2E.1] and Comparite (2) of Draft DCO - Option B (13 July 2015 and 18 June 2015 versions) [Doc 2.1.2E.2]. These comparites for Option A and Option B show the various changes that have been made to the draft

DCO during the course of the examination. The Applicant has also provided a revised draft Explanatory Memorandum [Doc 2.2B].

PRECEDENT ORDERS

- 9.1.6 In general, the precedents followed for the Order are other development consent orders for electric lines, the National Grid (King's Lynn B Power Station Connection) Order 2013 and the National Grid (North London Reinforcement Project) Order 2014, as well as development consent orders and Transport and Works Act Order for other linear schemes, such as railways and tramways.
- 9.1.7 The Applicant has also referred to previous Orders, for example, the Network Rail (North Doncaster Chord) Order 2012; the Network Rail (Norton Bridge Area Improvements) Order 2014 and the National Grid (North London Reinforcement Project) Order 2014 which contain articles that incorporate a means by which the promoter must obtain consent, agreement or approval from a third party before it may do something and that such consent, agreement or approval shall not be unreasonably withheld. There is also a longstop default provision to the effect that, if the relevant third party fails to respond, the consent, agreement or approval shall be deemed to have been given.
- 9.1.8 The draft DCO therefore includes, at Articles 12(5); 13(7); 14(2); 16(9); 18(6) and 41(8), a deemed consenting regime to apply whereby if a consent etc., is required and no such consent etc., is provided within 28 days of receiving an application for consent or approval, the consenting authority is deemed to have granted consent.

THE RECOMMENDED DCO

- 9.1.9 The final version draft DCO as recommended by the Examining authority (ExA) (the recommended DCO) is set out at Appendix E.
- 9.1.10 The recommended DCO is in six parts and contains 17 schedules:
- Part 1 - This part contains the preliminary provisions providing for commencement, citation and interpretation.
 - Part 2 - This part sets out the principal powers including those relating to the grant of development consent and maintenance.
 - Part 3 - This part relates to streets and includes powers relating to street works, alterations to layout, temporary stopping up and access.
 - Part 4 - This part provides supplemental powers relating to the discharge of water, protective work to buildings and the survey of land.
 - Part 5 - This part contains the powers in relation to acquisition and possession land.
 - Part 6 - This part contains a number of miscellaneous and general provisions.
 - Schedules - Schedules 1 to 17 contain information referred to in the Articles to the DCO including the authorised development,

plans, requirements, the discharge of requirements, the DML, protective provisions, land which may be acquired compulsorily, and land of which temporary possession may be taken.

- 9.1.11 The recommended DCO is based on the Applicant's final submitted version for Option B. This reflects the Panel's conclusion set out in Chapter 5 of this report that route Option B should be chosen. It also contains a number of drafting changes which the Panel considers to be necessary to accommodate matters explored during the course of the Examination. These further changes are set out in the following table and discussed below. We also explain various instances where drafting objections have been raised, but not resolved by the close of the Examination, where we do not consider further amendment to be necessary. In so doing, we have not sought to reference in detail every representation made in relation to the drafting of the DCO, but have identified the representative issues that are pertinent to our consideration of outstanding matters.

Panel Amendment Number	Part of the recommended Order that differs from the Applicant's final submission DCO (reference to Applicant's final DCO)	Amendment made by the Panel	Reasoning/ reference to reasoning for amendment
1	Article 2 - Interpretation "CEMP"	Amendment to change reference to "certificates of plans" to "certification of plans"	Correction of minor typographical error.
2	Article 2 - Interpretation "maintain"	Amendment to definition of 'maintain' to include reference to the environmental statement	Clarification to ensure that works or activities undertaken to "maintain" the authorised development are only permitted to the extent assessed in the environmental statement.
3	Article 2 - Interpretation "MMO"	Addition of definition of MMO	This definition is necessary as the MMO is referred to in the amended Article 7.
4	Article 2 - Interpretation "traffic authority"	Inclusion of definition of "traffic authority" by reference to the 1984 Act (which is already defined in the DCO) as this is the term used in article 41	The Panel considers that, for the avoidance of doubt, a definition of "traffic authority" should be included.
5	Article 2 - Interpretation "environmental statement"	Addition to include all errata/changes	The definition needs to additionally refer to errata and changes which were omitted from the Applicant's Doc 5.30B.
6	Article 5 - Limits of deviation	Amendment to secure variations from general LoD in particular locations, Moorland Park, Tarnock and Bristol Port, and to refer to the new requirement relating to St Anthony's Park	The scope for reducing the LoD at certain locations and whether the downward LoD should be specified in some instances was discussed at the second DCO ISH. The Panel considers that for some locations the LoD should be restricted, and that this is best dealt with by means of an amendment to article 5 rather than by way of additional requirements or side agreements.
7	Article 7 - Transfer of the benefit of the Order	Amendment to provide for the Secretary of State to consult with the MMO in relation to the transfer of the DML	The transfer of the DML was discussed at the first DCO ISH. The MMO maintains its criticism of the drafting of Article 7. The Panel considers that to require the consent of the Secretary of State in consultation with the MMO would appropriately secure

Panel Amendment Number	Part of the recommended Order that differs from the Applicant's final submission DCO (reference to Applicant's final DCO)	Amendment made by the Panel	Reasoning/ reference to reasoning for amendment
			the MMO's operational interests in this respect.
8	Article 23 – Compulsory Acquisition of Rights Article 23-(1)	Additional wording to Article 23-(1)	To provide for the undertaker's duty to maintain all works including the provision of means of access.
9	Article 23 – Compulsory Acquisition of Rights	New Article 23-(9)	To provide for the undertaker's duty to maintain all works including the provision of means of access.
10	Article 30(1)(a)(i)	Amendment	The Panel agrees with the Joint Councils' comments on the Updated Draft DCO that there is a need to remove the word "and" which is placed before the wording "for the purpose specified in relation to that land...".
11	Article 31(1)(a)(i)	Amendment	The same amendment needs to be made to Article 31(1)(a)(i) for the reasons given in relation to Article 30(1)(a)(i) above.
12	Article 41	Amendment	The Panel considers that it is necessary to outline the scope for the regulation of vehicular speed.
13	Article 42	Addition of new sub-paragraph (5)	This article was discussed at the second DCO ISH. The Panel considers that the Joint Councils' concerns are valid and would be addressed by the insertion of their proposed wording for sub-paragraph (5).
14	Article 43	Deletion of sub-paragraph (2)	The Panel does not consider that the Applicant has justified the extended scope of this power.
15	Schedule 2	Addition of plan reference	The Panel considers that to secure mitigation at St Anthony's Park reference needs to be made to the St Anthony's Park Enhanced Mitigation Plan drawing No. MMD-322-069-C-SK-

Panel Amendment Number	Part of the recommended Order that differs from the Applicant's final submission DCO (reference to Applicant's final DCO)	Amendment made by the Panel	Reasoning/ reference to reasoning for amendment
			GRoute-XX-001.
16	Schedule 3 - Requirement 1	Extend definition of Design Approach to Site Specific Infrastructure	The Panel agrees with the Joint Councils that the Design Approach to Site Specific Infrastructure should be applied generally to all such infrastructure.
17	Schedule 3 - Requirement 1	Insert definitions for Tree and Hedgerow Protection Strategy and Advance planting	The Panel considers that these omissions should be corrected.
18	Schedule 3 - Requirement 1	Insert definition for Riverview Farm Traffic Management Plan	This addition is necessary to secure the proposed construction mitigation measures for Riverview Farm.
19	Schedule 3 - Requirement 3	Delete tailpiece from requirement 3(1)	The Panel considers that the question of compliance with the design drawings is of such significance that such a degree of flexibility in the operation of this condition should not be permitted.
20	Schedule 3 - Requirement 5(1)	Insertion of wording to include reference to mitigation works to minimise the impacts of construction	The Panel considers that the additional wording is necessary as the CEMP covers not only construction works but also mitigation works. NE has also proposed that the wording should be expanded.
21	Schedule 3 - Requirement 6(1)	Addition of (1)(j) to include reference to Riverview Farm Traffic Management Plan	The additional wording is necessary to secure the proposed construction mitigation measures for Riverview Farm. At the ISH the Applicant indicated that improved mitigation could be secured through a bespoke requirement which would require a scheme to be submitted and approved. The Applicant's Doc 8.38.3 states that any site specific mitigation should be through private agreement and not a DCO requirement. The Panel disagrees with the latter stance and considers it necessary for a specific requirement designed to secure mitigation for Riverview Farm to be included.

Panel Amendment Number	Part of the recommended Order that differs from the Applicant's final submission DCO (reference to Applicant's final DCO)	Amendment made by the Panel	Reasoning/ reference to reasoning for amendment
22	Schedule 3 - Requirement 6(1)	Addition of (1)(k) to include reference to a Plan Showing Proposed Safety Improvements at Junction of Factory Lane with Church Road (B3141)	The additional wording is necessary in the interests of highway safety to secure the required improvements to the junction of Factory Lane with Church Road (B3141).
23	Schedule 3 - Requirement 6(2)	Insertion of wording to include reference to mitigation works to minimise the impacts of construction	The additional wording is necessary to clarify that the requirement applies to mitigation as well as construction works.
24	Schedule 3 Requirement 7(1), 7(2) and 7(3)	Delete tailpieces	The Panel considers that the question of construction hours is of such significance that no flexibility in the operation of this condition should be permitted.
25	Schedule 3 Requirement 8(3)	Delete tailpiece	The Panel considers that the control of lighting is a matter of significance to local people and is relied upon for biodiversity mitigation and no flexibility in the operation of this condition should be permitted.
26	Schedule 3 - Requirement 7(4)(a)	Amendment to exclude cable cutting from activities which can take place outside core working hours	This requirement was discussed at the second DCO ISH. The Panel considers that the exclusion of cable cutting from activities which take place outside core working hours is necessary and reasonable. The Joint Councils' proposed wording is set out in their updated position following review of the June 2015 DCO.
27	Schedule 3 - Requirement 9	Addition of reference to a 15 year maintenance period	The Panel considers this addition is necessary in the interests of clarity and to reflect the required maintenance period for embedded landscape mitigation.
28	Schedule 3 - Requirement 10(1)	Insertion of wording to include reference to blocks of trees and to amend document reference to 5.21.1B	The Joint Councils request this change to address replacement planting for areas or blocks of trees removed that cannot be replaced for operational reasons. The Panel agrees that the Requirement should be amended in this way. Also the out of date document reference requires correction.

Panel Amendment Number	Part of the recommended Order that differs from the Applicant's final submission DCO (reference to Applicant's final DCO)	Amendment made by the Panel	Reasoning/ reference to reasoning for amendment
29	Schedule 3 - Requirement 10(2)	Insert reference to 8 year maintenance period for bat flyways	The Panel considers that this addition is necessary to safeguard the bat flyways as advised by NE.
30	Schedule 3 - Requirement 10(2)(d)	Amend wording to make it clear what advance planting is	The Panel considers that this clarification is necessary and that reference to temporary planting should be included.
31	Schedule 3 - Requirement 10(2)(e)	Insert reference to management plans for landowners which set out the maintenance activities for years one to five and years six to fifteen	The Panel considers that this addition is necessary for the reasons set out in Chapter 5.
32	Schedule 3 - Requirement 10(2)(f)	Insert reference to a scheme for the property Ashtrees at Mark, including a timetable for implementation	The Panel considers that this addition is necessary for the reasons set out in Chapter 5.
33	Schedule 3 - Requirement 10(3)	Insert reference to "areas" of trees	The Panel agrees with the Joint Councils that this omission should be corrected.
34	Schedule 3 - Requirement 11	Amendment to secure early implementation of landscaping and replacement planting in some locations; updating document references; specifying maintenance periods and cross-reference to requirements 10 and 30(3)	The Joint Councils' final comments on the updated draft DCO request a change to the wording to Requirement 11 to secure early implementation of landscaping and planting at a number of sensitive locations. The Panel considers that it is reasonable and necessary to secure this at the South of the Mendip Hills Cable Sealing End compound and the River Axe Cable Bridge option (if used), and at Ashtrees, Mark. A number of updates are needed to refer to the latest documentation and the inclusion of a reference to Requirements 10 and 30(3). The maintenance periods now refer to 8 years for bat flyways and 15 years for embedded mitigation.

Panel Amendment Number	Part of the recommended Order that differs from the Applicant's final submission DCO (reference to Applicant's final DCO)	Amendment made by the Panel	Reasoning/ reference to reasoning for amendment
35	Schedule 3 - Requirement 13	Amendment to the trigger for this requirement	The Joint Councils' final comments on the updated draft DCO request that the trigger relating to the area of habitat at Hallen Marsh to be installed should be as soon as a waterbody of over 100sqm is implemented. The Panel agrees that this represents a reasonable and necessary trigger for the requirement and that provision should also be made for post-construction bird collision monitoring of the 400kV line between pylons P-LD95 and P-LD102A at Portbury Wharf Nature Reserve.
36	Schedule 3 - Requirement 14	Amendment to include reference to the measures being "managed" and the relevant period being "eight years"	The Panel considers these amendments to be necessary to reflect the fundamental tenet of the advice given by NE regarding an eight year management and maintenance period for areas required for operational phase bat foraging.
37	Schedule 3 - Requirement 20	Amendment to include reference to a watercourse protection plan	The Joint Councils' final comments on the updated draft DCO propose this amendment to secure the approval of a watercourse protection plan and the removal of any temporary bridge or culvert in accordance with such a plan. The Panel considers such an amendment to be reasonable and necessary.
38	Schedule 3 - Requirement 22(3)	Amendment to include reference to implementing recommendations of road safety audits	The Joint Councils' final comments on the updated draft DCO propose the addition of the wording "...and must implement recommendations arising from the road safety audit reports, unless otherwise agreed with the local highway authority." The Panel considers that this amendment is necessary and reasonable.
39	Schedule 3 - Requirement 27	Add requirement for the submission approval and implementation of Travel Plan	The Joint Councils' final comments on the updated draft DCO confirm that they seek amendment of this requirement. Given the deficiencies of the Travel Plan that has been submitted, we agree that this amendment to requirement 27 should be made.
40	Schedule 3 - Requirement 28	Amendment to include reference to a timetable for implementation	The Joint Councils' final comments on the updated draft DCO propose an amendment to the effect that the Seabank 400kV

Panel Amendment Number	Part of the recommended Order that differs from the Applicant's final submission DCO (reference to Applicant's final DCO)	Amendment made by the Panel	Reasoning/ reference to reasoning for amendment
		of the flood defence wall	substation shall not be brought into first operational use until the approved flood defence wall has been completed. The Panel considers that the necessary control over the first operation of the substation would be achieved by including a reference to the approval of and compliance with a 'timetable' for implementation of the flood defence wall.
41	Schedule 3 - Requirement 36	Delete "s" from "musts" Add reference to "low reflectivity finish"	This is a typographical error that requires correction.
42	Schedule 3 - Requirement 39	Additional requirement to secure mitigation of noise from live conductors	The Panel considers this requirement to be necessary as the matter is not adequately covered by the NVMP.
43	Schedule 3 - Requirement 40	Additional requirement to secure mitigation of noise at residential properties lying within the identified thresholds	The Panel considers this requirement to be necessary as the Applicant's assessment does not distinguish between properties at the edge of the affected area and those closest to the noise source.
44	Schedule 3 - new Requirement 41	Additional requirement to secure assessment and mitigation of vibration impacts	The Panel considers that an additional requirement is necessary to secure an assessment of, and adequate mitigation for, vibration impacts upon residential properties.
45	Schedule 3 - new Requirement 42	Additional requirement to secure mitigation at St Anthony's Park	The Panel considers that an additional requirement is necessary to secure mitigation at St Anthony's Park in accordance with the submitted drawing No MMD-322-069-C-SK-GRoute-XX-0001.
46	Schedule 3 - new Requirement 43	Additional requirement to secure mitigation at Merriedown, Sunnydene, Spindlewood, Moorland Park, Paragon Vehicle Services Ltd, and St Anthony's Park	The Panel considers it necessary for a specific requirement designed to secure additional mitigation for these properties to be secured by way of a DCO requirement requiring the submission, approval and implementation of a mitigation scheme.

Panel Amendment Number	Part of the recommended Order that differs from the Applicant's final submission DCO (reference to Applicant's final DCO)	Amendment made by the Panel	Reasoning/ reference to reasoning for amendment
47	Schedule 4 - Discharge of requirements	Amendment to allow more time to seek further information requested by requirement consultee	The reasonableness of the time periods set out in Schedule 4 was discussed at the second DCO ISH. The Applicant's Doc 8.13.14 summarises its case in this respect. The Somerset Drainage Board Consortium maintains its stance that a minimum 8 week period should apply. The Panel does not consider that it is necessary for an 8 week period to apply for consultation purposes but believes it reasonable for the period set out in 1(5) to be extended by 7 days to 28 days. We agree with the Joint Councils that the period for notifying their decision to the undertaker for minor requirements should be the same 8 week period as for major requirements.
48	Schedule 13 - Part 1 - Traffic regulations	Amendment to speed limit reduction	The Panel considers there should be some scope for flexibility, rather than a blanket 30mph limit for all bellmouth locations. We therefore propose to include reference to "such other speed agreed by the traffic authority".
49	Schedule 15 - Protective provisions - Part 3 paragraphs 22 and 23	Insertion of reference to prior approval of the relevant highway authority	The Panel considers that in the interests of clarity, as requested by the Joint Councils, express reference to the need for prior approval of the relevant highway authority should be inserted in paragraphs 22 and 23.
50	Schedule 15 - Protective provisions - Part 4	Amendment of various protective provisions	For the reasons set out in the CA Chapter, the Panel considers that the protective provisions should be amended.
51	Schedule 15 - Protective provisions - Part 5	Amendment of various protective provisions	For the reasons set out in the CA Chapter, the Panel considers that the protective provisions should be amended.
52	Schedule 15 - Protective provisions - Part 8	Amendment of various protective provisions	For the reasons set out in the CA Chapter, the Panel considers that the protective provisions should be amended.

Panel Amendment Number	Part of the recommended Order that differs from the Applicant's final submission DCO (reference to Applicant's final DCO)	Amendment made by the Panel	Reasoning/ reference to reasoning for amendment
53	Schedule 17 - Disapplication of byelaws	Deletion of the BPC byelaws	For the reasons set out in the Marine and Navigation sub-chapter, the Panel considers that the byelaws relating to Bristol Port should be deleted.

9.2 THE RECOMMENDED DCO

ARTICLES

Article 2 - Interpretation

9.2.1 During the course of the Examination, a number of changes have been made to various definitions set out in this article. The changes made are shown in Comparites (1) and (2) of the draft DCO. We set out here the definitions which we believe require further change.

'CEMP'

9.2.2 This definition has been amended to include reference to all the necessary plans and strategies, including the Archaeological Written Scheme of Mitigation and the Biodiversity Mitigation Strategy. The outstanding matter identified in the table above simply relates to the correction of a minor typographical error.

'Maintain'

9.2.3 The definition of 'maintain' was discussed at the first DCO ISH and was the subject of the ExA's written questions. In response to Q4.2 [Doc 8.1.1], the Applicant explains that the only activities that are included, in addition to those included in the definition in the model provisions, are 'dismantle' and 'relay'. These have been included to allow for specific activities that might be required for electricity transmission connections in order to ensure that the Applicant is able to provide a continuous service to its customers.

9.2.4 The Applicant's response to Q4.2, also states that the term 'maintain' would not authorise works outside those assessed in the Environmental Statement (ES) and points to the detailed description of the development set out in the ES [Doc 5.3.1, Section 3.7]. The Joint Councils in the Statement of Common Ground on the draft DCO [Doc 8.3.17A] confirm their position that the definition of 'maintain' should be qualified by reference to works assessed in the ES. Having regard to the Planning Inspectorate Advice Note 15, paragraph 20.2, we consider that, in the interests of clarity, the definition should make explicit reference to the scope of this power being limited in extent to that which has been assessed in the ES. An appropriate amendment has therefore been made to this definition in the recommended DCO.

'MMO'

9.2.5 This definition has been included as reference to the MMO will be made in the amended Article 7, which is explained below.

'Traffic authority'

9.2.6 The Panel considers that, for the avoidance of doubt, the definition of "traffic authority" should be specifically included as this is the term

used in Article 41 and Schedule 13. The term will be defined by reference to the 1984 Act which is already separately defined.

'Environmental Statement'

- 9.2.7 The definition of "environmental statement" has been altered during the course of the Examination to reflect the additional sensitivity analysis, and other errata and changes which have taken place since the submission of the application. The Applicant submitted at Deadline 7, the consolidated errata and changes document and appendices [Doc 5.30B.1, 5.30B.2 and 5.30B.3]. The definition requires amendment to include all errata and changes which have taken place.

Article 5 - Limits of deviation

- 9.2.8 The limits of deviation (LoD) set out in Article 5 allow for the lateral deviation from the lines or situations shown on the works plans within the limits of deviation relating to that work shown on those plans. It also allows for vertical deviation of the overhead lines to any extent upwards, not exceeding 4m, and not exceeding 10% upwards of the maximum height shown on the design drawings in respect of the substations, cable sealing end (CSE) compounds and bridges, or to any extent downwards.
- 9.2.9 The Explanatory Memorandum [Doc 2.2B], indicates that the purpose of this provision is to provide the necessary flexibility when constructing the authorised development, reducing the risk that the project, as approved, could not be implemented due to unforeseen engineering or geological reasons.
- 9.2.10 The Panel recognises the practical benefits of including LoD within the DCO. However, the Examination process has highlighted the overriding need, in certain locations, for restrictions to be placed upon the undertaker's ability to deviate from what is shown on the relevant works plans and sections. Those locations have been identified in Chapter 5 of this report, where the reasoning for requiring these restrictions is set out. These locations are Pylon LD32 at Tarnock; Pylon LD51 at Moorland Park; and Pylons LD109-LD113 at Bristol Port.
- 9.2.11 The Joint Councils, in their final comments on the updated draft DCO [REP7-004], state that their position in respect of limiting economic impact across the rest of the Avonmouth Severnside Enterprise Area (ASEA), apart from Bristol Port, remains. They wish to see overhead line heights restricted to a minimum of +3m. They suggest that this could be achieved by imposing a requirement in similar terms to the existing proposed Requirement 33 (clearance over main rivers). The Panel has given consideration to such an additional restriction on the downward LoD in this location in Chapter 5 of this report. However, we have reached the conclusion that it would not be reasonable for such a broad restriction to be put in place over this area.

Article 7 - Consent to transfer benefit of Order

- 9.2.12 The earlier Marine and Navigation Section 5.10 of this report refers to the Marine Management Organisation's (MMO's) concerns in relation to Article 7 which would permit the transfer of the benefit of the Order.
- 9.2.13 At the ISH on the DCO on 14 April 2015, the MMO explained its concerns in relation to Article 7 which would permit the transfer of the benefit of the Order. In response to Q2.10.1, the MMO maintains its position regarding Article 7, namely, that: there is a single identified licence holder for a Deemed Marine Licence (DML); any transfer of a DML for the licence holder to another single identifiable legal entity should be undertaken either by the MMO under section 72(7) of the 2009 Act or, where the transfer of benefit of the DML is to be undertaken in accordance with the transfer of benefit provisions in the main body of the DCO, as a single transfer of the whole benefit of the DML only from the licence holder (undertaker) to another single identified legal entity only on application to the Secretary of State, who will then consult the MMO prior to making a final determination; and where it is identified at a pre-consent stage that particular identifiable parts of a development would be better suited to being undertaken by different persons, for the DCO to contain more than one DML that are governed independently.
- 9.2.14 The MMO Deadline 7 submissions, Appendix 1, [REP7-005] acknowledge that it may be legally possible to partially transfer or lease the benefit of a DML but it retains serious operational concerns regarding the adequate monitoring of compliance with, and any subsequent enforcement of, a DML, and any conditions of a DML where the benefits of a DML have been transferred partially under the provisions as drafted within Article 7, rather than whole as permitted by section 72(7) and (8) of the 2009 Act.
- 9.2.15 The MMO states that the current drafting of Article 7 of the DCO, would not only allow the partial transfer of a DML, but would also allow the undertaker (licence holder) to transfer the licence themselves. It contends that, in operational practice, there is a risk that where the benefit of a DML lies with more than one legal entity the responsibility for complying with any particular condition or part of a DML would be significantly more problematic to determine. The MMO submits that this may interfere with its ability to fulfil its statutory obligation to protect the environment, protect human health and protect interference with legitimate uses of the sea. It stresses the importance of having clear identification of areas of responsibility and a mechanism allowing appropriate enforcement action to be taken as necessary.
- 9.2.16 At the ISH on the DCO held on 14 April 2015 [Doc 8.13.1.1], the Applicant explained that the DML is not a marine licence; it is a schedule to a DCO that is a deemed marine licence. The licensable activities under the DML are those activities that form part of, or are related to, the authorised development, which is defined in the draft

DCO, Schedule 9, paragraph 3.2, by reference to certain work numbers. Section 156 PA2008 is subject to any contrary provisions made in the Order. Article 6 of the draft DCO provides for such transfer of benefits, including Schedule 9.

- 9.2.17 The Applicant's Position Statement in respect of the MMO [Doc 8.34.7], states that Article 7 of the draft DCO provides for such transfer of benefits, including Schedule 9, but this transfer can only be with the consent of the Secretary of State (who is required to take into account the suitability of any proposed transferee). The benefit of the order is for the benefit of National Grid in respect of the authorised development. The position is reaffirmed in its response to Q2.10.1 [Doc 8.18.1].
- 9.2.18 The Panel has had regard to the MMO's concerns in relation to Article 7, and the Applicant's response. We conclude that Article 7 should be retained, but with an amendment to require the Secretary of State to consult with the MMO before giving consent to the transfer or grant to another person of the whole or part of the benefit of the provisions of the DML. We are satisfied that the need for the Secretary of State's consent to be obtained, and the requirement for consultation with the MMO to take place in relation to the DML, would provide sufficient safeguards for the operational interests of the MMO.

Article 10 - Street works

- 9.2.19 This article allows works to be carried out in or upon streets identified in Schedule 5 within the Order limits. The Bristol Port Company (BPC) objects to the inclusion of The Drove within Schedule 5 and suggests protective provisions to safeguard its interests in this and other respects. The Panel proposes to amend the BPC protective provisions set out in Schedule 15, Part 5, of the draft DCO. It is not therefore necessary to amend Article 10 or delete The Drove from the Schedule 5 list of streets. In any event, Option B is recommended and, if the Secretary of State should agree with that recommendation, then The Drove would not be subject to street works.

Article 11 - Application of the 1991 Act

- 9.2.20 The Joint Councils' final comments on the updated draft DCO [REP7-004], maintain their previous position that all relevant provisions of the 1991 Act must apply; as per Article 8(3) of the Model Provisions Order. The Explanatory Memorandum [Doc 2.2B] sets out the Applicant's reasons for deleting Article 8(3) of the general model provisions. The Panel has had regard to the views of the Joint Councils on this matter but we do not consider that it is necessary for any other sections of the 1991 Act to be referred to in Article 11(3).

Article 12 - Power to alter layout etc. of streets

- 9.2.21 The Joint Councils' final comments on the updated draft DCO [REP7-004], indicate that they continue to object strongly to the deemed consent provisions in this article and elsewhere in the draft Order.

However, should the Secretary of State be minded to include deemed consent provisions, they point out that other DCOs have employed longer time periods of 42 or 56 days.

- 9.2.22 At the ISH held on 14 April 2015, the Applicant submitted that the deemed consent provisions are necessary to ensure that it is able to progress the authorised development once construction has commenced; as time is of the essence for Nationally Significant Infrastructure Projects (NSIPs). Deemed approval is only given if the relevant third party fails to notify the Applicant of its decision within 28 days of the date of the application being made.
- 9.2.23 The Panel has considered the Joint Councils' fundamental objection to the deemed consent provisions of Article 12 and other parts of the draft DCO. Nonetheless, we find such an approach to be reasonable in order to ensure that the authorised development is not delayed unnecessarily and to give greater certainty in the delivery of the project. We also believe that the time period set out is reasonable and that a period of 42 days or longer could result in an unacceptable delay to the construction programme. We do not consider that this provision requires further amendment.

Article 13 - Temporary stopping up of streets and public rights of way

- 9.2.24 At the ISH on 14 April 2015, the Joint Councils expressed concern as regards the flexibility provided by Article 13 in relation to the temporary stopping up of public rights of way (PRoWs). At the ISH on 16 June 2015, the Applicant stated that the revised Public Rights of Way Management Plan [Doc 5.26.6B], identifies all proposed temporary closures of PRoWs. It includes details regarding indicative maximum closure periods to make clear where temporary closures are proposed. The latest version of this document was submitted at Deadline 7 [Doc 5.26.6C]. In the light of the updated Public Rights of Way Management Plan, the Panel does not consider that any amendment of this article is necessary.

Article 15 - Agreements with street authorities

- 9.2.25 The Joint Councils, in the Statement of Common Ground (SoCG) on the draft DCO [Doc 8.3.17A], indicate that it would be beneficial for such agreements to be entered into as a matter of course, and not as a matter of discretion. The Applicant disagrees, and its position is as set out in its oral summary of case for the DCO ISH held on 14 April 2015 [Doc 8.13.1.1]. The Panel has considered the opposing arguments on this point, but we do not consider that this article requires any amendment in order to achieve its intended purpose.

Article 22 - Time limit for exercise of authority to acquire land compulsorily

- 9.2.26 This article gives National Grid eight years after the making of the Order to issue 'notices to treat' or a 'general vesting declaration' to

acquire the land that is subject to the power of compulsory acquisition. These are the two main procedural methods by which the process of acquiring land would be undertaken should the Order be made. The time period has been extended from the five years which is given in the general model provisions article.

- 9.2.27 As indicated in Chapter 8 of this report, the Panel has had regard to the concerns raised by Affected Persons regarding the length of the eight year period and the associated uncertainty and prospect of blight that could be experienced by them. However, we have taken into account the particular circumstances of this case including the long linear nature of the scheme and the degree of uncertainty surrounding the start date for the proposed development. We conclude that it would be proportionate and reasonable to allow an eight year time period for commencement of the development and the exercise of compulsory powers of acquisition. We do not therefore consider that any amendment of the eight year period is necessary for Article 2.

Article 23 – Compulsory acquisition of rights

- 9.2.28 This article allows the Applicant to acquire rights over the Order land, including by creating new rights for the purpose of the authorised development. There have been concerns raised by Interested Parties (IPs) in relation to the exercise of new rights of access and the responsibility for maintenance of any such works. This matter has been considered by the Panel in Section 5.6 of this report. We conclude that in order to ensure that those works are subsequently maintained by the undertaker it is necessary to make specific provision for this by way of an amendment to Article 23 in the recommended Order.

Article 30 - Temporary use of land by National Grid

- 9.2.29 The Explanatory Memorandum [Doc 2.2B] states that this article follows, in part general model provision 28 and allows the land set out in Part 1 of Schedule 12 to be occupied temporarily by the undertaker while the works are carried out. A modification to the model provision has been made to allow the Applicant also to take temporary possession of any other Order land which may be subject to compulsory acquisition of land or rights but in respect of which the Applicant has not yet served a notice of entry or made a general vesting declaration.
- 9.2.30 This provision would allow the Applicant to occupy land to construct the authorised development without having to acquire the land, or a right over the land. Once constructed, that land, or rights in the land, may be compulsorily acquired. This means that the Applicant would be able to compulsorily acquire rights to retain, operate and maintain the authorised development over an area of land which matches the final footprint of the authorised development. This therefore provides flexibility to the Applicant and, for the landowner, minimises the area

of land required for the compulsory acquisition of land or rights, which could have a lesser impact on the landowner.

- 9.2.31 The Applicant has provided a detailed justification for seeking temporary possession powers in response to the ExA's Q4.28. We are satisfied that both Article 30 and 31 contain appropriate limitations and controls to ensure that the temporary interference with the private rights of the owners and occupiers would be proportionate.
- 9.2.32 We have considered whether the scope of the temporary use powers granted by Article 30(1)(a)(ii) would be too wide and whether all such land should be specified in Schedule 12. However, on balance, in the light of the practical reasons given by the Applicant for seeking this power, we believe this modification of the model provision to be acceptable. There is a minor amendment that we consider should be made to Article 30(1)(a)(i), namely, the deletion of the word "and" which is placed before the wording "for the purpose specified in relation to that land".

Article 31 - Temporary use of land by Western Power Distribution

- 9.2.33 The article mirrors Article 30 (Temporary use of land by National Grid) and relates to the temporary use of land by Western Power Distribution (WPD). A similar amendment as that required for Article 30, is also required for Article 31(1)(a)(i).

Article 40 - Temporary closure of, and works in the River Avon

- 9.2.34 This article has been considered earlier in this report in the Marine and Navigation Section 5.10.
- 9.2.35 The recommended DCO Article 40 grants power to the undertaker to temporarily interfere with the relevant part of the River Avon in connection with the construction of the authorised development. At the ISH on the 14 April 2015, the Applicant explained that to enable the River Avon works to be carried out safely, it would be necessary, in consultation with the harbour authority, to close the river for short periods. The Applicant's response to the ExA's Q10.17 maintains that the powers sought are appropriate and proportionate and necessary to ensure that the necessary works adjacent to and over the River Avon could be completed safely and without delay to the delivery of the project. The BPC originally raised objections to the powers granted by Article 40 [REP2-095] and sought protective provisions. However, we are satisfied that the protective provisions set out in the recommended DCO, Schedule 15, Part 6, provide adequate safeguards for the Port Authority in respect of the exercise of this power.

Article 41 - Traffic regulation

- 9.2.36 The Joint Councils' final comments on the updated draft DCO [REP7-004], indicate that they maintain an objection to the power to control traffic speeds. However, the consent of the relevant traffic authority

would be required. Given this limitation, we do not consider that this is an unreasonable power to grant, nor do we find the deemed consent provisions unreasonable. We do not consider that any amendment of this article is required in this respect. Nevertheless, we believe that reference to a *“speed restriction of 30mph or such other speed as may be agreed in writing with the traffic authority”* should be included to allow scope for flexibility in the regulation of vehicular speed.

Article 42 - Felling or lopping of trees

- 9.2.37 This article would allow any tree or shrub that is near the authorised development to be felled or lopped, or have its roots cut back, if it is considered to obstruct or interfere with the construction, operation or maintenance of the project or endanger anyone using it. Compensation would be payable for any loss or damage caused.
- 9.2.38 Following the DCO ISH held on 16 June 2015, the Applicant submitted a 'Note on powers relating to the felling and lopping of trees' [Doc 8.38.4]. This confirms that Article 42 would permit the Applicant to fell or lop trees along access routes, but only if they were near to the authorised development. Article 42 is identical to that contained in the model provisions. The power would also apply outside the Order limits but only where it was necessary to do so in accordance with the tests of necessity and reasonableness. The Applicant suggests that the circumstances where this power would apply are likely to be limited. For example, the delivery of abnormal indivisible loads which might require lopping or felling of trees outside of the Order limits on or adjacent to highway land. The Applicant reiterates its position in relation to Article 42 at Deadline 8 [REP8-012].
- 9.2.39 The Joint Councils have raised concerns regarding the potential highway safety issues that might arise through the exercise of this power. They suggest that these would be addressed to a substantial extent by the introduction of a new Article 42(5) which would read as follows; *“The undertaker may not pursuant to paragraph (1) fell or lop a tree within or overhanging the extent of the public highway without the consent of the highway authority.”* Whilst the Panel notes the qualifications to this power set out in sub-paragraphs 1(a) and (b), we consider that that such an amendment is justified in the interests of highway safety. The recommended Order has been amended to reflect this.

Article 43 - Trees subject to tree preservation orders

- 9.2.40 This article would allow National Grid to fell or lop trees listed in Schedule 14 (Trees subject to tree preservation order). It follows the model provision though it is extended by a new paragraph (2) to cover trees subject to a tree preservation order made before or after the Order comes into effect and is to ensure that the provision also applies to trees that were only made subject to tree preservation orders after the application for a DCO was made. The Applicant's response to Q4.36 indicates that without such power, it is possible that it would

not be able to construct or operate the electricity line within its construction timetable.

- 9.2.41 The Joint Councils have raised concerns that this power should only apply to those trees identified in Schedule 14. We have had regard to the Planning Inspectorate's Advice Note 15, paragraph 24.2, on this topic. This states that: *"This power should not however be used as a precautionary measure and should, generally, only be applied to trees which are subject to TPOs, or otherwise protected by virtue of being situated in a conservation area, prior to the making of the DCO. This is so as to allow proper consideration and examination of the particular characteristics that gave rise to the special protection given to such trees and the desirability of continuing such protection"*.
- 9.2.42 At the DCO ISH held on 16 June 2015, the Applicant drew attention to the word *"generally"*, in paragraph 24.2, and submitted that it was clear that the advice that the power should only apply to trees covered by TPOs was subject to exceptions.
- 9.2.43 Whilst the Panel has had regard to the long linear nature of the project, we do not consider that it would be appropriate to extend the scope of the model provision in this way. We believe that it would be necessary for proper consideration to be given at the relevant time to the particular characteristics of any such protected tree. The recommended Order will be amended to reflect this by deleting subparagraph (2) in its entirety.

Article 45 - Certification of plans

- 9.2.44 At the DCO ISH held on 14 April 2015, the Applicant acknowledged that the intention is for the CEMP, and the 'daughter' documents that sit under the CEMP, to be certified by the Secretary of State, in the event that the Order is made. For that reason, the definition of 'CEMP' was moved from Schedule 3 (requirements) to Article 2 (interpretation) and a reference to CEMP was added to Article 45.
- 9.2.45 At the DCO ISH held on 16 June 2015, the Applicant stated that the latest draft of the DCO includes a revised definition of CEMP. The Applicant proposed putting in references to particular volumes of the CEMP (and any daughter documents) to ensure that the correct and latest versions are referred to in the DCO. This would make it clear, on the face of the document, which particular version of the CEMP was being referred to.
- 9.2.46 At the ISH, the Joint Councils indicated that they wanted an update of the CEMP to be provided to them prior to the commencement of the works. They continue to seek a mechanism for updating the CEMP. Their Deadline 7 submissions [REP7-071], point to the fact that construction may not begin for up to eight years, and would take a number of years to complete. They believe that this risks the CEMP becoming outdated before it is implemented. Their position remains that a requirement is necessary which provides for the Applicant to

submit an update to the CEMP to them for approval before construction begins.

- 9.2.47 Whilst we recognise that it may be some time before any development commences, we have taken into account the detailed consideration given to the content of the CEMP during the course of the Examination. That process has given IPs, and the Panel, the opportunity to comment and ask questions about its content. The Secretary of State will also have the opportunity to consider its contents. Having regard to the detailed consideration which has already taken place, we regard it as a strong benefit to have such a clearly defined document on the face of the DCO. Where minor changes are required to the CEMP, and any daughter documents, in the future, then Requirement 5 provides a mechanism for achieving such updates by agreement with the relevant planning or highway authority. We do not consider that any amendment is required either to Article 45, or to Requirement 5 in this respect.
- 9.2.48 The Applicant does not consider that it is necessary for the ES to be certified by the Secretary of State. Since the ES is now specifically defined in Article 2, and that definition includes all subsequent errata and changes since its original submission in support of the application, the Panel agrees that certification by the Secretary of State is not necessary in this case.

Article 49 - Amendment of local legislation

- 9.2.49 This article has been considered earlier in this report in the Marine and Navigation Section 5.10.
- 9.2.50 Article 49 of the recommended DCO grants the power to amend local legislation. It enables various local enactments and byelaws referred to in Schedule 17 to be excluded. The BPC has expressed concerns about the powers within the DCO that would enable the Applicant to disapply Bristol Port byelaws. In response to those concerns, the Applicant has amended the relevant provisions to restrict the scope of those powers. It believes that the power in the current draft DCO represents the minimum necessary to ensure that the Port byelaws do not place an unreasonable constraint on its ability to carry out the proposed works. A more detailed explanation of the need to disapply the byelaws is set out in the Applicant's response to the ExA's Q4.67, [Doc 8.1.1].
- 9.2.51 The BPC's Deadline 8 final submissions indicate that, as part of their subject to contract negotiations, the Applicant and the BPC have agreed that the references to the BPC's byelaws in Schedule 17 of the DCO will be deleted, so that none of the BPC's byelaws will be disapplied by the operation of the DCO. However, at the close of the Examination, no agreement had been reached between the BPC and the Applicant. The Applicant's position remains [Doc 8.52], that it cannot confirm its agreement to an alternative form of wording for

Schedule 17 due to the restrictions this would impose on the exercise of the DCO powers.

- 9.2.52 The written representation of the BPC [REP2-065] submits that the Applicant's proposed exclusion of specific byelaws is entirely disproportionate. The byelaws exist to enable the BPC, as the statutory undertaker, to ensure the safe, efficient and secure operation of a complex port facility in the interests of all port users and the Applicant cannot expect to be able to over-ride the BPC's statutory duties and/or to interfere with the operation of the Port. It points out, as an example of the Applicant's disproportionate approach, that it is entirely inappropriate for it to seek to exclude the operation of byelaw 98 which prohibits, among other things, a person from opening lock gates at the Port. The BPC is prepared to consider modifying, but not excluding, certain byelaws.
- 9.2.53 The Explanatory Memorandum [Doc 2.2B] states that Article 49 is limited in scope in only seeking to identify legislation of local application, which may prohibit the delivery of this the proposed development. It is, therefore, considered proportionate to exclude such legislation which may serve to impede the delivery of the authorised development. It also points to the notification procedure set out in Article 49(4).
- 9.2.54 The Panel has borne in mind the limits placed upon the scope of this article. Nonetheless, we do not consider that the Applicant has justified the inclusion of such a wide range of Bristol Port General Byelaws 2005, as are set out in Schedule 17. We consider the powers sought in this respect to be disproportionate and that these particular byelaws should be excluded from the scope of the DCO.

DESCRIPTION OF WORKS

Schedule 1 - Authorised development

- 9.2.55 Schedule 1, specifies numbered works comprised in the authorised development for which development consent is sought and other associated development works. The specified works are to be read alongside the relevant works plans.
- 9.2.56 As indicated above, there are now two versions of the draft DCO, one for Option A, and one for Option B, and the necessary works for each option are thereby clearly distinguished.
- 9.2.57 The matter of the 132kV removal and undergrounding works was also raised at the DCO ISH held on 14 April 2015. The Applicant confirmed that the intention is to ensure that the 132kV removal works would be undertaken in the event that the 400kV line is constructed and indicated that a new requirement would be added to this effect. The removal of the WPD works is now covered by Requirement 35.
- 9.2.58 The scope of the 'associated development' categories (a) to (m) was discussed during the course of the Examination. At the DCO ISH held

on 14 April 2015, the Applicant explained that the works of associated development described in sub-paragraphs (a) to (k) are all specific works. The works described in paragraphs (l) and (m) are non-specific works but are caveated with the requirement that any such works do not give rise to any material effect not assessed in the ES. We do not consider that it is necessary for any further amendment to be made to the description of 'associated development' set out in Schedule 1.

- 9.2.59 The Joint Councils initially raised an issue with 'associated development' in relation to where it may be located within the red line e.g. construction compounds. They consider that there is too much flexibility afforded to works taking place within the red line which has the potential to cause greater impacts on receptors. The Applicant has subsequently added a new Requirement 37 which requires the construction compounds to be constructed in the situations shown on the works plans. The Joint Councils' Deadline 7 submissions [REP7-004] welcome the addition of this new requirement.

Schedule 2 - Plans

- 9.2.60 Schedule 2, lists the work plans, land plans, access and rights of way plans, and other plans submitted with the application. The plans and documents that are required to be certified by the Secretary of State are set out Article 45. The Panel considers that the St Anthony's Park Enhanced Mitigation Plan drawing no. MMD-322069-C-SK-GRoute-XX-0001 [Doc 8.43.1] should be included within the Plans and Drawings Table of Schedule 2.

SCHEDULE 3 - REQUIREMENTS

- 9.2.61 EN-1, paragraph 4.1.7, advises that the decision-maker should only impose requirements in relation to a development consent that are necessary, relevant to planning, relevant to the development to be consented, enforceable, precise and reasonable in all other respects. The decision-maker should take into account the guidance in Circular 11/95, or any successor to it. That circular has, of course, now been cancelled and replaced by the 'Use of Planning Conditions' section of the DCLG Planning Practice Guidance. We have taken into account the advice set out in EN-1 and the Planning Practice Guidance in relation to the requirements that have been included in the recommended DCO.

Requirement 1 - Interpretation

- 9.2.62 The Applicant's Deadline 8 letter [REP8-012], agrees with the Joint Councils' suggestion that a definition for the Trees and Hedgerow Protection Strategy should be provided. The Panel agrees that the suggested definition, "*Tree and Hedgerow Protection Strategy means the strategy prepared in accordance with Requirement 12 (Retention and protection of existing trees and hedgerows)*", should be included in this part of the recommended DCO.

- 9.2.63 We also consider that a definition of *"Advance planting"* should be included, in the interests of clarity, as follows: *"Advance planting" means the installation and maintenance of embedded landscape or replacement planting as soon as practicable after the Order has been granted to achieve screening for construction activities and/or to expedite its function for mitigation and enhancement in sensitive areas."*
- 9.2.64 The Panel welcomes the inclusion of the Design Approach document. However, as indicated in Chapter 5.5, for clarity, we recommend that the definition of Design Approach to Site Specific Infrastructure in Requirement 1 should include reference to its application to all site specific infrastructure.
- 9.2.65 Requirement 1(3), provides a generic limitation for the terms *"unless otherwise approved"* or *"unless otherwise agreed"*. The ExA's Q4.39, requested the Applicant to reconsider this provision in the light of the Planning Inspectorate's Advice Note 15, paragraph 19, and the decision in *R (Warley) v Wealden DC [2011] EWHC 2083 (Admin)*.
- 9.2.66 In response, the Applicant refers to the Planning Inspectorate Advice Note 15, paragraph 19.4, which states that a tailpiece should not allow a Local Planning Authority (LPA) to approve details which stray outside the parameters set for the development by the examination process. Requirement 1(3) seeks to replicate model Requirement 37 (amendment to approved details). It sets out an explanation of the tailpiece that has been included in some requirements. Requirement 1(3) goes further than model Requirement 37 by clarifying that any amendments agreed by the LPA (or local highway authority) may only be given in relation to minor or immaterial changes which will not give rise to any materially new or materially different environmental effects to those assessed in the ES. This requirement therefore seeks to clarify the limited circumstances in which an LPA can agree minor revisions to details already approved.
- 9.2.67 Given this limitation on the scope of the tailpieces attached to various requirements, we consider that their use is appropriate and would provide a proportionate and limited degree of flexibility to the Applicant and the Joint Councils going forwards. We do not therefore consider that requirement 1(3) requires amendment or deletion. However, we have also considered the inclusion of each tailpiece attached to the various requirements in the light of the significance of that particular requirement to the authorised development as a whole and whether even the limited flexibility sought should be permitted in each case. In relation to Requirements 3 - in accordance with the design drawings, 7 - construction hours and 8 - control of artificial light emissions, we consider that these are matters of real significance to local people and that there is a need for certainty in their application. The tailpieces attached to Requirements 3(1), 7(1), 7(2), 7(3) and 8(3) are therefore deleted in the recommended Order.

Requirement 2 - Time limits

- 9.2.68 This represents a departure from the model requirement in providing that the authorised development must be commenced within eight years of the date of the Order (rather than five). The justification for this approach is set out at paragraphs 9.7 to 9.9 of the Explanatory Memorandum [Doc 2.2B]. The Applicant has also provided further information in response to Qs 4.41 and 3.36 [Doc 8.1.1] and the matter was discussed at both the DCO ISHs. At the ISH held on 14 April 2015, the Applicant pointed out that if something outside its control caused a delay, there would be a risk of it having to apply for another DCO.
- 9.2.69 Whilst the Panel has concluded that there is a need for the proposed development, there is clearly a degree of uncertainty as to the date of construction of Hinkley Point C, and other developments that are likely to require a connection. We consider that the reasons given for seeking an extended commencement are valid and that the proposed eight year time period is acceptable. We do not recommend any change in this respect.

Requirement 3 - In accordance with the design drawings

- 9.2.70 The Joint Councils' final comments on the updated draft DCO [REP7-004], maintain their objection to the drafting of this requirement. It still includes the phrase 'in general accordance with the design drawings'. The Joint Councils believe that it is neither necessary, nor reasonable, for this qualification and, in their view, it is neither 'precise', nor 'enforceable'.
- 9.2.71 The Applicant's position in relation to the phrase 'in general accordance' is set out in its response to the ExA's Q4.42. The Applicant submits that the inclusion of the word 'general' is required for this long linear scheme to provide a necessary, but proportionate, degree of flexibility. It states that strict adherence to the design drawings would unduly fetter its ability to deliver the authorised development. However, Requirement 3(2) has been amended so as to clarify the position as to the limitations upon the means of carrying out development in 'general' accordance with design drawings in that any changes must not give rise to any materially new, or different environmental effects from those assessed in the ES.
- 9.2.72 This matter was discussed at both the DCO ISHs. At the ISH held on 14 April 2015 [Doc 8.13.1.1], the Applicant indicated that if the final design of the lines, and fixed assets, was tied absolutely to the design drawings, then this would provide no flexibility for minor, and necessary, changes to be made to the final design. At the ISH held on 16 June 2015 [Doc 8.13.13], the ExA queried whether Requirement 3(2) should be further qualified to ensure that only minor and necessary changes would be permitted to be made to the final design and why such changes could not be dealt with in the 'non-material changes' process in PA2008.

- 9.2.73 The Applicant stated that 'non-material changes' are changes to the wording in the Order. In this instance, the design drawings are generic elements and it would negotiate with contractors on the basis of those generic layouts. Accordingly, because the designs of substation equipment, etc. would be dependent on what equipment might be available from suppliers, flexibility is required because the Applicant could not know, at this time, precisely what equipment would be used. Furthermore, Article 5 sets clear LoDs for this development.
- 9.2.74 As indicated above, the Panel considers that the question of compliance with the design drawings is of such significance that the degree of flexibility in the operation of this requirement provided by the tailpiece addition should be deleted. We have had regard to Applicant's justification for the inclusion of the word 'general' in this requirement. We recognise the Applicant's need for a degree of flexibility in order to overcome the practical difficulties that might be associated with carrying out the development. Given the restrictions imposed by the LoD; the inclusion of Requirement 37 relating to the location of the construction compounds; and Requirement 38 relating to the design approach to site specific infrastructure, we do not consider that any additional amendment of Requirement 3 is necessary in this case.

Requirement 5 - CEMP

- 9.2.75 The Joint Councils' Deadline 7 submissions [REP7-004] indicate that they still seek either a reduction in the time by which the development must be commenced, or for Requirement 5 to be amended to require the submission of the updated CEMP prior to the commencement of the project (or ideally both).
- 9.2.76 The Applicant reiterates its position in relation to the CEMP at Deadline 8 [REP8-012]. It does not consider that it is appropriate for matters considered, and agreed, during the course of the Examination to be reopened through the introduction of a post-consent approval of the CEMP and its appendices. This is considered especially important in cases where parties have made representations in support of the proposals on the basis that the mitigation measures identified are secured.
- 9.2.77 As set out above in relation to Article 45, and Requirement 2, the Panel does not consider that it is necessary to make either, or both of these changes sought by the Joint Councils. However, we believe that a minor amendment is required to Requirement 5(1) in the form of the insertion of a reference to "*mitigation works to minimise the impacts of construction*" in addition to "*construction works*", as the CEMP is intended to apply to the former, as well as the latter.

Requirement 6 - Approval and implementation of construction mitigation plans

- 9.2.78 In the same way as for Requirement 5 above, we believe that a minor amendment is required to Requirement 6(2) in the form of the insertion of a reference to "*mitigation works to minimise the impacts of construction*" in addition to "*construction works*" to clarify that the requirement applies to mitigation as well as construction works.

Requirement 7 - Construction hours

- 9.2.79 At the ISH held on 16 June 2015, the Applicant provided an update on amendments that had been made to Requirement 7. Firstly, start up and close down activities are now included within the 'core hours' and so the definition will be deleted from the draft DCO, as it is now redundant. Core hours are now 7am to 7pm (Monday to Friday) and 8am to 5pm (Saturday and Sunday). Though hours for piling operations remain as before, consecutive working on a Saturday and a Sunday can only take place on two out of any four consecutive weekends, unless otherwise approved by the relevant planning authority.
- 9.2.80 The Joint Councils raised concerns about the clarity of the proposals for consecutive weekend working. The Applicant explained that, at the moment, the limit was project-wide, but it did not envisage the same groups of workers moving around the project, or different works occurring on different weekends. This arose because of the patterns of workers: there is typically a 10 day or six day shift period for different work types (overhead line or cable). The revised proposals reflect these patterns.
- 9.2.81 The Joint Councils' Deadline 7 submissions [REP7-004] maintain their stance that the proposed working hours would cause significant change in a number of key locations, including around, and on transport routes into, and out of, construction compounds. Their concern as regards disturbance to residents therefore remains. They consider that the length of time that these communities would be affected lends weight to their argument in support of a Community Impact Mitigation (CIM) fund in the absence of additional specific mitigation.
- 9.2.82 We shall give consideration to the matter of the CIM fund later on in this Chapter. We have also considered whether more limited construction hours should be imposed in 'sensitive' areas. We have had regard to the ES assessment and the question of noise and other impacts on living conditions has been considered in detail in Chapter 5 of this report. We do not consider that it is necessary or reasonable to further restrict the hours of working set out in Requirement 7.
- 9.2.83 The Joint Councils also point out that the updated CEMP contains a commitment that cable cutting (as part of the jointing process) would only be undertaken during core working hours (paragraph 3.8.3).

They propose that the wording of Requirement 7(4)(a) should be amended to reflect this. The Applicant's letter of 17 July 2015 [REP8-012] states that this commitment is secured through Requirement 5 and the CEMP. However, the Panel considers that it is both necessary and reasonable to include such a specific reference in Requirement 7 to cable cutting. The recommended Order will be amended to reflect this.

Requirement 9 - Provision of embedded landscaping mitigation

- 9.2.84 The Panel has given consideration to the various arguments relating to embedded mitigation in Chapter 5 of this report. We consider that it is necessary for Requirement 9 to specifically include reference to a 15 year maintenance period. The recommended DCO will make provision for this to take place.

Requirement 10 - Replacement planting

- 9.2.85 The Joint Councils, in their final comments on the draft DCO, raise concerns in relation to linear features shown on the tree replacement plans replacing blocks of woodland [REP7-004].
- 9.2.86 The Panel considers that Requirement 10(1) should be amended to include reference to: *"...a scheme for the planting of trees, groups of trees, woodlands and hedgerows and blocks of woodland and scrub to replace those to be removed..."* In addition, the reference to Document 5.21.1 needs updating to 5.21.1B. The recommended Order will reflect this.
- 9.2.87 The Panel also agrees that Requirement 10(3) should include reference to *"areas"* of trees. The Applicant's letter of 17 July 2015 [REP8-012], confirms that it agrees to this latter change.
- 9.2.88 The Panel has given detailed consideration to the matter of bat flyways in the HRA Chapter of this report. We consider that Requirement 10(2) should include reference to the eight year maintenance period needed for those flyways.
- 9.2.89 As explained in the biodiversity section of Section 5.15, the Applicant has agreed to provide landowners of Sites of Nature Conservation Interest (SNCIs) with management plans from the time works commence. We therefore consider that an additional Requirement 10(2)(e) is necessary to include reference to *"management plans for landowners which set out the maintenance activities for years one to five and years six to fifteen"*.
- 9.2.90 The Applicant's letter of 17 July 2015 [REP8-012], maintains that five years is the appropriate period to allow new planting to become established as set out in the model DCO provisions. This position has been reinforced by its extensive experience of planting and replanting trees in connection with its electricity and gas transmission network.

9.2.91 We have also considered the matters of advance planting, management plans and planting at Ashtrees, Mark, in Chapter 5 of this report. For the reasons set out therein in detail, we believe that it is necessary to amend Requirement 10(2)(d) by the addition of the wording: *"...and for temporary planting at construction compounds prior to implementation of the relevant stage"*. We believe that another sub-clause (f) should make reference to a scheme for the property Ashtrees in Mark in accordance with the 'Actions arising from DCO hearing 17 June - Note relating to planting at Ashtrees' [Doc 8.39.6], including a timetable for its implementation. These changes will be reflected in the recommended DCO.

Requirement 11 - Implementation of landscaping and replacement planting

9.2.92 The Joint Councils consider that in order to minimise impact it is important that advance or early implementation of replacement, site specific and off-site planting and enhancement scheme (OSPES) planting is secured at a number of sensitive locations, and have listed these in their Deadline 7 submission. The Joint Councils have suggested wording for such a requirement. The Applicant has provided a response to the matter of early implementation of landscaping and replacement planting in its letter of 17 July 2015 [REP8-012]. The Panel has given consideration to this matter in Chapter 5 of this report.

9.2.93 We conclude that a number of changes are necessary. We consider that Requirement 11(1) should also include reference to requirement 30(3), so that the River Axe Crossing landscape works are also covered. The addition of the following words needs to be made at the end of Requirement 11(2), *"...as updated by Document 8.18.2.1, Appendix 2.9.27.1"*. We propose that there should be specific reference to advance planting at the South of the Mendip Hills Cable Sealing End compound in accordance with the Applicant's response to second round written questions [Doc 8.18.2.1, Appendix 2.9.27.1], or at a later date within the planting season or the next planting season, and for advance planting at Ashtrees, Mark. We also consider that it is necessary to amend Requirement 11(6) to make reference to a maintenance period of 15 years for embedded mitigation; eight years for the bat flyways hedge planting and five years for all other areas. The recommended DCO will incorporate these changes.

Requirement 13 - Bird flight diverters

9.2.94 The Joint Councils in their final comments on the draft DCO [REP7-004], indicate that they have agreed with the Applicant an amendment that states that if the trigger for the provision of bird diverters at Hallen Marsh is reached prior to, or during construction of the HCCP, then bird diverters will be installed during construction. However, the trigger relating to the area of habitat to be installed remains an area of disagreement. The Joint Councils consider that there is a risk to birds as soon as a waterbody of over 100m² is

implemented, and have therefore requested that this trigger is included in the requirement.

- 9.2.95 The Panel agrees that it is necessary and reasonable to include reference to the provision of a waterbody of over 100m², as an alternative trigger to the enhancement works specified and to post construction bird collision monitoring. The recommended DCO will reflect this position.
- 9.2.96 From the outset, the Joint Councils argue the case for bird diverters to be fitted at Portbury Wharf Nature Reserve if Option B were taken forward because of the potential for bird mortality from collision. They sustain their position because the proposed overhead line alignment crosses known flight paths for non-SPA birds. The Applicant argues it is not necessary because two overhead lines are removed and replaced by one and the area would be covered by its bird diverter protocol.
- 9.2.97 The Panel requested the Applicant to provide suitable wording for inclusion in the DCO should the Secretary of State consider installation of bird diverters or post construction monitoring of bird collisions be necessary [Doc 8.39.2]. We recommend that post construction bird collision monitoring of the 400kV overhead line between pylons P-LD95 and P-LD102A is undertaken for the reasons set out in Section 5.15. The recommended Order will reflect this position.

Requirement 14 - Bat mitigation measures

- 9.2.98 Since the advice provided by NE in relation to bat flyways refers to both temporary and permanent bat flyways, we consider that Requirement 14(1) should be amended to include reference to "permanent" flyways. We also believe that it is necessary for Requirement 14(2) to be amended to the management of the measures referred to in 14(1) and to specify a maintenance period of eight years.

Requirement 16 - Fencing and other means of enclosures

- 9.2.99 The Joint Councils, in their final comments on the draft DCO [REP7-004], state that, given the potential for insensitively designed fencing to impact negatively on the landscape character of the locality in which it is placed, this requirement should include reference for the design of fencing to be consistent with the Applicant's 'Design Approach to Site Specific Infrastructure' document.
- 9.2.100 The Panel has given consideration to this matter. However, we note that the new Requirement 38 - 'Design Approach to Site Specific Infrastructure' in the draft DCO includes reference to Requirement 16 and requires the details submitted pursuant to that requirement to have regard to the 'Design Approach to Site Specific Infrastructure' document. We do not therefore consider that any further amendment of Requirement 16 is necessary. We also adopt the same position in relation to the Joint Councils' final comments in relation to

Requirement 30 - River Axe crossing and Requirement 32 - Approval of external appearances etc. of permanent structures.

Requirement 20 - Removal of temporary bridges and culverts

- 9.2.101 The Joint Councils in their final comments on the draft DCO [REP7-004], confirm that their previous position still stands and they seek an amendment of this requirement to secure the approval of a watercourse protection plan and the removal of any temporary bridge or culvert in accordance with such a plan. The Panel considers such an amendment to be reasonable and necessary and the recommended DCO has included this change to the wording of Requirement 20.

Requirement 22 - Highway works

- 9.2.102 The Joint Councils in their final comments on the draft DCO [REP7-004] propose that the following words should be added to the end of Requirement 22(3): *"...and must implement recommendations arising from the road safety audit reports, unless otherwise agreed with the relevant highway authority."*
- 9.2.103 The Panel considers this amendment to be necessary in the interests of highway safety and reasonable in all respects. The recommended Order shall include this change.

Requirement 23 - HGV traffic

- 9.2.104 The Joint Councils, in their final comments on the draft DCO [REP7-004], confirm that they still seek an amendment of this requirement to include reference to certain motorway junctions. The Panel has given detailed consideration to this issue in Chapter 5 of this report. We do not consider that any amendment of this requirement is necessary.

Requirement 24 - Scheme of marking

- 9.2.105 The Joint Councils, in their final comments on the draft DCO [REP7-004], note that Requirement 24(1) has been amended to the effect that the consultation with the planning authority could be interpreted as being required once the formal application has been submitted to the highway authority (i.e. not pre-application). They strongly encourage pre-application discussions prior to formal submissions and therefore consider that the original wording (as set out in the May 2015 draft DCO should be reinstated).
- 9.2.106 The Panel has given consideration to this matter. However, we believe that the most important aspect to be secured is that the relevant highway authority should be required to consult with the relevant planning authority before the scheme is approved and this has been achieved. We do not consider that any further amendment of Requirement 24 is necessary.

Requirement 27 - Travel Plan

- 9.2.107 The Joint Councils, in their final comments on the draft DCO [REP7-004], still require the amendment to Requirement 27 for the submission of the Travel Plan for approval. This forms part of the Construction Travel Management Plan which, in turn, forms part of the CEMP.
- 9.2.108 The Joint Councils do not yet consider that the submitted Travel Plan is capable of being approved as a final version. If the Travel Plan is not agreed during the course of the Examination, the Joint Councils would like to see Requirement 27 amended to secure the submission of the Travel Plan for approval. They propose the following amendment:
"Prior to the commencement of development, a Construction Workforce Travel Plan will be submitted to the relevant highway authority for approval in writing. The approved plan will be implemented from the commencement of the construction period and in full for the duration of the construction stage of the development."
- 9.2.109 Whilst the Applicant has produced a Travel Plan [Doc 5.26.5C Annex A], we do not consider this to be entirely satisfactory in its current form and some parts cannot be sensibly completed until a contractor has been appointed. For that reason, we consider that it would be appropriate for Requirement 27 to be amended to require the prior approval and implementation of a Travel Plan. This change will be included in the recommended DCO.

Requirement 28 - Seabank substation flood defences

- 9.2.110 The Joint Councils in their final comments on the draft DCO [REP7-004] propose the following addition to Requirement 28: *"(3) The Seabank 400kV substation shall not be brought into first operational use until the approved flood defence wall has been completed"*.
- 9.2.111 The Panel considers that the necessary control over the first operation of the substation would be best achieved by including a reference to the approval and compliance with a 'timetable' for implementation of the flood defence wall. The recommended DCO will include an amendment to this effect.

Requirement 31 - Residential amenity: information dissemination and complaints handling

- 9.2.112 The Joint Councils, in their final comments on the draft DCO [REP7-004], propose additional text in relation to information packs (and scope for additional measures). The reason given for this is to ensure certainty in the measures that must be included within the scheme to help protect the amenity of the local community.
- 9.2.113 We have had regard to this suggestion, but we consider that the requirement, as drafted, adequately secures its objective and no further amendment is required.

Requirement 34 - Decommissioning

- 9.2.114 The Joint Councils, in their final comments on the draft DCO [REP7-004], indicate that they believe that this requirement should also apply to existing infrastructure to ensure that any decommissioning of existing infrastructure is not carried out before ecological surveys have been undertaken.
- 9.2.115 At the ISH held on 14 April 2015 [Doc 8.13.1.1], the Applicant stated that the commitment in this requirement is to future decommissioning and does not refer to existing infrastructure and apparatus to be removed as part of the authorised development. The Panel does not consider that it is necessary for the scope of Requirement 34 to be extended as suggested by the Joint Councils and no further change will be made to it in the recommended DCO.

Requirement 36 - Colour of T-pylons

- 9.2.116 There is an unnecessary "s" at the end of "musts" and we propose to correct this typographical error in the recommended DCO. The Panel also considers that it is necessary and reasonable to include reference to a "low reflectivity finish" for the T-pylons.

Additional requirements

- 9.2.117 The Panel has considered, in Chapter 5 of this report, the matter of minimising noise from live conductors by ensuring positioning, sizing, manufacture and cleanliness are all considered during the design and construction process. Since reference to the Applicant's suggested measures have not been included in the Noise and Vibration Management Plan (NVMP) we consider that an additional requirement is necessary to secure the proposed mitigation.
- 9.2.118 The Panel has concluded, in Chapter 5 of this report, that full noise assessments should be carried out for all residential properties lying within the identified thresholds and for any works identified by the assessment to be carried out before the start of construction works. We consider that it is both necessary and reasonable to include such a requirement in the recommended DCO, in order to safeguard the living conditions of local residents.
- 9.2.119 The Panel has concluded, in Chapter 5 of this report, that full vibration impact assessments should be carried out, and any works of mitigation identified by that assessment completed, before specified operations take place near certain residential properties. We consider that it is both necessary, and reasonable, to include such a requirement in the recommended DCO, in order to safeguard the living conditions of local residents.
- 9.2.120 The Panel has considered, in Chapter 5 of this report, the impacts on Riverview Farm, and the mitigation that needs to be secured through the DCO. At Deadline 7, the Applicant submitted a 'Note relating to Mitigation at Riverview Farm' [Doc 8.38.3]. This proposes various site

specific mitigation measures for Riverview Farm. We believe that those measures should be secured by an addition to Requirement 6 to require the submission and approval of a Riverview Farm Traffic Management Plan. That plan will be defined, in Requirement 1, as being *"a plan for the provision of construction mitigation measures at Riverview Farm"*. This is a necessary, and reasonable, requirement to secure the proposed mitigation for this property.

- 9.2.121 The Panel has considered, in Chapter 5 of this report, the impacts on Factory Lane and the mitigation that needs to be secured through the DCO. At Deadline 5 the Applicant submitted a 'Plan Showing Proposed Safety Improvements at Junction of Factory Lane with Church Road (B3139)' [Doc 8.21.3]. This was produced in consultation with the local highway authority and met their requirements. We believe that this measure should be secured by an addition to Requirement 6 to require the submission and approval of a 'Plan Showing Proposed Safety Improvements at Junction of Factory Lane with Church Road (B3141)'. This is a necessary, and reasonable, requirement to secure the proposed mitigation for the junction of Factory Lane and Church Road. For clarification, it should be noted that whilst the title of the Deadline 5 plan refers to the B3139, the plan itself describes Church Road as the B3141. It is the Factory Lane/Church Road junction shown on that plan that requires the improvement measures that would be secured by the amendment to Requirement 6.
- 9.2.122 The Panel has considered, in Chapter 5 of this report, the impacts on St Anthony's Park, and the mitigation that needs to be secured through the DCO. At Deadline 7, the Applicant submitted the St Anthony's Park Enhanced Mitigation Plan [Doc 8.43.1], drawing No MMD-322069-C-SK-GRoute-XX-0001. This plan shows a number of means of providing enhanced mitigation, including an above-ground area hatched grey which is marked as 'not to be used during construction for any reason'. An additional requirement is necessary to secure that aspect of the plan. Article 5 will also be amended so that the lateral limits of deviation include reference to this new requirement. The plan will also be included in Schedule 2 under the Plans and Drawings Table.
- 9.2.123 The need for additional site specific mitigation for various properties has become apparent during the course of the Examination. For some of these properties enhanced mitigation, in the form of screen fencing will be provided by means of the CEMP and those properties are specifically listed within that document at Table 3.1. However, as indicated in Chapter 5 of this report, it is necessary to provide additional mitigation for the properties known as Merriedown, Sunnydene, Moorland Park, Spindlewood, Paragon Vehicle Services Limited's Paint Shop, and St Anthony's Park over and above that envisaged by the CEMP. The Applicant has already put forward suggestions as to the form this additional mitigation might take, but this is not adequately secured by the draft DCO. There is therefore a need for a requirement to require the submission, approval and

implementation of site specific additional mitigation for these properties.

SCHEDULE 4 - DISCHARGE OF REQUIREMENTS

- 9.2.124 The Joint Councils, in their final comments on the draft DCO [REP7-004], note the changes made to Schedule 4, paragraph 1. However, they submit that this is not consistent with the s106 agreement. The Joint Councils have agreed a process by which National Grid may pay the Councils' costs in delivering a decision in five weeks rather than eight weeks (see Schedule 11 of document 8.4B). They contend that the default provision for minor requirements within the DCO needs to be eight weeks not five weeks, as currently drafted. They also propose that paragraph 2(2)(b) must be updated to reflect the revised timescale of eight weeks (as at present the current drafting provides that the fee must be refunded if the application has not been determined within four weeks).
- 9.2.125 The Applicant's letter of 17 July 2015 [REP8-012], states that no changes are required to reflect payment of additional costs arising from the five week service period as these are secured by means of the s106 agreement. The Applicant indicates that paragraph 2(2)(b) has been amended to refer to the 'relevant decision period' to reflect the differing timescales for approving minor and major requirements.
- 9.2.126 We have noted the comments made by the Applicant at Deadline 8. We have also had regard to the Applicant's submissions at the ISH on 14 April 2015, drawing attention to the need to complete works as quickly as possible and without any unnecessary delay. Whilst the Applicant has agreed, by means of the s106 agreement, to meet the reasonable costs of the Council incurred in providing a service for minor requirements in the enhanced response time of five weeks, the response time, without the enhanced service, is stated to be eight weeks. We consider that it would be unreasonable for the DCO to require the Council to comply with a decision period of five weeks for minor requirements. We therefore agree with the Joint Councils that the default period for minor requirements in the DCO should be eight weeks, as for major requirements.
- 9.2.127 At the DCO ISH held on 17 June 2015, the time periods set out in Schedule 4 were discussed. The Somerset Drainage Board Consortium has expressed concern about the time limits set out in the DCO for the drainage boards to provide their views on designs that would be put to planning authorities for approval. The drainage boards have noted that the Land Drainage Act 1991 sets out a minimum eight week period for them to make determinations under that Act and they submit that a similar eight week minimum should apply to matters under the DCO. The Applicant explained that for matters governed by the Land Drainage Act 1991, the eight week time limit would apply. However, where the drainage boards are consultees under the requirements to be discharged by relevant planning authorities they would have to

respond within the eight/five week period. The Applicant submits that these time periods are reasonable for 'consultation' responses.

- 9.2.128 As indicated above, the Panel considers that the minimum period should be eight weeks for all requirements. We do not believe that it is necessary for an eight week period to apply for consultation purposes but that it would be reasonable for the period set out in paragraph 1(5) to be extended by seven days to 28 days. The recommended DCO will reflect this change.

SCHEDULE 9 - DEEMED MARINE LICENCE

- 9.2.129 The recommended DCO, Schedule 9, sets out the terms of the deemed marine licence referred to in Article 36. The SoCG between the Applicant and the MMO [Doc 8.3.10] confirms that the only works associated with the proposed development below the mean high water springs (MHWS) are the activities relating to the River Avon crossing. The MMO's response to the ExA's Q4.62 [REP2-089] states that it does not consider the dismantling and removal of the existing 132kV overhead electric line over the River Avon constitutes a "*licensable marine activity*" under Part 4 of the Marine and Coastal Access Act 2009. However, the construction of the new transmission system does constitute licensable marine activities under Section 66(1)7(a) of the 2009 Act. The licensed activities described in the DML, Schedule 9, Part 2 reflect this position.
- 9.2.130 The relevant representation of the MMO [RR-124] made a number of detailed comments in relation to Schedule 9 of the draft DCO. The SoCG between the Applicant and the MMO, identifies the progress made on reaching an acceptable position in relation to the DML. However, it also identifies the MMO's outstanding concerns in relation to both the draft DML and the DCO articles.
- 9.2.131 In response to the ExA's Qs 2.10.2 and 2.10.3 [REP5-014], the MMO welcomes the amendments made to Part 2 of the DML in the draft DCO for Deadline 4. However, the MMO explains that it is still working with the Applicant regarding the drafting of Part 2, 3(1) of the DML. In addition, the parties were discussing minor drafting amendments in relation to Condition 12 (notification to relevant harbour authority) and Condition 23 (maintenance activities).
- 9.2.132 The MMO made final comments on the updated draft DCO at Deadline 7 [REP7-005]. The MMO reiterates its concerns in relation to Article 7 of the draft DCO, but confirms that it is content with the DML as drafted for Deadline 7. The Applicant's Deadline 7 Position Statement in respect of the MMO [Doc 8.34.7], confirms that agreement has been reached with the MMO regarding the drafting of the DML. The agreed version of the DML is included in the draft DCO submitted at Deadline 7, and the recommended DCO.

SCHEDULE 13 - TRAFFIC REGULATIONS

- 9.2.133 The Joint Councils, in their final comments on the draft DCO [REP7-004], confirm their objection to any power to control traffic speeds, as they regard this as a highway safety issue. The Panel agrees that the speed limits should be based on 85th percentile speed data rather than a blanket 30mph limit for all bellmouth locations. The schedule will be amended in this respect in the recommended DCO, so as to refer to, *"Speed limit to be reduced to 30mph, or to such other speed agreed by the highway authority, for the duration of the construction of the authorised development."*

SCHEDULE 15 - PROTECTIVE PROVISIONS

Part 1

- 9.2.134 The Panel has considered in Chapter 8, the position of Wessex Water Services Ltd (WWSL), and Bristol Water plc (BW plc), but we conclude that the protective provisions set out in the recommended DCO, Schedule 15, Part 1, provide adequate safeguards for the interests of these statutory undertakers and the prescribed tests set out in section 127 have been met. The interests of Wales and West Utilities Limited (WWU) and Western Power Distribution (South West) plc (WPD) are also safeguarded in respect of their apparatus by the protective provisions in Part 1 and the issues arising in relation to s138 have been overcome.

Part 3

- 9.2.135 This part of Schedule 15 provides protection for highways and traffic. The Joint Councils in the SoCG on the draft DCO [Doc 8.3.17A], request that paragraphs 22 and 23 should both be expressly made subject to the prior consent of the relevant highway authority. The Applicant considers that this is unnecessary and its stated view is that paragraph 14 would ensure that prior approval is obtained. However, this is a matter that relates to highway safety and, in the interests of clarity, we believe that the change sought by the Joint Councils should be made. The recommended DCO will reflect this change.

Part 4

- 9.2.136 As explained in Chapter 8, National Rail Infrastructure Limited (NRIL) has submitted the protective provisions that it wishes to see included in the draft DCO [EV-148]. The main areas of dispute are in relation to paragraphs (4), (15), 5(3) and (20) of the draft protective provisions. The Applicant, in response, has provided a Position Statement at Deadline 7 in respect of NRIL [Doc 8.34.1].
- 9.2.137 The relevant s127 tests, and protective provisions for NRIL, have been considered in detail in Chapter 8 of this report. The recommended DCO, Schedule 15, Part 4, reflects the Panel's conclusions in respect of the various changes sought by NRIL to the protective provisions. The Panel is satisfied that the protective provisions set out in the

recommended Order, Schedule 15, Part 4 would give adequate safeguards for the interests of this statutory undertaker. We conclude that, provided those protective provisions are incorporated within the DCO that is granted, the relevant s127 tests will have been met.

Part 5

- 9.2.138 The BPC also indicates that protective provisions have been agreed with the Applicant for the benefit of First Corporate Shipping Limited trading as the BPC. It submits that the version attached to its Deadline 8 submissions [REP8-002] should be included in substitution for the protective provisions which have been included by the Applicant in the latest version of the DCO, Schedule 15, Part 5 [Doc 2.1.1E and Doc 2.1.2E].
- 9.2.139 At Deadline 8, the Applicant provided an update in respect of its negotiations with the BPC [Doc 8.52]. This anticipates that the agreements between the BPC and the Applicant would be concluded shortly after the close of the Examination. However, the Applicant was not then in a position to confirm its agreement to those alternative provisions and its position at the close of the Examination remains as set out in its Deadline 7 submissions [Doc 8.34.8].
- 9.2.140 The protective provisions for the BPC, and the s127 application made in respect of the BPC, have been considered in detail in Chapter 8 of this report. The recommended DCO reflects the Panel's conclusions in respect of the various changes sought by the BPC to the protective provisions. The Panel is satisfied that the protective provisions set out in the recommended Order, Schedule 15, Part 5 would give adequate safeguards for the interests of this statutory undertaker. We conclude that provided those protective provisions are incorporated within DCO that is granted, and the LoD are restricted as explained in relation to article 5, the relevant s127 tests will have been met.

Part 6

- 9.2.141 The BPC's Deadline 8 final submissions [REP8-002] confirm that the Applicant and the BPC have agreed protective provisions for the benefit of the BPC as the port authority, which the Applicant has included in the latest version of the draft DCO, Schedule 15, Part 6 [Docs 2.1.1E and 2.1.2E].

Part 7

- 9.2.142 The EA's Deadline 7 comments [REP7-007] confirm that protective provisions have been agreed to safeguard the EA's flood defence related interests. The agreed protective provisions are detailed in Schedule 15 of the draft DCO.
- 9.2.143 These protective provisions and the s127 application made in respect of the EA have been considered in detail in Chapter 8 of this report. The Panel is satisfied that the protective provisions set out in the recommended DCO Schedule 15, Part 7, give adequate safeguards for

the interests of this statutory undertaker. We conclude that, provided those protective provisions are incorporated within DCO that is granted, the relevant s127 tests will have been met.

Part 8

- 9.2.144 The final comments of RWE submitted at Deadline 7 [REP7-006], propose a number of changes to the RWE protective provisions set out in the draft DCO, Schedule 15, Part 8. At Deadline 8, the Applicant provided a response to the RWE Deadline 7 submissions [Doc 8.51].
- 9.2.145 The protective provisions, and the s127 tests, in respect of RWE have been considered in detail in Chapter 8 of this report. The recommended DCO reflects the Panel's conclusions in respect of the various changes sought by RWE to the protective provisions. The Panel is satisfied that the protective provisions set out in the recommended Order, Schedule 15, Part 8 would give adequate safeguards for the interests of this statutory undertaker. We conclude that, provided those protective provisions are incorporated within DCO that is granted, the relevant s127 tests will have been met.

SCHEDULE 17 - AMENDMENT OF LOCAL LEGISLATION

- 9.2.146 As explained above, in relation to Article 49, the Bristol Port General Byelaws 2005 that are set out in Schedule 17 of the draft DCO, will be excluded from the scope of the recommended DCO.
- 9.2.147 The Applicant's Position Statement in respect of the Internal Drainage Boards (IDBs) [Doc 8.34.6], indicates that a draft agreement has been sent to the IDBs in which it has agreed that it would not seek to disapply byelaws 7(a), 14 and 26. It understands that the IDBs are satisfied with this position, subject to the satisfactory completion of that agreement. The IDBs Deadline 8 submission [REP8-011] confirms that good progress has been made in the negotiations with the Applicant but the agreement has not been concluded.
- 9.2.148 The SoCG between the Applicant and the IDBs [Doc 8.3.8], explains that the Applicant has agreed that byelaws 6, 9 and 10 should remain in force and they are not included in the draft DCO. The SoCG also sets out the Applicant's reasoning for the disapplication of the remaining byelaws and seeks to justify the disapplication of byelaw 24. The IDBs submit that it is essential to retain their full existing regulatory framework alongside the DCO requirements. Whilst we recognise the need for the IDBs to effectively carry out their statutory duties, we find the Applicant's approach to the relevant IDB byelaws to be proportionate and necessary to allow the timely delivery of the proposed development. We do not therefore propose to amend the table of IDB byelaws set out in the DCO. However, this is a matter upon which the parties are likely to reach agreement that will operate alongside the development consent granted.

OTHER MINOR AMENDMENTS

- 9.2.149 Alterations have been made for the purposes of clarification, correction of minor errors, or to reflect changes proposed elsewhere in the DCO. We do not report in full on typographic errors and minor corrections that we recommend in the DCO (Appendix E), but consider that if development consent is to be granted, they should be incorporated in any DCO as made.

9.3 OTHER LEGAL AGREEMENTS/ RELATED DOCUMENTS

- 9.3.1 EN-1, paragraph 4.1.8, advises that the decision-maker may take into account any development consent obligations that an applicant agrees with local authorities. These must be relevant to planning, necessary to make the proposed development acceptable in planning terms, directly related to the proposed development, fairly and reasonably related in scale and kind to the proposed development and reasonable in all other respects.

THE S106 AGREEMENT AND THE SUPPLEMENTARY S106 AGREEMENT

- 9.3.2 The Applicant's letter accompanying its Deadline 6 submissions [REP 6-018], encloses a signed copy of the s106 Agreement dated 16 June 2015 [Doc 8.4B] which has been agreed between the Applicant and the Joint Councils. The Applicant indicates that discussions with regards to socio-economic matters continued beyond the completion of the s106 agreement and the parties have since agreed the Draft Schedule to secure Project Opportunities for Local People and Businesses for proposed Supplemental Agreement between National Grid and the Joint Councils pursuant to s106 of the Town and Country Planning Act 1990 [Doc 8.29]. The executed supplemental s106 agreement [Doc 8.29A] was submitted at Deadline 7.
- 9.3.3 The s106 agreement dated 16 June 2015 [Doc 8.4B], has 12 schedules which contain covenants which are stated to be development consent obligations for the purposes s106 of the Town and Country Planning Act 1990. These schedules cover sites, transport, historic environment, local wildlife sites, biodiversity measures, ecological enhancement at the ASEA, replacement tree planting, other planting, off-site planting and enhancement, socio-economics, service level agreement and the Councils' obligations. The off-site planting and enhancement schedule is divided into four parts: Part A - Off-site planting, Part B - Woodland Management, Part C - Distinctive landscape elements and Part D - Long-distance routes & public rights of way.
- 9.3.4 The supplemental s106 agreement dated 13 July 2015 [Doc 8.29A], contains development consent obligations set out in three schedules. Schedule 1 lists the sites; Schedule 2 details project opportunities for local people and local businesses and Schedule 3 contains the Councils' obligations.

- 9.3.5 The Panel has had regard to the covenants set out in the s106, and the supplemental s106 agreement, in the light of the EN-1 policy statement. We have explained in Chapter 7 of this report those development consent obligations which we consider to be compliant with that national policy and that we have taken into account in reaching our conclusions and making our recommendation.

THE JOINT COUNCILS' PROPOSED ADDITIONAL SUPPLEMENTAL AGREEMENT AND CIM FUND

The Joint Councils' case for a CIM fund

- 9.3.6 The Joint Councils' Local Impact Report (LIR), Appendix C [REP2-113], sets out their case in relation to the need for, and the substance of, a CIM fund. They state that the need for the CIM fund arises from a range of residual adverse impacts which can be summarised as: individual and cumulative impacts where National Grid's proposed mitigation is inadequate; adverse impacts which are understated, unforeseen or poorly predicted; and residual unmitigated effects.
- 9.3.7 The LIR, Appendix C, identifies the relevant impacts and gives an explanation of the substance of the CIM fund and the Joint Councils' proposal for how it should be secured. It is broken down into the following elements: the principle of a CIM fund; examples of community funds for other electricity transmission projects; examples of community funds for other linear projects; an explanation of why £5 million would be a proportionate amount for the CIM fund; how the CIM fund could be secured through planning obligations; examples of how residual adverse impacts identified could be mitigated by community-led initiatives to reduce the impacts to an acceptable level in planning terms; and an outline of the governance structure proposed for the CIM fund, including criteria by which community proposals could be evaluated.
- 9.3.8 The Joint Councils' position is that the proposed development would, individually, and cumulatively with other schemes, lead to a range of adverse impacts on communities along its length and over a wide area, during both construction and operational phases. They submit that a number of impacts could not or would not be mitigated adequately, or at all. Some of the impacts can be easily identified and the scale of the impact estimated from the technical work. Other impacts, in particular perception related impacts, are more difficult to quantify. The CIM fund is proposed to be secured by planning obligations. It is being sought in addition to the OSPES proposed by the Applicant. The CIM fund is not intended to replace, or in any way be a substitute for, National Grid's existing corporate social responsibility programme.
- 9.3.9 The Joint Councils point out that CIM funds have been established for other nationally significant infrastructure projects, including nuclear projects within the UK and overseas, which they submit provide precedents for a CIM fund for this project. Three of the Joint Councils

are familiar with the CIM fund established in relation to the nuclear new build at Hinkley Point C. They draw attention to other CIM funds for linear infrastructure including the York Potash Community Foundation, the HS1 Countryside Rail Initiative and the HS2 proposed community funds. The Joint Councils consider that a total CIM fund of £5 million is necessary to provide for community-led mitigation which would be fairly and reasonably related in scale to the proposed development. Table 1 of the LIR, Appendix C, sets out figures for various community funds for electricity transmission projects.

- 9.3.10 The Joint Councils have identified significant unmitigated residual impacts at a number of 'pinch points' along the route of HCCP. In Sedgemoor, these locations are at Puriton Ridge, Mark Causeway and Tarnock area. They submit that the community needs the ability to apply to the CIM fund to support initiatives such as these as they come forward. The CIM fund could be applied to address impacts relating to additional closures and on landscape and visual impacts by supporting projects for new or improved rights of way, and green infrastructure.
- 9.3.11 The Joint Councils propose that the CIM fund would be administered by three geographically based Panels, (Somerset, North Somerset and Bristol & South Gloucestershire) comprising of representatives of the Joint Councils, National Grid and the community and be directed towards projects and initiatives within the communities affected by the project. The Panels would retain responsibility for delivering approved projects. At Deadline 7, the Joint Councils provided an update and summary of their case for the need for a CIM fund for the proposed development [REP7-067]. This note summarises the various submissions made during the course of the Examination both orally during ISHs and in writing. The Joint Councils' case for a CIM fund was also supported at ISHs by Parish Councils and community based organisations. The LIR, Appendix C, Section 3, sets out an overview of impacts which the Joint Councils consider are not adequately addressed within both the construction and operational phases of the proposed development.
- 9.3.12 The Joint Councils' Deadline 7 submission summarises the position for these in the light of oral submissions made during the course of the Examination. It confirms that the rationale for a CIM fund is to address interrelated, in-combination and cumulative impacts that are currently unknown or under-assessed. They draw attention to the fact that T-pylons are not yet operational and, in that respect, untested. They submit that there remains uncertainty in the assessment of effects and therefore the potential effect on receptors. They contend that the CIM fund would be a justified mitigation measure to address this uncertainty.
- 9.3.13 Following the ISHs, the Joint Councils have submitted examples of approved CIM projects that have come forward under the established Hinkley C Nuclear CIM fund together with guidance on how the fund could be managed and the criteria used for assessing applications to

the fund [REP4-026]. The most recent version of the SoCG [Doc 8.3.12A], identifies a range of not agreed items. The Joint Councils contend that this provides additional justification for a CIM fund. They confirm that they have invited the Applicant to be part of the assessment process in relation to the CIM fund, so that it can be satisfied that the fund is applied effectively to mitigate impacts.

The Applicant's case opposing a CIM fund

- 9.3.14 At the DCO ISH held on 17 June 2015, the Applicant set out its position in relation to the CIM fund proposal [Doc 8.13.14]. The Applicant also referred to the appendices to its responses to the ExA's second round written questions [Doc 8.18.2.1 Appendix 2.16.4.1]. It submits that the proposed CIM fund would not be compliant with the criteria set out in EN-1, paragraph 4.1.8, because the kinds of projects for which the Joint Councils propose the CIM fund should pay would not mitigate identifiable impacts of the proposed development. Where particular impacts are identified, and there are relevant measures that can mitigate those impacts, the Applicant has been proactive in proposing appropriate mitigation. It contends that it has demonstrated this through its commitment of substantial funds in the s106 agreement to mitigate identified impacts. It does not, however, consider that it would be appropriate to commit to give the Joint Councils a multi-million pound 'general fund' to pay for unspecified future community projects that are unrelated to the impacts of the proposed development.
- 9.3.15 The Applicant submits that the ES has properly identified likely significant impacts and it has sought to mitigate those impacts where appropriate. It is not aware of any possible 'unknown' impacts, and none have been identified during the Examination. If such impacts had been identified then specific mitigation could have been considered.
- 9.3.16 National Grid already operates nationally a fund for the benefit of communities that host its infrastructure, a summary of which is included in the appendices to its response to the ExA's second round written questions, Part 1 [Doc 8.18.2.1]. The Applicant has not placed weight on this fund in the context of this application as it does not, and is not intended to meet the requirement set out in EN1, paragraph 4.1.8. However, in response to criticisms that it is doing nothing to support local communities, this fund would be available to support local community activities and is available for local communities to draw on.

The Panel's conclusions in relation to the proposed additional supplemental s106 agreement and the CIM fund

- 9.3.17 At Deadline 6, the Joint Councils' submissions [REP6-009] set out the case for, and contents of, a supplemental s106 agreement. A table identifying the topics from the LIR in respect of which development consent obligations which are not agreed is set out in the table at Appendix 1 to this submission. These matters are the mitigation of

flood risk in Sedgemoor; monitoring; ASEA marketing contribution; Public Rights of Way (PRoW); and OSPES - Additional Planting.

- 9.3.18 Appendix 2, contains detailed drafting proposed by the Joint Councils in the form of schedules which they submit should be included in a further s106 agreement between them and the Applicant in order to address adverse impacts of the project which are currently not mitigated.
- 9.3.19 The Applicant has provided 'Comments on Supplementary s106 Agreement proposed by Joint Councils' [Doc 8.37]. This includes a table which provides the references where its responses to the Joint Councils' case on this matter is set out.
- 9.3.20 In its Deadline 6 submission, the Joint Councils respectfully ask the Secretary of State to consider this submission and the findings, conclusions and recommendations of the ExA in relation to it, and consider whether to require National Grid to enter an additional Supplemental s106 agreement either: (a) before the Secretary of State makes an order granting development consent for the project; or (b) following such an order being made but before commencement of the project.
- 9.3.21 They also ask that in giving reasons under s116 of PA2008 for her decision in relation to the application, the Secretary of State explicitly states, in relation to each schedule in Appendix 2: (a) whether she agrees with the findings, conclusions and recommendations of the ExA in relation to it; (b) how regard has been had to the LIR and NPS in this respect; and (c) whether she is minded to require the Applicant to enter an additional Supplemental s106 agreement to secure the relevant mitigation.
- 9.3.22 The Panel is most grateful to the Joint Councils for the clear and helpful way in which they have pursued this issue. The provision of examples of the ways in which the Hinkley C CIM fund has been used, and the further information and summary provided, has enabled us to give most careful consideration to the matter. Unlike EDF in the case of the Hinkley C project, the Applicant has not volunteered the provision of such a fund, but has instead opposed it on the grounds that its provision would be contrary to national policy.
- 9.3.23 The Secretary of State can be in no doubt that there is very strong local opposition to the proposed development. The provision of a separate CIM fund, over and above National Grid's national scheme, would undoubtedly be appreciated and utilised by local people. Indeed, Parish Councils have expressed views to that effect on behalf of their communities during the course of the Examination. However, it is necessary to consider the case for a CIM fund in the light of national policy set out in EN-1.
- 9.3.24 The Panel has considered the various adverse impacts that would be experienced by communities along the length of the route, the

cumulative effects and the matters sought by the supplemental agreement, during the course of the Examination. We have set out our detailed consideration of these issues in the relevant sections of Chapter 5 and Chapter 6. The recommended DCO would secure additional mitigation for potentially vulnerable dwellings. In reaching our conclusions, we have had regard to the LIR and relevant Appendices; the responses to our questions, and oral submissions made at the ISHs.

- 9.3.25 In Chapter 6, we refer to NE's clear advice that the necessary mitigation associated with the construction phase flyways, the fencing and the operational phase flyways' maintenance and management are critical to the conclusion of no adverse effect on integrity of two SACs. In order to secure the necessary mitigation, including eight years' maintenance of planting and fencing, we consider that monitoring for these element of the works should be undertaken by a party other than the Applicant; as well as the supervisory roles of the landscape and ecological clerks of works described in the updated Biodiversity Mitigation Strategy (BMS). We believe that the provision of this particular monitoring requires a mechanism which would allow the Joint Councils to invoice for legitimate and evidenced expenditure. We consider that this would best be achieved by means of a separate s106 agreement between the Applicant and the Joint Councils to meet the costs of a monitoring service to cover certain specified matters that are set out in Chapter 6.
- 9.3.26 In Section 5.13, we conclude that the proposed development would have an adverse effect on the continuity of the England Coast Path over an extended period of time and could present a safety hazard to users of the path. We consider that an additional supplementary s106 agreement is necessary to secure a contribution towards the cost of the County Council carrying out the works and activities deemed necessary for the diversion of the England Coast Path in this location (footpaths WL23/71 and WL23/61).
- 9.3.27 The conclusion that we reach in all other instances for which the Joint Councils seek additional provision is that to include these matters within a further supplemental s106 agreement would fail to meet the requirements of paragraph 4.1.8 of EN-1.
- 9.3.28 The Panel has borne in mind the existence of the Hinkley C CIM fund and the projects to which that fund has been applied. We note that the Joint Councils do not seek to draw direct comparisons between the impacts of the Hinkley C project and the current project. We have considered the case for a CIM fund for this project on its own merits, and those examples which have been provided of other schemes do not persuade us that it would be appropriate to require the provision of such a fund in this instance.
- 9.3.29 There would be residual impacts associated with the proposed development and the adverse impacts have, as required, been weighed in the balance against the overall benefits of the project.

However, we are unable to find the necessary link between those unmitigated impacts and what could be achieved by means of a CIM fund so as to ensure that the latter would meet the relevant EN-1 tests. We also consider that there are no unmitigated impacts which have been identified by the Joint Councils, other than the monitoring provision identified in Chapter 6, and the contribution towards the cost of diverting the England Coast Path, that would require the completion of the additional supplemental agreements sought in order to make the proposed development acceptable in planning terms. Furthermore, we believe that the other new agreements proposed by the Joint Councils would not be reasonably related in scale and kind to the proposed development. We conclude that, apart from agreements to cover the monitoring, and England Coast Path issues, it is not necessary for a further supplemental s106 agreement to be entered into by the Applicant, either before the grant of development consent, or following the order being made but before the commencement of the project.

SURF TELECOMS LTD

9.3.30 The SoCG between the Applicant and Surf Telecoms Ltd [Doc 8.3.11], indicates that it is proposed to complete a side agreement and commercial agreement between the parties. They have agreed, in principle, to replace the fibre optic cable currently installed along the "F" route which would be dismantled as part of the proposed development. A new fibre optic cable would be installed along the replacement new route. The parties agree that the financial responsibility of the relocation/removal of the Surf assets would be borne by the Applicant in line with the agreements made in accordance with the indemnity agreement which would be supplemented by a commercial agreement.

9.3.31 The draft side agreement would alter the contents of the DCO Schedule 15. At the time of completion of the SoCG, neither the side agreement, nor the commercial agreement had been completed. The Applicant's Position Statement in respect of Surf Telecoms [Doc 8.34.4], explains that negotiations continue between the parties and the text of both agreements was, at that time, close to being settled. The main outstanding issue was the provision of supporting financial information by Surf to the Applicant which must be reflected in the terms of the framework agreement. The Applicant is confident that the agreements with Surf will be concluded shortly and will update the Secretary of State should this occur after the close of the Examination. However, as Surf Telecoms Ltd is not a statutory undertaker, this is not a matter that raises s127 issues, nor should it delay the grant of development consent.

OTHER AGREEMENTS

9.3.32 In response to the ExA's Q2.4.14, the Applicant provided a table which identifies all those parties with which it is seeking to enter an agreement and the current status of each negotiation [Doc 8.18.2.1,

Appendix 2.4.14.1]. This table does not include option agreements for the acquisition of interests or rights in land, as these are provided in a separate table [Doc 8.30, Appendix 2.14.6.1] that forms part of the Applicant's response to Q2.14.6.

- 9.3.33 The Applicant's letter of 17 July 2015 [REP8-012], advises that a legal agreement with Royal Mail Group Ltd was completed on 14 July 2015. The Applicant continues to await completion of the agreement with Wessex Water Services Ltd. All the terms of the proposed agreement with Bristol Water plc have now been agreed and the legal documentation is being prepared for execution on behalf of both parties. Although the submission of formal agreements for these various parties would be welcome, their absence is not a matter that should delay the grant of any consent.

9.4 OTHER CONSENTS REQUIRED

- 9.4.1 Whilst the need for separately obtaining a significant number of consents under different aspects of legislation would be obviated by the recommended Order, if made, the proposed project would, nonetheless, require a number of other consents and licences. These were originally listed in the Details of Other Consents and Licences [Doc 7.3] and are set out in Chapter 1 of this report. There has been no change to that list of consents and licences during the Examination. Given the final position of the EA and NE in relation to matters within their jurisdiction, we do not envisage any particular issues that are likely arise in connection with the necessary grant of licences and permits by those bodies.

9.5 OTHER MATTERS

- 9.5.1 The Panel has considered all other representations received, including a number from non-interested parties to ensure fairness. The Panel has also had regard to all other important and relevant matters in its consideration of the application and has taken all representations and all these matters into account.

9.6 CONCLUSIONS ON THE RECOMMENDED DCO

- 9.6.1 The Panel concludes that for the reasons set out in this report, and subject to the incorporation of the changes it has recommended to the Applicant's draft DCO, and the provision of the two supplemental s106 agreements mentioned above, the recommended Order should be granted development consent.

10 SUMMARY OF FINDINGS AND CONCLUSIONS

10.1 SUMMARY

- 10.1.1 The legal and policy context that we consider applies to this application is set out in Chapter 3. In coming to our overall conclusion, we have had regard to the relevant National Policy Statements, the Local Impact Report submitted during the Examination, any prescribed matters and all matters that we consider are both important and relevant to this application, including the National Planning Policy Framework and local planning policies. As required by the Infrastructure Planning (Decisions) Regulations 2010, we have had regard to the United Nations Environmental Programme on Biological Diversity of 1992 (regulation 7) and listed buildings, conservation areas and scheduled monuments (regulation 3).
- 10.1.2 The main issues have been identified in Section 4.1 of this report. Our findings and conclusions in relation to policy, the principle of the development and generic planning issues are set out in Chapters 4 and 5. In Section 4.2, we conclude that the need for the proposed development has been established. In Section 5.14, we conclude that that there are no policy, or legal requirements that would lead us to recommend that consent be refused for the proposed development in favour of another alternative.
- 10.1.3 In Section 5.14, we also draw the Secretary of State's attention to the potential for the proposed development to interfere with the safe operation of CLH's high pressure fuel pipe-line. This matter was not resolved by the close of the Examination and we respectfully suggest that this is a matter upon which the Secretary of State may wish to seek further information before any development consent is granted.
- 10.1.4 In Section 5.15, we set out our recommendation that route Option B is to be preferred in the Portbury/ Portishead area and this is the option which has been included in the recommended Development Consent Order (DCO).
- 10.1.5 In Section 5.13, in relation to public rights of way, we conclude that it is necessary for a supplementary s106 agreement to be completed between the Joint Councils and the Applicant to secure a financial contribution towards the cost of the County Council carrying out the works and activities deemed necessary for the diversion of the England Coast Path (footpaths WL23/71 and WL23/61).
- 10.1.6 Chapter 6 of this report considers the predicted effects of the project on European sites alone and in combination with other plans or projects. We conclude that the Secretary of State can rely on the matrices as set out in the Report on the Implications for European Sites and the subsequent submissions, which confirm no adverse effects on integrity, provided the appropriate mitigation is secured and enforced. In order to ensure that no reasonable doubt remains that the proposed development would not adversely affect the integrity of

the relevant European site we consider that certain changes need to be made. These comprise the listed changes identified in Chapters 6 and 9, and included in the recommended DCO, and the completion of a separate s106 agreement, which would allow reasonable costs associated with monitoring of the temporary and permanent mitigation for bat Special Areas of Conservation (SACs) by the Joint Councils to be recovered from the Applicant.

- 10.1.7 We see no reason for consideration of European Sites and Habitats Regulations Assessment matters to prevent the Secretary of State from making a DCO providing:
- the mitigation, including specific monitoring to reduce collision risk for birds from the two Special Protection Area (SPA) and Ramsar sites is secured;
 - the National Grid Protocol on Bird Diverters is observed for all sections of the proposed line not covered by mitigation; and
 - the mitigation for bats from the two SACs is adequately secured, enforced and monitored.
- 10.1.8 Our overall conclusion on the case for development consent is set out in Chapter 7. The conclusion that we reach is that, provided the changes we propose are made as set out in the recommended Order, and the two additional s106 agreements mentioned above are completed, that development consent should be granted.
- 10.1.9 We have also considered the request for compulsory acquisition powers in Chapter 8 and conclude that there is a compelling case in the public interest for the grant of the compulsory acquisition powers sought by the Applicant. However, we have drawn the Secretary of State's attention to the need for the consent of the Crown authority to be obtained before compulsory acquisition powers can be granted in respect of certain plots. In some instances we consider that changes need to be made to the protective provisions for statutory undertakers. This is explained in Chapter 8, and also in Chapter 9, and the changes have been incorporated within Schedule 15 of the recommended DCO. Our recommendation in respect of the grant of compulsory acquisition powers; the s127, s132 and s138 representations and Crown land is set out in Chapter 8.
- 10.1.10 We have considered all these various factors together, in the light of the tests set out in s104 PA2008. We are satisfied that none of the sub-sections (4) to (8) apply, and the relevant national policy statements support the grant of development consent. The adverse impacts of the proposed development would not outweigh its benefits.
- 10.1.11 In coming to our view that development consent should be granted in the form proposed in the recommended Order attached at Appendix E, we have taken into account all matters raised in the representations. We find no reason either individually, or collectively, that would lead us to a different conclusion.

10.1.12 The other consents that are required to construct, operate and maintain the proposed development are set out in Chapter 1 of this report, and we comment on them again in Chapter 9. From the representations made by the relevant parties, there is no reason to suppose that the necessary approvals, licences, consents and permits would not be granted, if required. None of the other consents identified in Chapter 1, would be a prerequisite of making the DCO.

10.2 RECOMMENDATION

10.2.1 For all of the above reasons, and in the light of the Panel's findings and conclusions on important and relevant matters set out in the report, the Panel under the Planning Act 2008 (as amended), recommends that, subject to:

- the matters relating to Crown land being resolved;
- the provision of a supplemental s106 agreement to enable reasonable costs associated with monitoring of the temporary and permanent mitigation for bat SACs incurred by the Joint Councils to be recovered from the Applicant;
- the provision of a supplemental s106 agreement to secure a financial contribution from the Applicant towards the cost of the diversion of the England Coast Path (footpaths WL23/71 and WL23/61); and
- the matters relating to the potential interference with the safe operation of CLH's high pressure fuel pipe-line being resolved.

The Secretary of State grants the application for development consent and makes the Hinkley Point C Connection Order as set out in Appendix E.

APPENDICES

See separate documents