



The Planning Inspectorate Yr Arolygiaeth Gynllunio

The Planning Act 2008 (as amended)

Tidal Lagoon (Swansea Bay)

Examining Authority's Report of Findings and Conclusions

and

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

Examining Authority

**Simon Gibbs
Lillian Harrison
John Lloyd-Jones
Peter Widd**

10 March 2015

This page is intentionally left blank

File Ref EN010049

The application, dated 6 February 2014 was made under section 37 of the Planning Act 2008 and was received in full by The Planning Inspectorate on 7 February 2014.

The applicant is Tidal Lagoon (Swansea Bay)

The application was accepted for examination on 6 March 2014.

The examination of the application began on 10 June 2014 and was completed on 10 December 2014.

The development proposed comprises a generating station in the form of a tidal lagoon.

Summary of Recommendation:

The Examining Authority recommends that the Secretary of State should make the Order in the form attached subject to matters set out in chapter 8.

REPORT CONTENTS

1	INTRODUCTION	6
1.0	APPOINTMENT	6
1.1	THE APPLICATION	6
1.2	THE PRELIMINARY MEETING	7
1.3	THE EXAMINATION PROCESS	7
1.4	THE STRUCTURE OF THIS REPORT	12
2	MAIN FEATURES OF THE PROPOSAL AND SITE	13
2.0	DESCRIPTION OF THE PROPOSAL.....	13
2.1	CHANGES TO THE APPLICATION	15
2.2	THE APPLICATION SITE AND SITE CONTEXT	18
3	LEGAL AND POLICY CONTEXT	21
3.1	LOCAL IMPACT REPORTS SUBMITTED	22
3.2	PRESCRIBED MATTERS	22
3.3	IMPORTANT AND RELEVANT MATTERS	22
3.4	STATUTORY UNDERTAKERS' LAND, NATIONAL TRUST LAND, COMMONS AND OPEN SPACES AND CROWN LAND	24
3.5	PLANNING ACT 2008 – WHAT MAY BE INCLUDED IN A DCO	25
3.6	WELSH NATIONAL POLICIES AND GUIDANCE	26
3.7	GOVERNMENT OF WALES ACT 2006 (GWA 2006)	27
3.8	UK LEGISLATION	28
3.9	EUROPEAN POLICIES AND RELATED UK REGULATIONS	30
3.10	OTHER LEGAL AND POLICY PROVISIONS	36
3.11	RELEVANT DEVELOPMENT PLAN AND OTHER LOCAL POLICIES	37
3.12	DEVOLUTION AND JURISDICTION	38
3.13	S106 IN THE CONTEXT OF THE SCHEME	41
3.14	THE SECRETARY OF STATE'S POWERS TO MAKE A DCO	42
4	FINDINGS AND CONCLUSIONS IN RELATION TO POLICY AND FACTUAL ISSUES	44
4.0	MAIN ISSUES IN THE EXAMINATION	44
4.1	DEVELOPMENT PERMITTED UNDER PA2008	44
4.2	RELIABLE RENEWABLE ENERGY.....	53
4.3	ADAPTIVE MANAGEMENT AND MANAGING UNCERTANITY.....	56
4.4	BIODIVERSITY, BIOLOGICAL ENVIRONMENT AND ECOLOGY INCLUDING MIGRATORY AND NON-MIGRATORY FISH.....	64
4.5	NAVIGATION, SHIPPING, PORTS AND DREDGING	73
4.6	WELSH MARINE LICENCE	87
4.7	CIVIL AND MILITARY AVIATION AND DEFENCE INTERESTS.....	88
4.8	CLIMATE CHANGE MITIGATION AND ADAPTION	88
4.9	COASTAL PROCESSES AND ENVIRONMENTAL CONSIDERATIONS	89
4.10	CONTAMINATED SEDIMENTS AT SEA AND ON LAND	93
4.11	ENVIRONMENTAL CONSEQUENCES IN RELATION TO CHANGES TO COASTAL PROCESSES	99
4.12	CONSTRUCTION IMPACTS IN RELATION TO LAND-BASED RECEPTORS ..	108
4.13	CONSTRUCTION IMPACTS & THE CEMP IN RELATION TO ECOLOGICAL RECEPTORS	121
4.14	OPERATIONAL IMPACTS AND THE OEMP IN RELATION TO COMMUNITY RECEPTORS	138
4.15	OPERATIONAL IMPACTS UPON ECOLOGICAL RECEPTORS.....	141
4.16	EUROPEAN PROTECTED SPECIES LICENCE MATTERS.....	147
4.17	STATUTORY NUISANCE	149

4.18	FLOOD RISK.....	150
4.19	HEALTH	155
4.20	HISTORIC ENVIRONMENT	158
4.21	SEASCAPE, LANDSCAPE AND VISUAL IMPACT ASSESSMENT INCLUDING LIGHTING.....	166
4.22	POLLUTION CONTROL AND OTHER ENVIRONMENTAL REGULATORY REGIMES	178
4.23	SAFETY AND SECURITY	178
4.24	SOCIO-ECONOMIC IMPACTS	180
4.25	FINANCIAL VIABILITY	186
4.26	DECOMMISSIONING.....	189
4.27	CONCLUSION ON THE CASE FOR DEVELOPMENT	195
5	FINDINGS AND CONCLUSIONS IN RELATION TO HABITATS REGULATIONS AND WATER FRAMEWORK DIRECTIVE.....	198
5.0	HABITAT REGULATIONS	198
5.1	WATER FRAMEWORK DIRECTIVE	206
6	COMPULSORY ACQUISITION AND RELATED MATTERS	227
6.0	INTRODUCTION.....	227
6.1	STATUTORY AND OTHER REQUIREMENTS FOR COMPULSORY ACQUISITION	227
6.2	APPLICATION DOCUMENTS RELATING TO COMPULSORY ACQUISITION ..	228
6.3	WAS THERE A REQUEST FOR COMPULSORY ACQUISITION POWERS?	228
6.4	THE ORDER LAND	229
6.5	IS THERE A NEED FOR THE PROJECT TO BE CARRIED OUT?.....	229
6.6	HOW THE PANEL EXAMINED THE CASE FOR COMPULSORY ACQUISITION	229
6.7	IS THE LAND TO BE TAKEN REQUIRED FOR THE DEVELOPMENT? DOES THE APPLICANT HAVE A CLEAR IDEA AS TO HOW IT WOULD BE USED? ..	230
6.8	IS THE LAND TAKE NO MORE THAN IS REASONABLY REQUIRED?	233
6.9	WILL AN ADEQUATE COMPENSATION FUND BE AVAILABLE?	235
6.10	DOES THE CASE FOR COMPULSORY ACQUISITION IN THE PUBLIC INTEREST OUTWEIGH ANY PRIVATE LOSS?	237
6.11	IS THE ACQUISITION OF INTERESTS OF AFFECTED PERSONS WHO DID NOT PARTICIPATE IN THE EXAMINATION JUSTIFIED?	238
6.12	IS THE ACQUISITION OF INTERESTS OF AFFECTED PERSONS WHO DID NOT OBJECT OR WITHDREW THEIR OBJECTIONS DURING THE EXAMINATION JUSTIFIED?.....	238
6.13	IS THE ACQUISITION OF INTERESTS OF AFFECTED PERSONS THAT MAINTAINED THEIR OBJECTIONS OR CONCERNS JUSTIFIED?	240
6.14	IS THE INEVITABLE INTERFERENCE WITH HUMAN RIGHTS BY THE GRANT OF COMPULSORY ACQUISITION AND TEMPORARY POSSESSION POWERS JUSTIFIED?.....	247
6.15	TEMPORARY POSSESSION POWERS	248
6.16	SECTION 135 CROWN LAND.....	249
6.17	SECTIONS 131 AND 132 OPEN SPACE LAND	250
6.18	SECTION 127 STATUTORY UNDERTAKERS (SUS) (AS NOTED IN CHAPTER 3, SPECIAL CONSIDERATIONS APPLY IN RELATION TO SU'S LAND, UNDER S127 AND S138 PA 2008).....	251
6.19	SECTION 138 EXTINGUISHMENT OF RIGHTS AND REMOVAL OF APPARATUS OF STATUTORY UNDERTAKERS ETC.....	253
6.20	MODIFICATION OF STATUTORY PROVISIONS.	254
6.21	THE PANEL'S RECOMMENDATIONS ON THE GRANTING OF CA POWERS..	254
6.22	OTHER LAND MATTERS	255

7	DRAFT DEVELOPMENT CONSENT ORDER AND RELATED MATTERS	257
7.0	INTRODUCTION.....	257
7.1	THE APPLICANT’S DCO.....	257
7.2	PRECEDENT ORDERS.....	258
7.3	DEFENCE TO PROCEEDINGS IN RESPECT OF STATUTORY NUISANCE.....	259
7.4	CERTIFIED DOCUMENTS AND PLANS.....	259
7.5	OTHER LEGAL AGREEMENTS	260
7.6	THE RECOMMENDED ORDER	260
7.7	EXPANSION OF REASONING FOR CHANGES TO DCO	277
7.8	WORKS	279
7.9	BUILDING HEIGHTS TABLE/DIMENSIONS OF STRUCTURES	281
7.10	REQUIREMENT 34 - TURBINES	281
7.11	OTHER CONSENTS REQUIRED.....	283
7.12	OTHER MATTERS	283
7.13	CONCLUSIONS ON DEVELOPMENT CONSENT.....	283
8	SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.....	284
8.0	INTRODUCTION.....	284
8.1	THE SECRETARY OF STATE’S POWERS TO MAKE A DCO FOR A REDUCED SCALE OF SCHEME	284
8.2	APPRAISAL OF THE APPLICATION UNDER S105 OF THE PA2008	285
8.3	LOCAL IMPACT REPORTS	285
8.4	PRESCRIBED MATTERS	285
8.5	RELEVANT AND IMPORTANT MATTERS	286
8.6	EXTENSION OF LOCAL AUTHORITY JURISDICTION	287
8.7	OTHER LICENCE MATTERS	287
8.8	FINANCIAL VIABILITY	288
8.9	CROWN LAND	288
8.10	MANAGING UNCERTAINTY: THE ROLE OF ADAPTIVE MANAGEMENT	288
8.11	EVALUATION OF THE PROJECT	289
8.12	BIODIVERSITY	292
8.13	PLANNING BALANCE SUMMARY	296
8.14	COMPULSORY ACQUISITION AND RELATED MATTERS.....	297
8.15	OTHER LAND MATTERS	298
8.16	OTHER MATTERS	298
8.17	RECOMMENDATION	300

Appendices Contents

APPENDIX A: RECOMMENDED DEVELOPMENT CONSENT ORDER
APPENDIX B: EXAMINATION LIBRARY
APPENDIX C: REPORT ON THE IMPACT ON EUROPEAN SITES (RIES)
APPENDIX D: EVENTS IN THE EXAMINATION
APPENDIX E: LIST OF ABBREVIATIONS

ERRATA SHEET – Tidal Lagoon Swansea Bay Ref. EN010049

Examining Authority's Report of Findings and Conclusions and Recommendation to the Secretary of State for the Department of Energy and Climate Change, dated 10 March 2015

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

Page No.	Paragraph	Original	Amendment
Report			
3	4.8 (Contents list)	"Adaption"	"Adaptation"
7	1.3.1	"Country Borough"	"County Borough"
18	2.1.22	"bern"	"berm"
38	Heading	"Juristiction"	"Jurisdiction"
73	4.4.51	"Part of 1 Schedule 5"	"Part 1 of Schedule 5"
73	4.4.53	"[REP-1017]"	"[REP-1007]"
75	4.5.13	"The Applicant plan...."	"The Applicant plans...."
76	4.5.14	"Marine Energy Works Licence"	"Marine Licence"
77	4.3.21	"...showed that that.."	"...showed that.."
80	4.5.46	"...without prejudice"	"...without prejudice" basis"
81	4.5.56	"[REP-242]"	"[REP-842]"
88	4.8	"ADAPTION"	"ADAPTATION"
116	4.12.42	"Construction Traffic Management Plan"	"Construction Phase Traffic Management Plan"
116	4.12.43	"Their principle concerns..."	"Their principal concerns..."
128	4.13.37	"...an Marine Mammal Observer..."	"...a Marine Mammal Observer..."
129	4.13.38	"...monitoring devise..."	"...monitoring device..."
142	4.15.8	"...carcasses...."	"...carcasses...."
165	4.20.31	"...Glamorgan Gwent...."	"...Glamorgan-Gwent...."
165	4.20.33	"...Glamorgan Gwent...."	"...Glamorgan-Gwent...."
166	4.21.2	"...11.5km...."	"...11.5km ²"
174	4.21.51	"...potential maximum height of the seawall height..."	"...potential maximum seawall height..."
174	4.21.51	"...having been assessed in the Chapter 13...."	"...having been assessed in Chapter 13...."
179	4.23.5	"...the University Bay Campus (SUBC)..."	"...the Swansea University Bay Campus (SUBC)..."
180	4.23.10	"...risk that the..."	"...risk than the..."
186	4.24.32	"...matter for the Panel to determine..."	"...matter for the Secretary of State [SoS] to determine..."
187	4.25.4	"The Panels finds..."	"The Panel finds..."

193	4.26.27	"...an appropriately drafting implementation.."	"...an appropriately drafted implementation.."
196	4.27.12	"Monkstone Sailing Club"	"Monkstone Cruising and Sailing Club"
254	6.19.3	"This Article t has....."	"This Article has....."
257	7.0.2	"...written with on the basis.."	"...written on the basis.."
257	7.0.4	"...in the its next version.."	"...in its next version.."
267	40	"Error! Reference source not found..."	Delete
270	58	"..be retrofitted Furthermore..."	"..be retrofitted. Furthermore..."
274	83	"The Panel`s consider..."	"The Panel considers..."
279	7.8.4	"..foundations much be built.."	"..foundations must be built.."
286	8.5.1	"...the conclusions following..."	"...the following conclusions..."
286	8.5.3	"The Panel considers that while the SoS may consider it necessary to carry out an appropriate assessment of potential effects of the proposal on the European sites, listed in the RIES, the Panel`s conclusion..."	"The Panel considers that, while the SoS may consider it necessary to carry out an appropriate assessment of potential effects of the proposal on the European sites listed in the RIES, the Panel`s conclusion..."
287	8.6.2	"..Article 53.."	"..Article 52.."
290	8.11.11	"Monkstone Sailing Club.."	"Monkstone Cruising and Sailing Club.."
296	8.13.2	"Monkstone Sailing Club.."	"Monkstone Cruising and Sailing Club.."`
298	8.15.2	"..is a no less advantageous.."	"..is no less advantageous.."
298	8.15.4	"As Panel conclude..."	"The Panel concludes..."
301	8.17.3	"..has been satisfied."	"..have been satisfied."

1 INTRODUCTION

1.0 APPOINTMENT

1.0.1 The application [APP-002], dated 6 February 2014, was made under section 37 of the Planning Act 2008 (PA2008) and was received in full by The Planning Inspectorate on 7 February 2014.

1.0.2 The applicant is Tidal Lagoon (Swansea Bay) Plc [APP-002], hereafter referred to as TLSB, a special purpose vehicle (SPV) company established specifically for the development of this project. The parent company of TLSB is Tidal Lagoon Power Ltd, a company focusing on developing tidal lagoon technology. The application was accepted for examination on 6 March 2014. The examination of the application began on 10 June 2014 and was completed on 10 December 2014.

1.0.3 On 23 April 2014 the Secretary of State (SoS) for Communities and Local Government appointed the following Panel of five Examining Inspectors as the Examining Authority (ExA) for the application under section (s) 65 of the PA2008 as amended [PD-003]:

- Mr Gideon Amos OBE RIBA MRTPI – Lead Member of the Panel
- Mr John Lloyd-Jones OBE D.L. ARAgS – Panel Member
- Mr Simon Gibbs MA MSocSc MRTPI – Panel Member
- Dr Lillian Harrison BSc MSc PhD MCIWM MRTPI – Panel Member
- Dr Peter Widd BSc MA PhD Master Mariner – Panel Member

1.0.4 On the 10 November 2014, the Planning Inspectorate, on behalf of the SoS, accepted the resignation of Mr Amos, effective from that date. As a result, a letter was issued to all interested and other parties on the 11 November 2014 notifying them of this [PD-019]. A letter was issued on 20 November 2014 to all interested and other parties notifying that Mr Gibbs had been appointed as lead member [PD-021] of a Panel of four Examining Inspectors.

1.0.5 Except where reporting upon specific decisions or responsibilities devolved to the ExA by the PA2008, the ExA is hereafter described in this Report as “the Panel”.

1.0.6 This document is the Panel’s Report to the SoS. It sets out the Panel’s findings and conclusions and the recommendation, as required by s83(1) of PA2008.

1.1 THE APPLICATION

1.1.1 The application project is a nationally significant infrastructure project (NSIP) as defined by s14(1)(a) and s15(3) of PA2008.

1.1.2 The application is Environmental Impact Assessment (EIA) development as defined by the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (EIA Regulations). It was accompanied by an Environmental Statement (ES) which in the view of the Panel met the definition given in Regulation 2(1) of these

Regulations. Additional clarifying environmental information was received during the course of the examination. This is referred to further in chapter 4. In reaching its recommendation, the Panel has taken into account, according to the terms required by EIA Regulations 3(2), the environmental information as defined by EIA Regulation 2(1) (including the ES and any other information on the environmental effects of the development).

- 1.1.3 The applicant gave notice [CERT-001] under s56 PA2008 to the persons prescribed that the application had been accepted by the Planning Inspectorate and gave them an opportunity to make Relevant Representations (RR) and become interested parties (IP), enabling participation in the examination. It certified [CERT-002] on 12 April 2014 that this had been carried out. 258 RRs were subsequently received and accepted into the examination [REP-005 to REP-262].
- 1.1.4 In addition, the Panel exercised their power to make Royal Mail an IP in accordance with the criteria under section 102A of the PA2008 [CORR-014 and REP-734]. Mr David Laws contacted the Planning Inspectorate seeking IP status under s102A in relation to riparian rights, this request was not granted as the Panel deemed that from the evidence provided, s102A was not satisfied [PD-013].
- 1.1.5 A list of procedural decisions made by the Panel [PD-001 to PD-023] is in the examination library appended to this Report.

1.2 THE PRELIMINARY MEETING

- 1.2.1 The preliminary meeting was held on 10 June 2014 at which, the applicant and all other IPs, statutory parties and other parties were able to make representations about how the application should be examined. The timetable for the examination [PD-005] and a procedural decision by the Panel under Rule 8 of the Infrastructure Planning (Examination Procedure) Rules 2010 (EPR), was issued to all those invited to the preliminary meeting on 16 June 2014. It was accompanied by the Panel's first round of written questions, invitation to submit written representations (WR), requests for notification to attend a hearing and notification of a wish to attend the site inspection.

1.3 THE EXAMINATION PROCESS

LOCAL IMPACT REPORTS

- 1.3.1 Under s60 of PA2008 an invitation was issued to the relevant Local Authorities to submit a Local Impact Report (LIR) in the Rule 8 letter [PD-005] and these were submitted by City and County of Swansea Council (CCSC) [REP-563] and Neath Port Talbot Country Borough Council (NPTCBC) [REP-565].

WRITTEN QUESTIONS

- 1.3.2 The Panel issued one round of written questions on 16 June 2014 [PD-010] and requests for further information or written comments under Rule 17 of the EPR, each constituting an amendment to the examination timetable under Rule 8(3). The procedural decisions were issued on 4 September 2014 [PD-017] 31 October 2014 [PD-018] and 11 November 2014 [PD-019] 27 November 2014 [PD-22] and 2 December 2014 [PD-23].

WRITTEN REPRESENTATIONS

- 1.3.3 A deadline was set of 9 July 2014 for all IPs to submit written representations (WR) to expand points raised in RRs to inform the content of hearings.

STATEMENTS OF COMMON GROUND

- 1.3.4 At Annex D to the Rule 8 letter [PD-005] the Panel requested a number of statements of common ground (SoCGs) on a range of topics including law and policy, renewable energy, climate change, flooding, impacts of construction and operation (including dredging and physical processes) on protected sites, shipping, recreation, navigational safety, mariculture, natural and built heritage, onshore traffic, noise, dust, vibration, seascape, landscape and visual impact, and statutory undertakings. These were submitted during the examination as parties were unable to agree content prior to the start of the examination.

AGREEMENTS

- 1.3.5 During the examination, an unsigned s106 [REP-986] was submitted at Deadline VII (4 December 2014) and signed covers [REP-1101 to REP-1014] were submitted in Deadline VIII (8 December 2014), unfortunately the accompanying Deed was not dated and not signed. chapter 3.15.1-3.15.4 explains this further and addresses the role of this in coming to any conclusions.

HEARINGS

- 1.3.6 As required under s93 of PA2008, following a request from an interested party, an open floor hearing was held at the Guildhall in Swansea on 29 July 2014 and was the first hearing to be held as part of the examination. This and all other hearings were held at the Guildhall in Swansea.
- 1.3.7 As set out in the timetable for examination which was issued on 16 June 2014 [PD-005], to ensure adequate examination of specific issues and in order that IPs should have a fair chance to put forward their case (as per s91 PA2008), issue specific hearings (ISH) on the draft Development Consent Orders (DCO) and related matters were held over a number of days to consider the following:

- 31 July 2014 – ISH on the DCO (introductory issues).
- 16 September 2014 – ISH on modifications to the application, new/additional information and examination procedure, general project issues, effect of the lagoon on coastal processes within Swansea Bay and European Sites/Habitats Regulations Assessment (HRA).
- 17 September 2014 – ISH on protected sites and species, Water Framework Directive (WFD) and flooding, socio-economic: economy, tourism and recreation and fish and recreational fishing.
- 18 September 2014 – ISH on commercial fishing, shipping and navigation, landscape and visual impacts and heritage.
- 23 September 2014 – ISH on construction, noise and traffic, adaptive management, landscape and visual impact and other consents required for the development to become operational and procedure at forthcoming compulsory acquisition (CA) hearing held at the Guildhall in Swansea.
- As required under s92 of PA2008, following a request from an affected person, a compulsory acquisition hearing was held at the Guildhall in Swansea on 30 September 2014. This compulsory acquisition hearing examined the assessment of total contingent CA liability and progress provisions in the DCO to secure the funds and updates from Affected Persons. A further CA hearing was consequently scheduled.
- 21 October 2014 – ISH on use, landscape, human interaction and safety, coastal process, Habitat Regulations Assessment (HRA) and European Sites, Natural Resources Wales' (NRW) corporate view, adaptive management. Water Framework Directive (WFD), eels, fish, marine mammals, inter-tidal and sub-tidal ecology, coastal birds, management plans, flooding and construction. Noise and transport, water quality, electromagnetic fields and navigational and dredging issues.
- 22 October 2014 – ISH on the Panel's statement on the draft Development Consent Order and the draft Development Consent Order.
- 23 October 2014 – CA hearing on Crown land, open space, land of unknown ownership. Statutory Undertakers, representations from Affected Persons/ other persons. Whether all the plots are required/incidental/replacement land (s122(2)) and procedure followed (s122(3)), whether extent of plots is no more than is reasonably necessary, whether there is a compelling case in the public interest, whether the Human Rights Convention tests are met, in addition, examination of the funding statement and

Information and Article 7 and the Modification of any Compensation Provision (s126).

SITE INSPECTIONS

- 1.3.8 An accompanied inspection of sites to which the application related was carried out at a number of key landscape and visual assessment viewpoints as set out in the Environmental Statement (ES). These included locations associated with the onshore access to the scheme, the grid connection to the Baglan Bay substation site and the Lagoon walls. The inspection included an offshore inspection which involved taking a boat to the Tawe dredged channel, around the perimeter of the proposed development and into the River Neath also in the company of IPs. The inspection took place on 30 July 2014 [ASV-001].
- 1.3.9 In addition, the Panel conducted and published records of the following unaccompanied site inspections:
- Inspection 1 – Inspection of the Swansea Bay area including the following locations; Kenfig Burrows Information Centre, Margam Abbey, Aberavon Town Beach, Crymlyn Burrows, Jersey Marine, Blackpill and Knab Rock. The inspection took place on 9 June 2014 [USV-001].
 - Inspection 2 – Inspection of the Swansea Bay area including; Aberavon Town Beach, Kenfig Burrows Information Centre, Crymlyn Burrows, Blackpill, Knab Rock (Mumbles) and SA1 development including Prince of Wales dock and Swansea sea front (near the Observatory). The inspection took place on 7 July 2014 [USV-002].
 - Inspection 3 – Inspection of the Swansea Bay area including; The Knab, adjacent to Mumbles Pier, Mumbles Nature Reserve, Pant y Celyn Road Townhill, Headland Road, and St Thomas. The inspection took place on 24 September 2014 [USV-003].
 - Inspection 4 - Inspection of the Bay Campus of Swansea of University on 28 October 2014 [USV-004].
 - Inspection 5 – Inspection of La Rance Tidal Barrage and surrounding area on 17 November 2014 [USV-005].

REPORT ON IMPLICATIONS FOR EUROPEAN SITES (RIES)

- 1.3.10 Under Regulation 5(2)(g) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (APFP Regulations), where required, an application must be accompanied with sufficient information to enable the relevant SoS to meet his statutory duties as the competent authority under the Habitats

Regulations and Offshore Marine Regulations¹ relating to European Sites. A Report to Inform HRA [APP-169], together with supporting appendix [APP-170] and figures [APP-171], was therefore submitted with the application. In response to the RRs from NRW the applicant submitted an updated Report to Inform HRA [REP-584] and supporting appendices [REP-586 to REP-590]. The RIES compiles, documents and signposts the information received with the application and during the Examination [RIES-001].

- 1.3.11 All IPs were provided on 11 November 2014 [PD-019] with an opportunity to provide comments on the RIES (as set out in the timetable for the examination [PD-017]). The applicant and five IPs provided comments on the RIES [REP-889; REP-907; REP-908; REP-912; REP-918; REP-957 and REP-958]. The documents relating to HRA, the RIES, and comments on the RIES are made available to the SoS through the Examination Library appended to this Report. This information enables the SoS to carry out an Appropriate Assessment (AA), if required, as part of his statutory duties as the competent authority under the Habitats Regulations and Offshore Marine Regulations.

TRANSBOUNDARY EFFECTS

- 1.3.12 Under Regulation 24 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (EIA Regs), which transposes Article 7 of EU Directive 85/337/EEC (as amended) into UK Law as it applies to the PA2008 regime, and on the basis of the information available from the applicant, the SoS was of the view that the proposed development was likely to have significant effects on the environment in another European Economic Area (EEA) State.
- 1.3.13 In reaching this view, the SoS has applied the precautionary approach (as explained in the Planning Inspectorate Advice Note 12 Transboundary Impacts Consultation). Transboundary issues consultation under Regulation 24 of the EIA Regulations was therefore considered necessary in relation to commercial fisheries, marine mammals, and fishing vessels (in relation to navigation) with the following countries:
- Belgium
 - Ireland
 - Netherlands

¹ The Conservation of Habitats and Species Regulations 2010 (as amended); the Habitats Regulations Conservation of Habitats and Species (Amendment) Regulations 2012, the Offshore Marine Conservation (Natural Habitats, etc.) Regulations 2007 (as amended) and the Offshore Marine Conservation (Natural Habitats etc.) (Amendment) Regulations 2012. These regulations define European Sites and are set out further in Chapter 2 below.

- 1.3.14 A notice was placed in the London Gazette on 30 October 2014 [TB-02]. Letters were sent to the relevant bodies in the countries listed above. A reply was received [TB-03] to the effect that Ireland wished to participate; however, due to consultation procedures in the Republic of Ireland, a response was not received before the close of the Examination.
- 1.3.15 As required by Regulation 7 of the Infrastructure Planning (Decisions) Regulations 2010, the Panel has had regard to the United Nations Environment Programme Convention on Diversity 1992 and in particular Article 14 in its consideration of the likely impacts of the proposed development and appropriate objectives and mechanisms for mitigation and compensation.
- 1.3.16 In particular, the Panel finds that compliance with the UK provisions on EIA and transboundary consultation, referred to above, satisfies, with regard to impacts on biodiversity, the requirements of Article 14.

COMPULSORY ACQUISITION AND OTHER PROCEDURES

- 1.3.17 The draft DCO seeks powers of CA of land and rights. It also seeks temporary rights over some land plots. Powers of CA are sought for Statutory Undertaker's land and open space land. The application area includes Crown Land. CA is discussed in full in chapter 6 of this report.

OTHER CONSENTS

- 1.3.18 In addition to consent required under the PA2008, the implementation of the project would require other consents and licences. The applicant has submitted a statement relating to other consents and licences required from other bodies [REP-779]. This includes consents that are being obtained in parallel with the DCO as well as consents needed post DCO.
- 1.3.19 No Deemed marine Licence (DML) is being sought as part of this DCO as this is a DCO for a project in Wales.

1.4 THE STRUCTURE OF THIS REPORT

The following chapters of the Report set out the main features of the proposal and its site, the legal and policy context, the Panel's findings and conclusions on all important and relevant issues relating to development consent and finally the Panel's recommendation to the SoS. The DCO as recommended to be made by the SoS is attached at appendix A, as are, the Examination Library (appendix B), the RIES (appendix C), list of events in the examination (appendix D) and abbreviations (appendix E). Where sections are referenced in the report, they relate to PA2008 with the exception of s106, which relates to s106 of the Town and Country Planning Act 2004.

2 MAIN FEATURES OF THE PROPOSAL AND SITE

2.0 DESCRIPTION OF THE PROPOSAL

- 2.0.1 The Project is a generating station, which would have a nominal rated capacity of 240MW and would be located adjacent to Swansea Docks at the eastern gateway to the City of Swansea.
- 2.0.2 The proposal is to enclose a part of Swansea Bay lying between the Rivers Tawe and Neath in order to harness tidal range energy. A wall would be built from the sea bed to encircle a body of water and form a lagoon. By controlling the ingress of water on rising tides and its discharge on falling tides, a differential in the height of water inside and outside the lagoon would be achieved creating sufficient head to power turbines and generate electricity over a substantial portion of each part of the tidal cycle. More information on the project and how electricity would be generated is set out in the Non-technical summary of the Environmental Statement [APP-174].
- 2.0.3 The seawalls impounding the Lagoon would be approximately 9.5km in length and extend over 3km into Swansea Bay. The walls would impound approximately 11.5km² of what is currently seabed, foreshore and intertidal area. The eastern landfall would be in front of the new Swansea University Bay Campus (SUBC), adjacent to Crymlyn Burrows Site of Special Scientific Interest (SSSI) and the western landfall would be at the south western end of Swansea Docks.
- 2.0.4 Turbines and sluice gates would be located within a housing structure in the south west section of the lagoon.

DESCRIPTION OF WORKS PROPOSED IN THE DEVELOPMENT CONSENT ORDER AS SUBMITTED

- 2.0.5 In addition to being a generating station, the Project as submitted in February 2014 proposed to be a visitor attraction and recreational facility with a range of amenities including art, education and boating facilities. The expectation was that the seawall would be open to the public during daylight hours for walking, running, cycling and fishing and that the lagoon would be developed as an enclosed water sports venue capable of providing a safe body of water for local, regional, national and international events [APP-174].
- 2.0.6 The main visitor facilities would be located in an offshore building sited close to the turbine housing and designed to be a landmark feature. This building would also contain operational and maintenance (O&M) facilities.
- 2.0.7 Further O&M requirements would be contained in an onshore building near the western landfall which would also contain visitor orientation and information space. In addition there would be laboratories and hatcheries related to mariculture and ecological mitigation.

2.0.8 The major works for which development consent was sought were set out in the draft DCO dated 6 February 2014 submitted with the application [APP-081] comprising:

- A western seawall (Work No. 1a) 2.7km long would run from the turbine housing to the south western end of Swansea Docks. The wall would be crested by a road and footway and incorporate services, including a grid connection cable (Work No. 5a, below). It would also include slipways, jetties and access points and there would be a landscaped area at the western landfall.
- Within Work No. 1a there was reference to "operation and maintenance facilities, a visitor centre and/or viewing area". Clarification that this was the proposed offshore building was given in the 28 October iteration of the DCO [REP-844].
- An eastern seawall (Work No. 1b) 6.8km long would run from the turbine house to make an eastern landfall in front of SUBC. The wall would be crested by a road and footway and incorporate some services. It would also include oyster spatting ponds.
- A turbine and sluice gate housing structure (Work No.2) measuring approximately 400m long and 70m wide containing up to 16 turbines and up to 10 sluice gates.
- A 275Kv grid connection (Work Nos. 5a-j). A section of this would be within the western sea wall, other sections would be along the southern boundary of Swansea Docks and beside Fabian Way. The grid connection would pass under the River Neath to reach a point connecting with the grid at Baglan Bay substation.
- An onshore building (Work No. 6b) described as "A work consisting of construction of onshore operation and maintenance facilities" but also described as one or more buildings for a wide range of activities, including visitor orientation, boating facilities, boat storage, hatchery(ies) and laboratories, maintenance workshop(s), spares store, control room and office accommodation.

2.0.9 Additional works were included in the DCO. These included

- An extension of the long sea outfall (Work No.3) from Swansea Wastewater Treatment Works.
- A new eastern channel training wall in the River Neath (Work No.4).
- An ultra violet storm water treatment facility (Work No. 8).
- Reclamation of land (Work No. 10) to establish a 5ha saltmarsh habitat area of and 3ha coastal grassland habitat area including

pedestrian and cycle routes at the northern edge of the lagoon adjacent to land.

- Reclamation of land (Work No. 11) to establish a new coastal grassland and dune area of approximately 11 ha close to the eastern landfall of the eastern wall, including an information point to serve Crymlyn Burrows SSSI.
- Proposed ancillary works are set out in Part 1B of Schedule 1 and would include temporary and permanent offshore work necessary and ancillary in the construction, operation and maintenance of the authorised development; a cofferdam, dolphin piles, buoys, pipeline, training wall, habitat area and coastal grassland.

DEVELOPMENT DESCRIBED IN THE ENVIRONMENTAL STATEMENT (ES)

- 2.0.10 It is the development as set out in the 6 February 2014 draft DCO [APP-081] that has been the subject of EIA. For the purposes of the EIA, as set out in the ES [APP-176 to APP-379], the project was assessed against a maximum development envelope of up to 16 turbines, each one around 7m in diameter, and all located permanently underwater, as well as up to ten sluice gates.
- 2.0.11 It should be noted that although indicative locations for the offshore structures had been developed and assessed. The applicant's assessment of the development in the ES has made use of the Rochdale envelope approach. In summary, there is flexibility in project design and the assessment of impact has been on the basis of the design option that would produce a likely worst case.

2.1 CHANGES TO THE APPLICATION

- 2.1.1 Different iterations of the DCO were submitted at a number of deadlines. Some of the key amendments to the DCO are detailed below.

9 July 2014 [REP-492]

- Changes to the proposed development prescribed within the Draft DCO consisted of a removal of Work No.8. This work comprised of an ultra violet storm water treatment facility.
- Size alterations of one of the works within the proposed development prescribed in the Draft DCO consisted of a change in measurements of Work No. 2A turbine and sluice gate housing structure.

5 August 2014 [REP-664]

- 2.1.2 This provided clarification that the grid connection is to be laid underground and that the cofferdam is to be made up of a sediment berm.

7 October 2014 [REP-770]

- 2.1.3 DCO updated in relation to Tidal works and the relationship with WG.
- 2.1.4 Work No. 3a – updated to clarify burial of the pipeline and Works No. 5 updated for clarification.

28 October 2014 [REP- 844]

- 2.1.5 Clarification that Work No. 1a included the offshore building containing an administration and engineering suite, O&M facilities, a visitor centre and/or viewing area(s).
- 2.1.6 Part 1B, ancillary development, added into the DCO. The DCO stated that “Works within the Order limits to the extent necessary and ancillary to the construction, operation and maintenance of a nationally significant infrastructure project being an offshore generating station as defined in sections 14(1)(a) and 15(3) of the 2008 Act which has been subject to environmental impact assessment recorded in the environmental statement comprising Works Nos. 2b, 2c, 2d, 3, 4, 9 and 10

4 November 2014 [REP-865]

- 2.1.7 Article 3(2) “Development consent etc. granted by the Order” – clarifies that works related to the alteration, removal, clearance etc must be to the extent shown on the demolition plan.
- 2.1.8 Article 16 “Application of Marine and Coastal Access Act 2009” inserted as new article. Confirms that the provisions of articles 17 to 20 of the Order are subject to the provisions of Part 4 of the 2009 Act and any licence granted pursuant to that part and are without prejudice to the powers of the WG under that part.

25 November 2014 [REP-927]

- 2.1.9 Article 23, Permanent lights was amended with the insertion of extra measures to also be taken at periods of restricted visibility and insertion of Neath Port Authority as being able to instruct action.

The consultation DCO issued 12 November 2014 [PD-020]

- 2.1.10 The consultation DCO was issued by the Panel on 12 November 2014. Amendments were made by the Panel to Work No.6b as they were considered necessary to accord with the Rochdale envelope approach.
- 2.1.11 Works No 8a and 8b were removed from the draft DCO by the Panel as they did not deem, having considered representations, that the shuttle bus service connecting the Lagoon to the wider public transport network, necessary for the operation and maintenance of the project.

- 2.1.12 Article 48 Ancient monuments and Article 49 License related to water, were removed in the consultation DCO, as they are prescribed consents in Wales under Part 1 of the Schedule to the Infrastructure Planning (Miscellaneous Prescribed Provisions) Regulations 2010 and can only be included with the consent of NRW.

The revised project DCO [REP-1002]

- 2.1.13 The applicant submitted a revised DCO on 4 December 2014 [REP-1002]. The principal works that would take place and for which development consent is required are set out as Works Nos. 1a, 1b, 2a, 5a, 5b, 5c, 5d, 5e, 5f, 6a, 6b, 7a, 7b, 7c, 7d, 7e, 7f, 7g in the draft DCO (Schedule 1, Part 1A, Authorised Development).
- 2.1.14 Work No. 1a comprises of a western seawall crested by a road and footway commencing at 266417E; 189134N approximately 2.7km in length and incorporating: the offshore building containing an administration and engineering suite; operation and maintenance facilities, a visitor centre and viewing area(s); a low voltage substation, provision of and for lighting, boating facilities with associated hard standing, one or more slipways, jetties and access points; and a landscape area where the seawall makes landfall including park and landscaping.
- 2.1.15 Work No. 1b comprises of an eastern seawall crested by a road and footway commencing at 266420E; 189131N approximately 6.8km in length and incorporating provision of and for lighting.
- 2.1.16 Work No. 2a comprises a turbine and sluice gate housing structure, approximately 410 metres in length and 67.5 metres in width containing up to 16 variable speed hydro turbines with a combined nominal generating capacity of 320MW (continuous) and up to 10 sluice gates.
- 2.1.17 Works Nos. 5a to 5f comprise six 275kV grid connections each containing 3 single phase cables all laid underground. Work No. 5e comprises horizontal directional drilling under the River Neath.
- 2.1.18 Work No. 6a consists of the construction of a jetty or mole and floating pontoons and piles or dolphins.
- 2.1.19 Work No. 6b consists of the construction of onshore operation and maintenance facilities comprising one or more buildings, a hatchery(ies) and laboratories, visitor parking spaces and facilities, maintenance workshops(s) and spare store(s), operation and maintenance vehicle parking facilities and garages, boat storage, a control room, office accommodation and welfare facilities. This work also consists of provisions to allow the construction of outdoor visiting parking and facilities, visitor orientation facilities, exhibitions and welfare to be provided to visitors, boat maintenance and storage facilities, outdoor and indoor emergency access facilities and outdoor visitor orientation facilities.

- 2.1.20 Works Nos. 7a to 7g comprise internal access roads and improvements to the public highway.
- 2.1.21 Schedule 1, Part 1B, Ancillary and necessary works contains works within the Order limits to the extent that they are necessary to the construction, operation and maintenance of the project. This comprises Works No. 2b, 2c, 2d, 3, 4 and 9.
- 2.1.22 Works Nos. 2b, 2c and 2d comprise offshore works necessary for the purposes of constructing Work No. 2a including a sediment bern cofferdam (temporary) and dolphin piles with lights, cable booms and/or floating buoys to define safety zones.
- 2.1.23 Work No. 3 consists of an offshore buried pipeline, below the sea bed for the extension of an existing long sea sewage outfall and replacement of diffuser apparatus.
- 2.1.24 Work No. 4 consists of a new eastern channel training wall in the River Neath providing for the location of Monkstone light(s).
- 2.1.25 Work No.9 comprises reclamation of land to establish a saltmarsh habitat area of up to 5ha. And coastal grassland habitat area of up to 3ha including pedestrian and cycle routes and structures at the northern edge of the lagoon.
- 2.1.26 Work No. 10 comprises reclamation of land to establish a new coastal grassland and dune area of up to 11ha incorporating a beach area, a visitor/information point to serve Crymlyn Burrows SSSI, an extension of the existing surface drainage outfalls serving Fabian Way and to the extent that they do not form part of any numbered work, further ancillary works comprising oyster spatting ponds, installation of electricity and telecommunication services along the eastern and western sea walls, buoys, beacons, fenders and other navigational aids, temporary land places, moorings and other means of accommodation vessels in the construction of scheduled works and works to alter the position of apparatus on, over or under tidal waters or tidal lands within the order limits.

2.2 THE APPLICATION SITE AND SITE CONTEXT

- 2.2.1 Most of the application site for the lagoon itself is under water at high tide and has no relevant planning history. Onshore, development is proposed around the northern rim of the lagoon. This would include land that lies at the western end of Queen's Dock and a strip of land to the south of Queen's Dock, including the existing sea wall. The north eastern corner of the site would include land in front of the SUBC.
- 2.2.2 The LIRs prepared by CSCC [REP-563] and NPTCBC [REP-565] set out details of the planning history of land adjoining the proposed lagoon.
- 2.2.3 Parts of Swansea Docks are in the process of transformation following a grant of outline planning permission in August 2003 for a mixed use development. SA1 Swansea Waterfront (SA1) is being developed on

40 ha around the Prince of Wales Dock and beside the River Tawe. It includes employment (Use Class B1 and B2) residential, retail and educational uses, as well as hotels, restaurants and leisure facilities. Infrastructure has been provided to serve the newly developing area including two pedestrian/cycle bridges to improve links to the City Centre.

- 2.2.4 The CCSC's LIR [REP-563] describes the area SA1 area in the following terms:

"The spatial strategy reflects the WAG (Welsh Assembly Government)'s vision for the regeneration of Swansea Waterfront, which emanates from the Wales Spatial Plan. It is stated that the extensive area of brownfield land on the eastern approach to the city, south of Fabian Way and east of SA1, offers considerable regeneration opportunities. It is recognised that SA1 lies adjacent to the commercial docks, which make an important contribution to the economic infrastructure of the County. It is recognised that land within, and adjacent to, the existing Queens Dock may become surplus to operational requirements during the lifetime of the Plan."

"..... the Wales Spatial Plan emphasises that the revitalisation of significant brownfield sites in this coastal location should be delivered with the benefit of a waterfront regeneration masterplan for the wider Swansea Bay area."

- 2.2.5 The section of Swansea Docks bordering the north western edge of the proposed lagoon is operational dockland that contains two major basins; the Kings Dock and the Queens Dock. Neither is heavily used by commercial shipping. A Roll on Roll off facility on the River Tawe, to the west of King's Dock, is currently not in use for any regular service.
- 2.2.6 To the north east of the dock basins, land has been released from the docks and is currently the subject of emerging redevelopment proposals. It is across this land that it is proposed to construct a road to provide a connection with Fabian Way as part of the Tidal Lagoon Project. Reference to agreement having been reached on this with the owner, Dan Morrissey (UK) Limited, is covered in chapter 6 of this report.
- 2.2.7 East of the land owned by Dan Morrissey (UK) Limited lies the Swansea wastewater treatment works built in 1998.
- 2.2.8 The new SUBC was granted outline planning permission under application P2010/0222 on 30 August 2012. The development was for a University campus including an innovation park, mixed academic, research and development facilities (Use Class B1), university residential accommodation and ancillary student/staff facilities, parking and landscaping [REP-565].
- 2.2.9 To the west of the Bay Campus and south east of the Swansea wastewater treatment works is an unused brownfield site. To the east

of the Bay Campus lies the undeveloped coastal dunes and salt marshes that form the Crymlyn Burrows SSSI.

- 2.2.10 Fabian Way, the A483, and the main road linking Swansea eastwards to the M4 lies to the north of the land described in paragraphs 2.2.2 to 2.29.

3 LEGAL AND POLICY CONTEXT

- 3.0.1 This chapter sets out the main legal and policy context which has been taken into account by the Panel in carrying out its examination of the application and in making its findings and recommendations in this report.
- 3.0.2 Secondary legislation and guidance under the Planning Act 2008 (as amended) (PA2008) has been fully taken into account throughout the examination as far as it is relevant. When appropriate this legislation and guidance is referenced within the individual chapters of this report.
- 3.0.3 Other relevant UK Government and WG policy has also been taken into account where relevant. Where necessary this has also been referenced within the individual chapters of this report.
- 3.0.4 Chapter 5 of the PA2008 sets out differing decision making criteria, depending on whether a National Policy Statement (NPS) is in effect for the type of development to which the application relates (s104), and for circumstances where there is no NPS in effect (s105).
- 3.0.5 Whilst EN-1, Overarching National Policy Statement for Energy, refers to the contributions that tidal energy could make to energy generation, paragraph 1.4.5 notes that in relation to renewable energy generation that "The generation of electricity from sources other than wind, biomass or waste is not within the scope of this NPS." Paragraph 3.4.3 also notes that the UK has potential for tidal and wave generation and that tidal range technology has available technology but at the time of designation of the NPS no projects were currently expected.
- 3.0.6 Similarly, EN-3, National Planning Policy Statement for Renewable Energy Infrastructure, at paragraph 1.8.2 states that:
- "This NPS does not cover other types of renewable energy generation that are not at present technically viable over 50MW onshore or over 100MW offshore such as schemes that generate electricity from tidal stream or wave power. It is expected that tidal range schemes may be the subject of applications to the IPC within the near future. Government is, therefore, considering the need for either a revision to this NPS or a separate NPS to provide the primary basis for decision-making under the Planning Act on such schemes."
- 3.0.7 Section 6.3 of the applicant's Planning Statement (APP-384) considers this issue. It acknowledges that in this case there is no designated NPS in effect for this kind of development. Since there is no NPS designated for tidal schemes the Panel has accordingly approached this report on the basis that the Secretary of State will decide the application against the criteria in section 105 of the PA2008. That

section requires the Secretary of State (SoS) to have regard to the following in deciding the application:

- Relevant local impact reports submitted by local authorities,
- Relevant prescribed matters, and
- Any other matters which the SoS thinks are both important and relevant to the SoS's decision.

3.1 LOCAL IMPACT REPORTS SUBMITTED

- 3.1.1 Local impact reports (LIRs) were submitted by the CCSC (REP-563) and NPTCBC (REP-565). Both LIRs identify the development plan relevant to their respective areas and include an assessment of the impact of the proposal against local policy. The LIRs are considered in more detail later in this chapter.

3.2 PRESCRIBED MATTERS

- 3.2.1 The Infrastructure Planning (Decisions) Regulations 2010 set out the prescribed matters for the purposes of s105. The only prescribed matter relevant to the issues raised by this application is 'biological diversity'. The decision maker must have regard to the United Nations Environmental Programme Convention on Biological Diversity of 1992. This is discussed below and in chapter 4.

3.3 IMPORTANT AND RELEVANT MATTERS

- 3.3.1 The legal and policy matters that the Panel believe to be important and relevant to the SoS's decision are described in this chapter. Their implications for the main issues in the examination are discussed in chapter 4.
- 3.3.2 As there is no designated NPS, Planning Policy Wales is the relevant planning policy document in Wales and is an important and relevant matter for the SoS. chapter 12 identifies support for infrastructure projects which:
- "promote the generation and use of energy from renewable and low carbon energy sources at all scales and promote energy efficiency, especially as a means to secure zero or low carbon developments and to tackle the causes of climate change".
- 3.3.3 The importance and relevance in particular of NPSs EN-1 and EN-3 was examined during the examination. In response to the Panel first round of written questions on this point WG indicated [REP-561] that in the absence of a designated NPS, 'Energy Wales; A Low Carbon Transition (2012)' which identifies "significant wave and tidal energy potential" should also be considered relevant (alongside other policies). It did not demur however from the proposition within the question that NPS EN-1 was indeed important and relevant to this DCO application. NPTCBC [REP-510] and CCSC [REP-506] also raised

no objection to the NPSs being considered important and relevant. The latter authority indicated it considered particular EN-1 policies on landscape, seascape and visual impact relevant to the decision on the application.

- 3.3.4 The first ISH on the Draft DCO held on 31 July 2014, under agenda item 2.1 (extents of the proposed principal development), the applicant made clear its view that the energy NPSs were important and relevant to the application [HE-12]. The Panel asked whether anyone present disagreed with that proposition. Neither WG, nor the local authorities, nor any of the other IPs present at the hearing disagreed with the proposition that NPSs EN-1 and EN-3 were important and relevant to the application.
- 3.3.5 The proposed development is a generating station with a capacity of over 100MW and because the policies in the NPSs are devised specifically for generating stations and energy infrastructure of this scale, and in part because there were no objections from IPs, the Panel finds that the policies in the NPSs should indeed be considered important and relevant to the decision on this application.
- 3.3.6 In conclusion therefore s105 requires that the SoS must take into account any local impact report, prescribed matters and important and relevant matters in making his decision on this application. Whilst no NPS is designated for this form of development the Panel concludes that the NPSs are nonetheless important and relevant matters for this application as are the other UK, Welsh and local legal statutes and policy documents listed throughout this chapter.
- 3.3.7 It should be noted that as EN-1 and EN-3 are not the designated NPSs for the purposes of a tidal lagoon the strategic environmental assessment associated with them does not extend to the project. The assessment of the project has therefore proceeded on the basis that all environmental matters and impacts are considered at the project level.

OTHER NATIONAL POLICY STATEMENTS

- 3.3.8 The applicant refers to the Ports NPS (which is relevant in Wales) in its Planning Statement [APP-384] at para 6.3.4 et seq. The Ports NPS generally promotes accessibility through ports and hence, any scheme should either improve accessibility or not harm any existing provision. The applicant argues that, with the embedded mitigation of the design and requirements for dredging and management of fish, no harm is caused. This is considered further in chapter 4.
- 3.3.9 EN-5 covers energy networks, in this case the cable connection. Whilst it is not a requirement for a generating station to include the connector, the applicant has reached agreement to connect to the Baglan Bay substation by underground cable and so EN-5 was not a focus of the examination.

PLANNING ACT 2008 - DEVELOPMENT CAPABLE OF AUTHORISATION BY DCO (PA2008 S115)

- 3.3.10 S115 provides that development consent can be granted for both the development for which development consent is required and also any associated development (as defined in the section). However, s115(4) sets out that the only description of development that can be treated as associated development in Wales must be associated with underground gas storage. Hence, associated development is not capable of authorisation for this project.
- 3.3.11 S31 provides that development consent is required for “development to the extent that the development is or forms part of a nationally significant infrastructure project”. Development consent for projects in Wales can therefore only be granted for development which is within that definition. Whether particular elements of the overall Swansea Bay Tidal Lagoon Project, as described in the application, were capable of being authorised by development consent was an issue in the examination. This is discussed in chapter 4.

PLANNING ACT 2008 - COMPULSORY ACQUISITION (PA2008 SS122 – 134)

General considerations

- 3.3.12 A DCO may only include provisions authorising compulsory acquisition (CA) if the SoS is satisfied that there is a compelling case in the public interest for the compulsory acquisition of land which is either:
- Required for the development, or to facilitate it or is incidental to it, or
 - Replacement land to be given in exchange.
- 3.3.13 The SoS must also be satisfied that either authorisation for CA was requested in the application, or that all interested persons have consented to provision being included in the DCO, or that prescribed procedures have been followed.

3.4 STATUTORY UNDERTAKERS’ LAND, NATIONAL TRUST LAND, COMMONS AND OPEN SPACES AND CROWN LAND

- 3.4.1 Where a statutory undertaker has made a representation about an application, which is not withdrawn, a DCO may only include provision authorising the compulsory acquisition of the undertaker’s land interest in limited circumstances. The SoS must be satisfied that, without serious detriment to the carrying on of the undertaking, the land purchased can either be replaced by certain other land or does not need to be replaced.
- 3.4.2 PA2008 also contains similar provisions to protect National Trust land, commons and open spaces.

- 3.4.3 A DCO cannot authorise the CA of an interest in Crown land unless it is for the time being held by someone else (e.g. under a lease from the Crown) and the appropriate Crown authority consents. A DCO may not include any other provision applying to Crown land or rights unless the appropriate Crown authority consents to its inclusion.

Project context

- 3.4.4 The application seeks CA of land and rights, including those of a number of statutory undertakers. At the close of the examination, representations made by the following SUs had not been withdrawn: Baglan Operations Limited (Baglan) and Associated British Ports (ABP).
- 3.4.5 The application also seeks CA of open space, some of which only requires temporary rights. It includes part of the cable easement and land at the eastern landfall including part of the beach.
- 3.4.6 The application site includes Crown land as described in the applicant's Book of Reference as updated on 25 November 2014 [REP-923]. Crown land is required for the construction of the seawalls and small parcels of crown land are onshore. The need for consent by the appropriate Crown authorities in respect of the other provisions of the DCO is discussed in chapters 6 and 8.

3.5 PLANNING ACT 2008 – WHAT MAY BE INCLUDED IN A DCO

- 3.5.1 A DCO may include requirements that could have been imposed on any consent which would otherwise have been required for the development (e.g. conditions on planning permission). They may also include a requirement to obtain approval from the SoS or any other person.
- 3.5.2 A DCO may make provision relating to, or to matters ancillary to, the development it authorises. That provision may include in particular any of the matters listed in Part 1 of Schedule 5 PA2008, for example the acquisition of land, the operation of a generating station and the carrying out of surveys.
- 3.5.3 Under s120 there is a wide ranging but defined power to include in a DCO provisions which apply, amend or exclude statutory provisions.
- 3.5.4 Under s120(5) there is a general power to include any provision which is necessary or expedient to give full effect to any other provision, and incidental, consequential, supplementary, transitional or transitory provisions and savings.
- 3.5.5 In relation to certain prescribed consents, a DCO may include provisions removing a requirement for such consent, but only if the body who would normally grant it agrees to the inclusion of the provision. The consents are set out in The Infrastructure Planning (Miscellaneous Prescribed Provisions) Regulations 2010. The various

consents which are prescribed in both England and Wales are set out in Schedule 1, and those prescribed in Wales only are in Schedule 2.

Project context

- 3.5.6 The applicant's final draft DCO of 4 December 2014 [REP-1002] includes compulsory acquisition powers and provisions applying, modifying and excluding statutory provisions, for example relating to compensation for compulsory acquisition. These provisions are discussed in chapter 7.
- 3.5.7 During the course of the examination, NRW challenged the inclusion of two provisions within the DCO on the basis that it considered that its consent was required in Wales [REP-905 and REP-907]. These were:
- Provision of eel screens (required by Regulation 17 of the Eels (England and Wales) Regulations 2009 unless an exemption is granted by NRW)
 - Provision of salmon screens (required by s14 of the Salmon and Freshwater Fisheries Act 1975 (SAFFA) unless an exemption is granted by NRW).

Prescribed consents in Wales are listed in Parts 1 and 2 of the Schedule to The Infrastructure Planning (Miscellaneous Prescribed Provisions) Regulations 2010. Neither s15 of SAFFA, nor the Eels (England and Wales) Regulations 2009 are so listed. Matters relating to both eel screens and salmon screens are capable of being included in a DCO without requiring the separate consent of NRW.

- 3.5.8 By the close of the examination NRW had, in any event [REP-1007], agreed that eel screens were not required (as per Article 48 of the applicant's draft DCO of 4 December 2015 [REP-1002]). They continued to maintain their objection in respect of the inclusion of the article in relation to salmon screens.
- 3.5.9 The substance of the matters is discussed in chapter 4 in the context of migratory fish and in chapter 8 in relation to the wording of the articles.

3.6 WELSH NATIONAL POLICIES AND GUIDANCE

- 3.6.1 The principal planning policy documents in Wales that are relevant to this application are Planning Policy Wales 2014, Energy Wales: A Low Carbon Transition (2012) and in the following Technical Advice Notes (TANs);
- TAN 5: Nature Conservation and Planning (2009)
 - TAN 8: Renewable Energy (2005)
 - TAN 11: Noise (1997)
 - TAN 12: Design (2009)
 - TAN 14: Coastal Planning (1998)
 - TAN 15: Development and flood risk (2004)

- TAN 16: Sport, recreation and open space (2009)
- TAN 18: Transport (2007)
- TAN 23: Economic Development (2014)

3.6.2 The applicant's Planning Statement [APP-384] also referred to the following policy documents:

- Marine Renewable Strategic Framework, Approach to Sustainable Development (March 2011);
- Ministerial Policy Statement on Marine Energy in Wales (July 2009);
- Low Carbon Revolution – Welsh Government Energy Policy Statement (2010) and;
- Circular 35/95 which has been replaced by the use of Planning Conditions for Development Management published October 2014 (WGC 016/2014) (as referred to in paragraph 4.1.7 of NPS-EN-1).

3.6.3 Where relevant, the Panel has taken account of these policy documents mentioned in this section of the report. The Panel has also taken note of references within the CCSC LIR to the Welsh Spatial Plan (updated 2008).

3.7 GOVERNMENT OF WALES ACT 2006 (GWA 2006)

DEVOLVED MATTERS

3.7.1 The GWA 2006 enables the Welsh Government (WG) to make legislation which then applies in Wales. The legislation must be within the legislative competence of the WG, i.e. relate to the devolved matters which are set out in Schedule 7 to the Act. These are set out as a series of broad headings, or 'subjects'. Those relevant to the tidal lagoon project include:

- Environment: matters such as environmental protection, countryside, open spaces, nature conservation, habitats, coast and marine environment;
- Local government, including areas of local authorities which includes their boundaries of jurisdiction for matters such as development control and enforcement;
- Town and Country Planning.

3.7.2 Some matters which would otherwise be encompassed by these broad headings are accepted and not devolved. Amongst these exceptions is 'Development consent under the Planning Act 2008'. Although the exception is contained within GWA Schedule 7 paragraph 18, GWA s108(4) makes clear that the exceptions apply generally, regardless of the paragraph in which they occur.

- 3.7.3 WG in particular were concerned to ensure that the devolution settlement was respected in the consideration of the application, and that applications for the requisite consents for all elements of the proposed development were made to the appropriate person or body. This is discussed further below and in chapter 4.

LOCAL GOVERNMENT (DEMOCRACY) (WALES) ACT 2013

- 3.7.4 This Act was enacted by WG, exercising its power to legislate on local government matters. Amongst other matters, it enabled the Local Democracy and Boundary Commission for Wales to review local authority areas in Wales.
- 3.7.5 The Act contains an express provision by which the Commission may review the seaward boundary of a local authority area. The seaward extension of local authority areas is clearly a devolved matter.

Project context

- 3.7.6 Article 48 of the application draft DCO [APP-081] included a proposal to extend the seaward boundary of the City and County of Swansea to include the area of the tidal lagoon for the purposes of the Town and Country Planning Act 1990 and the Control of Pollution Act 1974. Article 53 of the applicant's final draft DCO [REP-1001] carried forward this proposal with some amendments of the wording of the article. This is discussed in section 3.14 of this chapter.

3.8 UK LEGISLATION

MARINE AND COASTAL ACCESS ACT 2009 (MCAA 2009)

- 3.8.1 The UK marine area is split into 8 regions, comprising inshore and offshore regions for each of England, Scotland, Wales and Northern Ireland. For Wales these are:
- The "Welsh inshore region" which means the area of sea within the 12 nautical mile seaward limits of the territorial sea adjacent to Wales;
 - The "Welsh offshore region" which means so much of the Welsh zone as lies beyond the seaward limits of the territorial sea.
- 3.8.2 The MCAA sets the arrangements for establishing marine policy and carrying out marine licensing.

THE MARINE POLICY STATEMENT

- 3.8.3 The UK Marine Policy Statement (MPS) was prepared and adopted for the purposes of s44 of the MCAA 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. The MPS is the framework for preparing Marine Plans and taking decisions affecting the marine environment. It 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.

- 3.8.4 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 creeks.
- 3.8.5 The MPS has provided the overarching policy context for the Panel's consideration of the application offshore works. There are no marine plans yet for either inshore or offshore for Wales.

MARINE LICENSING

- 3.8.6 It is a criminal offence to carry out licensable marine activities either without a marine licence or in breach of the conditions of a marine licence. Activities such as dredging, and constructing works in or over the sea or on or under the sea bed, are licensable. In England, a DCO may include a deemed marine licence; this is not the case in Wales.
- 3.8.7 The Welsh Ministers are the licensing authority in relation to the Welsh inshore region (except in relation to petrol and defence). In practice, the Welsh Ministers have delegated their marine licensing functions to NRW who consider applications, issue or decline them and monitor marine licences.
- 3.8.8 NRW provided a progress note in respect of the applicant's marine licence application at the end of the examination [REP-1037] and this is considered in chapter 4.

WILDLIFE AND COUNTRYSIDE ACT 1981

- 3.8.9 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, confirmation, protection and management of SSSIs. These sites are identified for their flora, fauna, geological or physiographical features by the countryside conservation bodies (NRW in Wales).
- 3.8.10 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 relating to public rights of way and Part IV relating to miscellaneous provisions. There are two SSSIs near the project and these are discussed in chapter 4.

- 3.8.11 If a species protected under Part I is likely to be affected by development, a protected species license will be required from the appropriate nature conservation body (NRW in Wales). This has relevance to consideration of impacts on SSSIs and on protected species and habitats. Whether any such licences are required is discussed in chapter 4.

NATURAL ENVIRONMENT AND RURAL COMMUNITIES ACT 2006

- 3.8.12 The Natural Environment and Rural Communities Act (NERC Act) 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, in exercising its functions, have regard so far as is consistent with the proper exercising of those functions, to the purpose of biodiversity. In complying with this, regard must be given to the United Nations Environment Programme Convention on Biological Diversity of 1992.
- 3.8.13 This is of relevance to biodiversity, biological environment and ecology and landscape matters in the proposed development. These matters are discussed in chapter 4.

3.9 EUROPEAN POLICIES AND RELATED UK REGULATIONS

THE WATER FRAMEWORK DIRECTIVE

Background

- 3.9.1 The EU Water Framework Directive (WFD) (Directive 2000/60/EC) established a framework for Community action in the field of water policy. Some amendments have been introduced into the Directive since 2000. The purpose of the WFD is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater.
- 3.9.2 The WFD requires Member States to identify 'river basin districts' – the area of land and sea made up of one or more neighbouring river basins with their associated coastal waters and groundwater. Member States must also identify a 'competent authority' to apply the WFD rules within those districts.
- 3.9.3 The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 transposed the WFD into law in England and Wales (the WFD Regulations). The WFD Regulations separate the 'competent authority' functions into two. The 'appropriate authority' has a number of strategic functions under the Regulations, including approval (or rejection) of 'river basin management plans' (RBMPs) prepared by the 'appropriate agency'.
- 3.9.4 In Wales, WG is the 'appropriate authority', and NRW the 'appropriate agency' for the production of river basin management plans.

- 3.9.5 The river basin districts (RBD) in England and Wales are identified on a map deposited with the WFD Regulations. The WFD Regulations require that RBMPs were published by December 2009. They are (where appropriate) to be updated by 22 December 2015 and thereafter by each sixth anniversary of that date.
- 3.9.6 The RBMPs must relate to a specified period, and include information specified in relevant provisions of the WFD. Environmental objectives for the district must be proposed, together with a programme of measures to achieve them. Detailed provision is made in the regulations for public participation on the content of the RBMPs.
- 3.9.7 The environmental objectives to be included in RBMPs are those required to comply with Article 4 of the WFD. Broadly the WFD requires that there be no deterioration in status and that good ecological and chemical status be achieved by 2015. However, for 'artificial and heavily modified bodies of water', the objective is for them to reach good ecological potential and good chemical status by that date. These are bodies of water that are either created by human activity or whose character has been substantially changed by human activity.
- 3.9.8 Article 4.4 of the WFD sets out certain circumstances in which, exceptionally, the period for compliance may be extended to no later than 2027.

Derogation

- 3.9.9 Member States will be in breach of the WFD if the relevant deadline is not met, unless the very limited circumstances set out in Article 4.7 apply ("derogation"). These are because the failure is either:
- "the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater", or
 - To prevent deterioration of a surface water body from high status to good status as a "result of new sustainable human development activities", and
 - In either case all practicable steps are taken to mitigate the adverse impact on status and the reasons for the modifications or alterations are:
 - Explained in the RBMP, and its objectives are reviewed every six years; and
 - Of overriding public interest and/or
 - The benefits to the environment and to society of achieving the environmental objectives of the WFD are outweighed by the benefits to human health, to the maintenance of human safety or to sustainable development, and

- The beneficial objectives of the modifications or alterations cannot, due to technical feasibility or disproportionate cost, be achieved by other means which are a significantly better environmental option, and
- The modifications or alterations must not permanently exclude or compromise the achievement of the WFD objectives in other bodies of water in the same river basin district.

3.9.10 The WFD Regulations (Regulation 3) place a general duty on the Secretary of State, WG, EA and NRW to exercise their 'relevant functions' so as to secure compliance with the WFD. PA2008 is not a 'relevant function' for this purpose.

3.9.11 However, they also have a specific duty to have regard to the relevant RBMP and any supplementary plans made under it in exercising their functions, which would include functions under the PA2008. The SoS will need to consider the implications of the project firstly in regard to his specific duty to have regard to the RBMP and secondly, in more general terms in relation to the UK's ability to comply with the WFD including (if applicable) the derogation provisions of Article 4.7.

Project context

3.9.12 The relevant RBMP in this case is the Western Wales River Basin District. During the course of the examination it became clear that the project would require derogation under Article 4.7 of the WFD. The issues are addressed in section 5.1 of this report.

HABITATS DIRECTIVE (COUNCIL DIRECTIVE 92/43/EEC)

3.9.13 The Habitats Directive (together with the Council Directive 79/409/EEC on the conservation of wild birds (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.

CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2010 (AS AMENDED) - THE HABITATS REGULATIONS

Habitats

3.9.14 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 introduced in 1994.

- 3.9.15 The Habitats Regulations 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).
- 3.9.16 Regulation 61 requires that a 'competent authority', before deciding to give consent for a plan or project which is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and which is not directly connected with or necessary to the management of that site, must make an appropriate assessment of the implications for that site in view of that site's conservation objectives.
- 3.9.17 Amendments made by the Conservation of Habitats and Species (Amendment) Regulations 2012 placed new duties on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds.
- 3.9.18 The SoS is a competent authority for the purposes of the Regulations.

Species

- 3.9.19 The regulations impose criminal penalties for various activities in relation to protected European species of wild animals and plants. Regulation 53 enables licences to be issued for specified activities; anything done under and in accordance with the terms of a licence is then not an offence under the regulations. The licensing body in Wales is NRW.
- 3.9.20 NPS EN-1 states that the decision maker will need to take into account whether the appropriate nature conservation body has granted or refused, or intends to grant or refuse, protected species licences.

Project context

- 3.9.21 A total of 20 European sites were screened for likely significant effects by the applicant in an updated Habitats Regulations Assessment (HRA) Report [REP-584]. No likely significant effects were found in relation to seven of these, a conclusion that was not disputed by NRW or other Interested Parties. The remaining 13 were subject to further assessment. The Panel issued a RIES on 12 November 2014 [RIES-001]. The RIES documents and signposts information in the application and received during the examination in relation to potential effects to European sites up to 4 November 2014.
- 3.9.22 Section 4 of the RIES identifies the European sites that have been considered in terms of adverse effects on site integrity, either alone or in-combination with other projects and plans. It identifies where Interested Parties have disputed the applicant's conclusions, together with any additional European sites and qualifying features considered for adverse effects on site integrity during the examination. Habitats issues are discussed in chapter 5.

- 3.9.23 The latest position on protected species licences are discussed in chapter 4.

DIRECTIVE 2009/147/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 30 NOVEMBER 2009 ON THE CONSERVATION OF WILD BIRDS (CODIFIED VERSION) (THE BIRDS DIRECTIVE)

- 3.9.24 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.
- 3.9.25 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.

Project context

- 3.9.26 A number of SPAs were considered in the applicant's original screening assessment but only the Burry Inlet SPA was taken forward for more detailed assessment. This is further discussed in chapter 4.

THE EUROPEAN MARINE STRATEGY FRAMEWORK DIRECTIVE (2008/56/EC) AND THE MARINE STRATEGY REGULATIONS 2010

- 3.9.27 The Marine Strategy Framework Directive (MSFD) forms the environmental pillar of the Integrated European Marine Policy which aims to provide a coherent legislative framework for the governance of the marine environment. It sets a primary aim of achieving 'good environment status' of European seas by 2020.
- 3.9.28 The MSFD establishes four European Marine Regions the Baltic Sea, the North-east Atlantic Ocean, the Mediterranean Sea and the Black Sea. The proposed Tidal Lagoon would therefore be categorised as being within the North-east Atlantic Ocean.
- 3.9.29 The MSFD is transposed into UK legislation through the Marine Strategy Regulations 2010. Key requirements of the legislation are the "establishment of a monitoring programme to measure progress toward Good Environmental Status (as defined by 11 high level descriptors) by July 2014" and "establishment of a programme of

measures for achieving Good Environmental Status by 2016". The SoS, devolved policy authorities and each Northern Ireland body must exercise their functions, so far as they are relevant functions, so as to secure compliance with the requirements of the Directive, including the requirement in Article 1 to take the necessary measures to achieve or maintain good environmental status of marine waters within the marine strategy area by 31 December 2020. PA2008 is a relevant function in Schedule 2.

RENEWABLE ENERGY DIRECTIVE 2009

- 3.9.30 The Renewable Energy Directive sets out legally binding targets for Member States with the expectation that by the year 2020, 20% of the European Union's energy mix and 10% of transport energy will be generated from renewable energy sources. The UK's contribution to the 2020 target is that by then 15% of energy will be from renewable sources.

UK RENEWABLE ENERGY STRATEGY 2009

- 3.9.31 This Strategy sets out how the UK proposes to meet the targets. It refers to tidal power and makes specific mention of the Severn Barrage but no other tidal projects. It acknowledges that tidal power will increasingly become part of the UK's energy mix.

TRANSBOUNDARY ISSUES

- 3.9.32 Regulation 24 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (EIA Regulations) transposes Article 7 of EU Directive 85/337/EEC (as amended) into UK Law as it applies to the PA2008 regime. If the decision maker is of the view that a proposed development is likely to have significant effects on the environment in another European Economic Area (EEA) State, that state must be consulted about the application.

Project context

- 3.9.33 In this case the Planning Inspectorate, on behalf of the Secretary of State for Communities and Local Government (SSCLG) who sponsor the operation of PA2008 for all government departments, applied the precautionary approach (as explained in Planning Inspectorate Advice Note 12 – Development with Significant Transboundary Impacts Consultation). Transboundary issues consultation under Regulation 24 of the EIA Regulations was therefore considered necessary in relation to shipping, navigation and fishing with the following countries:
- Belgium
 - Ireland
 - Netherlands

- 3.9.34 No views from Ireland had been received at the close of the examination but the SoS will wish to consider any responses that may be received before his decision is made.

3.10 OTHER LEGAL AND POLICY PROVISIONS

UNITED NATIONS ENVIRONMENT PROGRAMME CONVENTION ON BIOLOGICAL DIVERSITY 1992

- 3.10.1 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. 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. This is of relevance to biodiversity and the biological environment, ecology and landscape matters which are considered in chapter 4 and chapter 5.

ISSUES RAISED BY THE LOCAL IMPACT REPORTS

- 3.10.2 The following are the main issues raised by the CCSC and NPTCBC LIRs:

- Coastal Processes, Sediment Transport and Contamination
- Effects on seascape and landscape character
- Design and public realm
- Cultural Heritage and Terrestrial and Marine Archaeology
- Intertidal and Subtidal Benthic Ecology
- Fishing including recreational and commercial fisheries
- Marine Mammals and Turtles
- Coastal Birds
- Terrestrial Ecology
- Marine Water Quality
- Land Quality and Hydrogeology
- Onshore transport and traffic management
- Air Quality, noise and vibration
- Hydrology and Floodrisk
- Residential Amenity
- Economy, Tourism and Recreation
- Sustainability
- DCO, obligations and requirement
- Waste management
- Ground contamination
- Socio-economic issues
- Archaeology and cultural heritage

- 3.10.3 These issues formed matters for the examination and are discussed in chapter 4.

3.11 RELEVANT DEVELOPMENT PLAN AND OTHER LOCAL POLICIES

3.11.1 Paragraph 4.1.5 of NPS EN-1 indicates that the decision-maker may consider Development Plan Documents (DPDs) or other documents in the Local Development Framework (LDF) both important and relevant to his consideration of the application. In Wales the panel have considered the relevant Local Development Plans.

3.11.2 The majority of the onshore development would be within the jurisdiction of the CCSC, with some development being carried out within the jurisdiction of NPTCBC.

3.11.3 The applicant sets out what it considers to be the relevant policies in its Planning Statement [APP-384] paragraph 5.9.2.

CITY AND COUNTY OF SWANSEA COUNCIL (CCSC)

3.11.4 The current adopted development plan is its Unitary Development Plan (UDP), which was adopted in November 2009.

3.11.5 CCSC Local Development Plan (LDP) preferred strategy was to be published. A Pre-Deposit LDP was due to be published in late 2014 but this has not taken place as yet.

3.11.6 It is anticipated that the Deposit Plan will be published in mid to late 2015 and that the LDP would replace the Unitary Development Plan in late 2016.

3.11.7 The applicant and CCSC agreed a SoCG on 25 November 2014 [REP-959]. The section of the SoCG dealing with Law and Policy does not expressly identify relevant policy but concludes that:

“CCSC considers that, based upon relevant development plan policy and adopted SPG, the focus for CCSC is to make Swansea a vibrant, exciting, attractive, sustainable, cultured Waterfront City and proposals which would compromise these objectives will not be supported.”

NEATH PORT TALBOT COUNTY BOROUGH COUNCIL (NPTCBC)

3.11.8 The applicant sets out what it considers to be the relevant policies in its Planning Statement [APP-384] paragraph 5.9.3.

3.11.9 NPTCBC considers the impact of the development upon the identified policies in its LIR [REP-565] and provided the following information:.

3.11.10 The current adopted development plan is its Unitary Development Plan (UDP), which was adopted in March 2008.

3.11.11 It has an emerging Local Development Plan which was placed on deposit in August-October 2013. A Report of Alternative Sites was also consulted upon during January-March 2014. It was submitted on 30 September 2014 for examination.

OTHER LOCAL POLICY

- 3.11.12 NPTCBC has a Single Integrated Plan 2013-2023, which is a local policy document setting out the Council's vision for Neath Port Talbot. 'A guide to the Neath Port Talbot Local Biodiversity Action Plan (LBAP) 2008-2012' was currently under review, but the Authority has determined to continue to use the LBAP until the review has been completed.
- 3.11.13 NPTCBC as the Lead Local Flood Authority adopted a Local Flood Risk Management Strategy (LFRMS) in June 2013.
- 3.11.14 The Fabian Way Strategy was prepared by both NPTCBC and CCSC in November 2013.

Panel consideration

- 3.11.15 Where relevant the Panel took these documents into consideration particularly through consideration of the CCSC LIR [REP-563] and the NPTCBC LIR [REP-565] in examining the onshore elements of the proposed development. Elements raised in the LIRs are discussed within chapter 4 under the relevant topic headings.

3.12 DEVOLUTION AND JURISDICTION

- 3.12.1 Throughout the examination, and most particularly at the open floor hearing (OFH) on 29 July 2014, the Panel has been made aware of the extent of support for the scheme as it has been promoted by the applicant. That scheme, referred to as the Project, involves innovative engineering to create a lagoon and harness the bay's latent resource of tidal range energy to generate hydro-electricity. The Project also had additional features with the aim of developing the recreational opportunity that the lagoon and the lagoon wall would present.
- 3.12.2 The combined Project could be a major visitor attraction and there are opportunities for making it an even greater one, for example by staging major events and installing public artworks at locally widened sections of the lagoon wall. It is noteworthy that the Project as envisaged by the applicant had secured a number of design awards [REP-1102 to REP-1104]. The combined Project is supported by many local people, local tourist authorities and the local authorities for Swansea and for Neath and Port Talbot. A number of IPs also expressed concern about the project, or elements of it, during the examination.
- 3.12.3 However, in the context set by the Devolution Settlement, and having had regard to views expressed by WG it was necessary during the course of the examination to reconcile the potentially conflicting aims between considering the Project as a whole and failing to respect the objectives of the Devolution Settlement. This may leave certain elements of the original scheme for determination as planning applications to be made to the LPAs but to ensure that the scheme being examined under the PA2008 was designed in a manner that

they could be achieved. The examination elements relating to this consideration are laid out in Section 4.1

- 3.12.4 An s106 agreement has been discussed by the applicant and the two LPAs as a means of securing delivery of an offshore building above the height of the lagoon walls and of additional facilities onshore. This is further discussed below. However, the extension of planning jurisdiction over the site of the proposed lagoon as proposed within the applicant's draft DCO is directly relevant to the potential effect of the s106 agreement and is discussed below.

EXTENSION OF JURISTITION

- 3.12.5 For the LPAs to be able to receive planning applications relating to elements of the scheme that are located offshore or to act as an LPA for the purposes of the discharge of requirements there needs to be an extension of their jurisdiction. Such an extension of jurisdiction for the purposes of the Control of Pollution Act 1974 and the Town and Country Planning Act 1990 has been within every draft of the DCO, including that submitted with the application [APP-081], and is proposed as article 53 of the 4 December 2014 draft of the DCO [REP-1000].
- 3.12.6 As originally drafted the extension of jurisdiction would have annexed and incorporated the whole of the order lands within CCSC, including an element of land that is within the NPTCBC. This is no longer proposed having changed in response to representations from NPTCBC who were "extremely concerned regarding the proposed permanent change to the County Borough's boundary following completion of the development" [REP-510].
- 3.12.7 In the 4 December 2014 draft DCO [REP-1000], the boundary between the two neighbouring authorities is unaltered and the extension of jurisdiction in respect of the two Planning Acts for both areas is "seaward". It is understood that part of the lagoon would be within the jurisdiction of NPTCBC, and a larger part within the jurisdiction of the CCSC. The panel has expressed a concern that were the DCO to include an extension of jurisdiction, the expression "seaward" should be more precisely defined, perhaps by reference to a map.
- 3.12.8 WG in replying to the ExA's Q14.8 from the Panel first round of written questions queried whether an extension of jurisdiction would be outside the powers of a DCO drafted under the terms of the PA2008 as it applies in Wales [REP-561] and did not agree when the applicant sought agreement to a SoCG which would have included a DCO article bringing the Project within the jurisdiction of local planning authorities [REP-706].
- 3.12.9 However on 25 November 2014, in answering a Rule 17 Question put by the Panel [PD-019], WG took a modified position [REP-918]:

"Whilst the strict wording of section 120 of the 2008 Act does not preclude the making of such provision, its effect gives rise to implications in the context of devolution in Wales. Indeed, its effect is one, which essentially amounts to the Secretary of State re-drawing the boundaries of Welsh local planning authority's jurisdiction. It therefore does not recognise the broadly devolved character (at both the executive and legislative level) of town and country planning (nor local government, for that matter). This therefore gives rise to issues that will require further discussion."

- 3.12.10 It is to be noted that it was in the draft DCO of 25 November 2014 [REP-928] that the applicant introduced a further amendment of the article on extension of jurisdiction so that it no longer had an effect of transferring (actual or potential) jurisdiction from NPTCBC to CCSC.
- 3.12.11 In the Panel's view that change to the wording of the DCO is significant since in the form in which it was presented in the 4 December 2014 draft, the article would not involve any suggestion that there would be transference of planning powers across an administrative boundary between adjoining LPAs. The area over which jurisdiction would be extended is currently within the marine domain and subject to controls exercised by NRW. WG has stated "that Part 4 of the Marine and Coastal Access Act 2009 will continue to apply notwithstanding a change to Planning jurisdiction" [REP-918] and consequently the extension of jurisdiction would not interfere with or diminish NRW's powers over the area. Additional jurisdictions would be created over the area covered by the DCO, exercisable by the land based local authorities.
- 3.12.12 When the applicant responded [REP-964] to WG's letter of 25 November 2014 [REP-918], it was stated that Welsh Government "concede that the position is intra vires the Secretary of State under s.120 PA2008" [REP-964]. The final words on jurisdiction from Welsh Government on 4 December 2014 were "Nothing further to add" [REP-976]. The Panel understands this response to be tacit acknowledgement that extension of jurisdiction is within the power of the PA2008 but that the WG's position remained as it had been expressed in the letter of 25 November 2014 [REP-918], quoted above.

The Panel's view on extension of jurisdiction

- 3.12.13 In the generality of cases, the panel recognise that with a devolution settlement in place, one could expect an extension of jurisdiction within Wales to be a matter for WG to put into effect. However under the terms of the PA2008 there is no prescription of such an action. This was acknowledged in the 25 November 2014 letter from WG [REP-918]. The panel view this situation as one where the special circumstances outlined below may present sufficient justification for including an article extending jurisdiction within a DCO which is at the interface of two legislative systems.

3.12.14 These special circumstances include the following:

- The extension of jurisdiction would be over a combination of intertidal area and seabed which on completion of the lagoon walls would be expected to be viewed in terms of the administration of the Planning Acts as "land" and subject to the control of the adjacent local planning authority.
- The extension of jurisdiction would in the words of the SoCG between TLSB and CCSC "serve to ensure the proper control of the Project by local planning authorities" [REP-959].
- In relation to pollution control, this would help to allay local concerns related to the history of metallurgical industries in the Swansea and Neath/Port Talbot areas.
- In relation to planning matters, it would enable the applicant to make planning applications, relating to geographical areas that are currently underwater at low tide.
- It would additionally, give legal effect to a signed s.106 agreement which is aimed at securing delivery of substantial and significant elements of the original scheme through locally determined planning applications.

3.12.15 The position that has been put to the panel by the applicant is that inclusion of an article extending jurisdiction would be within the legal scope of the PA2008 and the questions that remain are whether this would be a reasonable thing to do in terms of policy, particularly having regard to the devolution settlement, and a sensible approach given the facts of this particular case.

3.12.16 WG has set out its overall support for the scheme as a significant contribution to achieving renewable energy. Welsh policy is strongly in support of developing resources of marine renewable energy. Before deciding that an article extending local authority jurisdiction can be included, the SoS could consider a formal approach to WG to support its inclusion in this instance relating to construction of an offshore lagoon. However it is the panel's recommendation to the SoS that the extension of jurisdiction as sought by Article 53 of the 4 December 2014 draft DCO should be included in any DCO relating to this proposal.

3.13 S106 IN THE CONTEXT OF THE SCHEME

3.13.1 On 8 December 2014 the applicant submitted a draft uncompleted s106 agreement [REP-1010] together with separate signed and dated front and back pages with no pages in between [REP-1010 to REP-1014]. It confirmed that it would be providing a certified copy of the completed s106 agreement to the Panel but this has not been received. In the report reference has been made where relevant to a

draft s106. If it has not already been supplied by the applicant direct to his office, the SoS may wish to request a certified copy from the applicant.

- 3.13.2 The legal standing of the matters in the s106 currently depends on whether they are onshore or offshore obligations. S106(9) sets out the criteria which have to be met for planning obligations. One of these criteria is that the deed must identify the LPA who has the power to enforce the obligations. This is what the agreement purports to do (clause 3.2 page 9) but in the case of the offshore matters if there is no LPA with such powers, the statutory requirements are not met and the offshore matters cannot be planning obligations under s106. Hence the status of the s106 depends on the question of jurisdiction discussed above.
- 3.13.3 If the DCO provision for the extension of jurisdiction were included then all the matters in the completed s106 agreement would then be planning obligations under s106. All the enforcement powers under s106(5) and (6) (injunction and powers of entry) would be available to the LPA. The planning obligations would also be enforceable against future owners of the generating station. If jurisdiction were extended at some other date than through the DCO then the question of the status of the s106 may need to be reviewed at that time.
- 3.13.4 The remainder of this report has been drafted on the basis that a valid s106 covering matters such as the provision of additional features in the original scheme but not covered in the recommendation DCO is capable of being delivered but the DCO is not directly dependent on the s106 being signed as there are no consent obligations required to the DCO.

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

- 3.14.1 The Panel 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 of PA2008 to make a DCO having regard to the development consent applied for.
- 3.14.2 The SoS will be aware of the letter dated 28 November 2011 from Bob Neill MP, then Parliamentary Under-Secretary of State for Planning to the Infrastructure Planning Commission. 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 Chapter 2 outlines the stages of examination of the DCO including the Panel's consultation draft which was issued to draw out the matters relating to potential changes.
- 3.14.4 Chapter 4 section 4.1 outlines the evolution of the draft DCO in the legal and policy context set out above and the final construction of the recommendation DCO is covered in chapter 7. Taking account of the

changes in the DCO and the process of the examination, chapter 8 considers the final position of the project in relation to the powers of the SoS to take his decision.

4 FINDINGS AND CONCLUSIONS IN RELATION TO POLICY AND FACTUAL ISSUES

4.0 MAIN ISSUES IN THE EXAMINATION

4.0.1 The Panel's initial assessment of principal issues was attached at Annex C to the Rule 6 letter issued on 15 May 2014 [PD-003]. The principal issues covered a broad spectrum of matters which had either been raised through RRs or raised directly by the Panel in their reading of the application. These ranged from the wide ranging matter of law and policy relating to the first ever tidal lagoon to specifics on construction techniques.

4.0.2 These issues formed the basis for the first round of written questions [PD-010] and subsequent hearings. The examination of these and other matters raised through the course of the examination are reported on in chapters 4 and 5 in this report.

4.1 DEVELOPMENT PERMITTED UNDER PA2008

BACKGROUND

4.1.1 The question of whether the whole scheme as put forward by the applicant can be viewed as principal development, as the term is used in the CLG guidance 'Planning Act: associated development for major infrastructure projects' (the Guidance) for determination under the PA2008 was an important matter for the examination. The subject has been one that has particularly engaged WG.

4.1.2 At every stage from their RRs of 7 March 2014 [REP-252] up to 4 December 2014 [REP-976], the written representations from WG have questioned whether the DCO as drafted reflects the devolution settlement. In addition, in written representations, WG has expressed a view on what is required for development to be principal development under the PA2008 and which elements of the proposed development should not be so considered.

4.1.3 The Panel's initial assessment of the principal issues included "Scope of works proposed as the principal development and extent of any associated development to be determined by Welsh Local Planning Authorities". The Panel's first round of questions, particularly Q1.11 invited legal submissions from the applicant to support the position that all the proposed development is properly described as principal development and from any IP who wanted to argue a contrary view.

4.1.4 WG took up this invitation to make legal submissions [REP-561]. After advising that careful consideration of the draft DCO was needed "to ensure the devolution settlement is respected" WG continued:

"In order for the development to be considered to be forming part of a NSIP, it is our view that there must be a sufficient link between the substance and purpose of such development and the "principal

development" (i.e. the 'core' of the NSIP that being the generating station itself)."

"It is considered that such development must be necessary to enable the operation of the principal development or "project", which involves channelling a head of water through a turbine to generate electricity to distribute on to the national grid. A test that could be applied is whether it would be possible to construct and operate a generating station without the particular element of the works in question. If the element of works in question does not satisfy the above, a further question arises as to whether such development requires devolved consent."

"The preservation of the devolution settlement is extremely important. Paragraph 7.31 of the UK Government's explanatory memorandum to the Infrastructure Planning (Miscellaneous Prescribed Provisions) Regulations 2010 describes the intention that PA2008, and the provision made under it, should preserve the devolution settlement, and discusses how this is to be achieved by ensuring that powers over devolved consents are not relinquished in the absence of the express consent of the appropriate devolved person or body."

- 4.1.5 WG continued: "Therefore, where development does not form part of the NSIP for the purposes of Section 21[sic] of the PA2008, and such development would otherwise require a devolved consent in order to be lawfully carried out, consent for such development is to be sought from the appropriate devolved person or body, and not granted by the DCO."
- 4.1.6 On this basis, WG went on to question the inclusion of a number of elements under Schedule 1 (the works) of the draft DCO. These included the offshore visitor centre, elements of the onshore building relating to visitor and boating facilities, laboratories, boat storage and associated visitor parking, highways and access, pedestrian and cycle routes, beach area, waterfront public realm, internal site roads, vehicle parking facilities, landscaping and boundary treatments and fencing.
- 4.1.7 The applicant provided a detailed response to Q1.11 [REP-517] which included the overall statement that: "TLSB considers that development forms part of the principal development (and therefore is not associated development) if it is physically part of or indistinguishable from the principal development. Similarly development which is integral and without which the principal development could not function is not associated development. Further, essential mitigation or enhancement incorporated by design within the Project forms part of the principal development."
- 4.1.8 Both CCSC and NPTCBC identified in their written representations [REP-828 and REP-750] that they considered that the Project should be delivered as put forward by the applicant. CCSC's view [REP-828] was "that the offshore building in its current and complete form

remains principal development". This was reiterated throughout the examination. NPTCBC [REP-750] stressed broader benefits that would flow from the total scheme and concern lest there be failure to maximise the delivery of all aspects of the potential development opportunities.

Discussion at Issue Specific Hearing

4.1.9 The subject was tabled at an ISH on 16 September 2014 and was further discussed at the ISH on 22 October 2014. WG was represented at the ISH held on 16 September. Agenda [HE-19] item 4.1 was headed "Content of Principal Development" and at 4.1(iii) included questions for WG and other IPs on the acceptability of the scope of the principal development in the light of the devolution settlement and other factors.

4.1.10 Prior to the hearing WG put their position in writing in the following terms [HE-10]:

"The Welsh Government do not intend making oral representations at the hearings in question. Ultimately, whether the Secretary of State, in light of any recommendation made by PINS, can make provision of a particular character in a DCO is strictly a matter of law, dependent on the provisions set out in statute, and is not a matter for debate at this hearing. The provisions of the 2008 Act set out the powers within which the Secretary of State must operate in making his decision as to whether or not the DCO should be granted. Our position is clear on that, and we have made those points previously. It is therefore for DCLG [sic] (in making their decision) and PINS (in providing their recommendation) to take their own legal advice in terms of the scope of those powers, and to be satisfied that the provision so made is lawful."

4.1.11 A representative of WG, Energy (Water and Flood Division) did attend the ISH and responded to matters raised by the Panel. During the hearing WG expressed the following views:

- That in Wales, the DCO for an NSIP should be in a form that respected the devolution settlement;
- That some of the aspects described as being part of the scheme should be for local determination on the basis that under the terms of the PA2008 they were not principal development forming part of an NSIP; and
- That it was for the Panel to come to a decision on which elements of the project should be covered by and secure approval through the mechanism of a DCO.

4.1.12 WG's position was subsequently set out in a representation dated 7 October 2014 [REP-822] which included a list of works that were viewed as not forming part of the NSIP within section 31 of the

PA2008. This repeated the list included in the answer given to Q11.1 [REP-561]. Paragraphs 6, 7, and 9 to 11 set out key elements of WG's case.

- 4.1.13 The applicant also responded on 7 October 2014 to matters that had been raised by a number of parties [REP-890]. The response to WG at paragraphs 29.1-3 was that some items are integral to the sea-wall structures and could not be retrofitted, that landscaping and beach areas are part of the overall coherent design and that its position was supported by both local planning authorities in whose area the Project is proposed.
- 4.1.14 In the Updated Agenda for the ISH on 22 October 2014 [HE-40], the Panel, without prejudice to its final recommendation, identified significant potential changes to the draft DCO. These included removal from the scheduled works of various elements that might not be considered to be principal development with the expectation that these would be secured through a Development Consent Obligation, such as a s106 agreement, and would be subject to planning approval by the local planning authority or authorities.
- 4.1.15 In addition the agenda made reference to "Ancillary Works" with the suggestion that these be listed separately from the principal development. WG was not present at this hearing [HE-47].
- 4.1.16 There was detailed discussion of the matters raised in the agenda, particularly the offshore building. The applicant put forward alternative approaches which it considered would be likely to meet the concerns expressed by WG and put forward arguments supporting the size of the proposed offshore building. The applicant's submissions on these matters are at section 20 of the written summary of oral submissions [REP-842] and a TLSB 'Paper of Alternative Drafting' explaining alternative drafting approaches that could be taken to achieve various alternatives was produced on 28 October 2014 [REP-852]. The alternatives were put forward as 'options' for consideration by the Panel; the applicant made clear that it was not itself proposing them. The applicant stressed that for reasons of good design the Project should be delivered as a whole.
- 4.1.17 An iteration of the draft DCO produced by the applicant on the same date, [REP-844] retained references to construction of offshore and onshore buildings within the development that would be authorised but proposed a limit to the height of the offshore building and excluded boating facilities from the onshore building.
- 4.1.18 In addition, responding to questions asked by the Panel at the 22 October ISH, the 28 October 2014 iteration removed most offshore works from the principal works by dividing Part 1 of Schedule 1 into Part 1A and a new Part 1B relating to ancillary and necessary works.

Revisions to the DCO considered in the Examination

- 4.1.19 In a Rule 17 letter dated 31 October 2014 [PD-018], the Panel requested that the applicant undertake public consultation on the "Paper of Alternative Drafting". The letter indicated that: "changes to the DCO as set out in paragraphs 3.1, 4.1 and 5 of that document would be more closely aligned with what is permissible to authorise under the PA2008 in Wales".
- 4.1.20 A further iteration of the draft DCO by the applicant dated 4 November 2014 [REP-864] included further changes but none of these changes had an effect on the approach taken in relation to authorised development.
- 4.1.21 In further recognition of the significance of the devolution settlement and in light of other matters that were under examination relating to mitigation, the Panel determined to consult parties on a draft of the DCO produced by the Panel itself. This, the Panel's consultation draft DCO [PD-020], was issued on 11 November 2014 [PD-020].
- 4.1.22 The Panel's consultation draft DCO contained references to the offshore and onshore buildings within the development to be authorised under Schedule 1, Part 1A but sought to limit the scale of these to that which the Panel considered would be needed as part of delivering the NSIP. In addition, the draft included a medley of drafting points and provided detailed Panel notes outlining issues being queried on the DCO text. The Panel's notes also included reasons for the suggested changes and drew attention to other areas where further revision might be required. The Panel stressed that this draft was issued entirely without prejudice to the Panel's recommendation to the SoS.
- 4.1.23 The Panel's consultation draft did not include all the changes put forward in the representations from WG dated 7 October 2014 [REP-822]. In particular it retained as development to be authorised under Schedule 1, Part 1A some features directly associated with the lagoon wall and aspects of landscaping and mitigation including a waterfront public realm, landscaping and boundary treatments as the Panel accepted the applicant's view that these were mitigation.

Further Representations from Welsh Government

- 4.1.24 WG representations on both the 4 November 2014 iteration of the draft DCO and the Panel's consultation draft DCO were made on 25 November 2014 [REP-918]. This expressed a view that both the drafts purported to grant development consent in respect of a proportion of works, which could be described as 'amenity development' and that "the DCO cannot lawfully grant development consent in relation to such development".

The applicant's final drafts of the DCO

- 4.1.25 On 25 November 2014, the applicant produced a further and penultimate iteration of the draft DCO [REP-928] which was accompanied by a commentary explaining changes to their 4 November 2014 draft DCO [REP-963] and a commentary [REP-952] providing the applicant's response to the changes put forward in the Panel's consultation draft DCO [PD-020]. Significant changes were made in relation to the offshore and onshore buildings.
- 4.1.26 The 25 November 2014 draft did not include the proposed offshore building but rather made provision for "sufficient foundation areas, pilings and land form within or upon the seawall" within Work No 1a (the western wall of the lagoon) for its later construction. This would enable the integral parts of the project to be consented and built through the DCO to enable the NSIP to operate. However, the principal of building being acceptable on the site and the dimensions of the building to be built upon the seawall, as well as more detailed design, would be left for a planning application under the Town and Country Planning Act 1990. Provision was included for applications for planning permission to be made prior to physical construction of the offshore works and a proposed s106 agreement would ensure that such an application would be made. The applicant observed that operating such an arrangement would depend on inclusion of article 53 proposing extension of the planning jurisdiction of CCSC and NPTCBC to the relevant areas. The reasons for the need for the extension of jurisdiction for this are laid out in chapter 3.
- 4.1.27 The amended description of Work No. 6b (the onshore building) was included as a response to a note in the Panel's consultation draft DCO requesting greater clarity as to what would be encompassed by the description "visitor orientation facilities enabling way finding, exhibition and welfare to be provided to visitors, boat maintenance and storage facilities". It should be noted that provision to construct these elements of the works remained. The applicant's response was to delete that element from the authorised work. The applicant explained that "...to ensure delivery of that part of the Project which comprises leisure uses, provision has again been made in the section 106 development consent obligation with the City and County of Swansea Council".
- 4.1.28 There was a final iteration of the applicant's draft DCO on 4 December 2014 [REP-1002]. However, this made only one very minor change in relation to Schedule 1 and it still contained works which WG had questioned.

Welsh Government's response to the applicant's final draft DCO

- 4.1.29 Notwithstanding the proceedings at the examination and changes made to the draft DCO in October and November, WG representations of 25 November 2014 [REP-918] and 4 December 2014 [REP-976] echoed the position adopted in early October with the latter stating

that “Part 1A of Schedule 1 to the draft DCO continues to include a proportion of development that is outside the scope of the SoS powers under Section 115 of the 2008 Act”. WG’s position was more firmly expressed in later representations than at earlier stages of the examination.

4.1.30 The 25 November 2014 representation also included the statement that “the development in relation to which the DCO purports to grant consent must be, or form part of, the NSIP itself so as to be within the powers of the Secretary of State and therefore lawful.” Particular exception was taken to including in a DCO “what could be described as amenity development” and to the inclusion of ancillary works in Part 1B of the DCO.

4.1.31 The 4 December 2014 representation [REP-976] followed a similar line of argument which was expressed as follows:

“As we have previously stated, if (these) aspects of development are considered to be, or form part of the NSIP itself because their purpose is strictly tied to operational matters associated with the effective running of the generating station, then this needs to be clarified in the drafting of the DCO.

“Alternatively, if such development is essentially proposed for leisure or amenity purposes, then we continue to argue that the development is outside the scope of section 115 of PA2008 and should therefore not be included in the DCO. As such, planning permission from the relevant local planning authority should be sought.”

4.1.32 WG continued to object to inclusion of landscape and park in the DCO, with the applicant’s arguments relating to ‘Good Design’ rejected because tidal lagoons are excluded from the scope of NPS EN-1 and including them in a DCO would amount to the functions of Welsh planning authorities being supplanted by the SoS. WG’s acceptance that a description of development “comprised of provision to enable construction of an offshore building” could remain was subject to detailed amendments to the wording to make it clear that it would not include structures above the ground.

The applicant’s final response to Welsh Government

4.1.33 The applicant responded to the 4 December 2014 representation by setting out the individual elements of WG’s concerns, alongside the applicant’s response. These are items 33 to 43 of the Annex to the Response to Representations made at Deadline VII [REP-1026]. Some of the arguments raised are broad questions of what can be consented by the SoS. For example in item 33, the applicant argues that features required for essential safety and maintenance operations may be permitted by the SoS and there is no reason to preclude the use for example of a jetty for leisure purposes. Item 34 relates to “development comprised of landscape and park” with the applicant arguing, that this is mitigation and an integral part of the NSIP and

that this Project, like “any generating station should take account of its landscape setting”.

The Panel’s conclusions

- 4.1.34 The words ‘principal development’ do not appear in the PA2008. The Panel does not consider that there is a clear basis in statute for determining what is and is not principal development under the PA2008 for any particular NSIP. The Panel also note that there is no particular policy guidance for tidal lagoons and that this is the first proposal for a tidal lagoon to reach examination.
- 4.1.35 The Panel are aware that there is guidance on what constitutes associated development under the PA2008, ‘Planning Act 2008: associated development applications for major infrastructure’. However, this is guidance that applies to England where its purpose is to set down core principles to help define associated development in decisions to be made by the SoS on a case by case basis.
- 4.1.36 The Panel is also aware of three published decisions made under the PA2008 on generating stations in Wales: Brechfa Forest West, South Hook Combined Heat and Power station and Clocaenog Wind Farm. The DCO for Brechfa Forest West Wind Farm included an electricity sub-station within the principal development. That was based on the facts of the case.
- 4.1.37 Having diligently examined the question of which elements of the Project were to be regarded as principal development, the Panel put forward a consultation draft DCO with an extensive commentary in the form of panel notes [PD-020]. This included certain works as principal development and others as ancillary works, both within the DCO. The panel’s judgement of what should be included was not limited to pure functionality. Other elements were included on the basis that they either contributed to ensuring that the scheme was integrated with its surroundings, secured appropriate mitigation or that they were integral elements of structures that formed essential parts of the generating station.
- 4.1.38 Elements that were part of the development of the tidal lagoon as a recreational facility and visitor attraction were not included in the panel’s consultation draft of the DCO. However local authority and public support for these elements at the examination was recognised by including provision within the scheme so that they could be built without requiring retrofitting.
- 4.1.39 The Panel notes that in WG’s representations of 4 December 2014 [REP-976], it has been accepted in principle that the Schedule 1 Part 1A work could include construction of the lagoon wall with foundations, piling and landform sufficient “to enable construction of an offshore building” and sufficient footprint within the lagoon wall to accommodate the operational and maintenance facilities required for

the turbines. The offshore building itself would be subject to planning permission being sought from CCSC.

- 4.1.40 WG in representations made in writing toward the close of the examination [REP-822 and REP-918] maintained a position of opposition to inclusion of certain matters within the DCO. This is expressed as a concern that the applicant's DCO, by including various elements such as landscaping that had a bearing on amenity and good design, may be supplanting local planning functions.
- 4.1.41 Changes have been made to the DCO during the course of the examination to meet the intent of the devolution settlement. Further decisions on both the onshore and offshore buildings could become the subject of planning applications to the local planning authorities. Such decisions will affect how the lagoon, if approved as part of a generating station, might develop as a recreational facility and visitor attraction. These changes have been made with the particular purpose of enabling decisions that are primarily of concern to local people to be made by their local representatives.
- 4.1.42 The Panel consulted on a draft DCO [PD-020] raising the question of the inclusion of works and powers and both the applicant and interested parties have responded. Hence, potential changes in the recommended draft DCO have been consulted on and the SoS can take account of these processes in his conclusions on the recommendations.
- 4.1.43 The starting point for the Panel's recommended version of the DCO is the applicant's 4 December 2014 draft [REP-1002] which had taken some account of responses from IPs and the panels consultation draft DCO. The Panel has considered whether elements of the scheme retained within the scope of that DCO should be for decision as part of the NSIP because they have sufficient links with fundamental elements of a tidal energy lagoon. In making an assessment, the Panel have had regard to the detailed responses made by the applicant [REP-1026, pages 12 to 18] to WG's comments of 4 December 2014 [REP-976].
- 4.1.44 The lagoon wall is a fundamental feature for the generation of tidal range energy. The lagoon wall would take the form of a bund and designing it so that it can be used by pedestrians and cyclists is a proper planning response to the opportunity that the structure presents. It would provide access for employees of the generating station and for recreational purposes. Local widening of the structure would provide refuges and provision for later addition without retrofitting of features that could include works of art. Certain facilities such as slipways and hardstanding associated with the lagoon wall would be important boating facilities that would be necessary for operational purposes.
- 4.1.45 Close to the turbine housing structure, the lagoon wall would widen and it is the Panel's view that the dimensions and structure of the wall

should be such as to make provision for the foundations for an offshore building and create sufficient space within the wall footprint to house operational and maintenance facilities for the turbines. The offshore building would not itself be part of the DCO but subject to approval by the relevant planning authorities. It could potentially accommodate both an alternative location for the control rooms for the generating station and a visitor attraction and educational facility for the visitors that the lagoon may attract.

- 4.1.46 The creation of a lagoon is a fundamental feature of this generating station. Landscaping the lagoon margins so that it fits with its surroundings and promotes its value as a nature conservation resource are all features that the Panel consider to be sufficiently related to the lagoon itself and are to be included within the development as either principal development or ancillary works. In addition it is to be noted that certain elements of the proposed works, such as the boundary treatment of the walls to the shore, are promoted as mitigation and for that additional reason are properly regarded as an integral part of the scheme put forward. Similarly elements such as habitats creation of the Landward Ecological Park and the treatment of the seawall faces are essential mitigation for a scheme of this nature to comply with its environmental obligations and can be incorporated [APP-386].
- 4.1.47 The Panel conclude that the draft DCO as put forward by the Panel and appended to this report is in a form that the SoS could properly approve under the terms of the PA2008 subject to his satisfaction on the issues laid out at the end of chapter 8.
- 4.1.48 The assessments of impacts in the remainder of this chapter are on the basis of the recommended project, noting where these differ from the impacts assessed under the ES but sitting within the envelope of the ES. The overall nature of the recommendation version of the project is considered in chapters 7 and 8.

4.2 RELIABLE RENEWABLE ENERGY

- 4.2.1 The proposed tidal lagoon would generate renewable energy in the form of electricity using the large tidal range (the difference between high and low water) which is a distinguishing feature of Swansea Bay. The installed turbines would have a rated capacity of 240 Megawatts (MW) and generate a minimum 500GWh per year [REP-518]. This figure is higher than the 400GWh put forward in February 2014 which was based on conservative assumptions but the model predicting output has been independently checked and validated and the prediction has been confirmed by potential suppliers of turbines [REP-518]. Variation in output due to storm surges would be less than 3% (higher or lower) on a yearly basis and regular planned and unplanned maintenance and machine outages would amount to no more than 2% of potential output [REP-518].

- 4.2.2 Chapter 5 of the ES, Planning and Policy Context, [APP-182] contains sections on the Benefits of Tidal Power and the Contribution of the Project to energy policies and targets. Paragraph 5.3.0.4 states that electricity from tidal range energy would be generated reliably “for around 14 hours of the day, and provide periods of energy production that can be used as base load electricity for the National Grid”. Paragraph 5.4.0.3 refers to an appendix and calculations that illustrate “that the Project will be carbon neutral in around 4 years” which equates to around 3% of its anticipated operational lifetime.
- 4.2.3 Responding to Q2.3 of the Panel's first round of questions [PD-010], which asked what particular features of tidal range power contribute to promotion of a low carbon economy and security and diversity of energy supplies, the applicant's response [REP-518] was that tidal lagoons:
- Generate reliable, renewable, predictable and carbon-free electricity;
 - Add to and diversify the ‘energy mix’ while being less controversial than offshore wind farms and tidal barrages, producing significantly more power than current tidal stream or wave energy devices, and not creating dangerous or radioactive waste;
 - Are suitable for multiple sites around the UK coast with high tidal ranges (the Severn Estuary has the second highest tidal range in the world) and overseas;
 - Will generate energy for 120 years per project, a far greater lifespan than any other generating technology, whether renewable or fossil-fuelled;
 - Are well-supported by policy, and by the public (statutory public consultation on TLSB indicated 86% support for the scheme); and that; and
 - While tidal lagoon energy at any one site is intermittent, a network of tidal lagoons around the UK coast would, in combination, overcome the intermittency issue and generate reliable, base load power around the clock.
- 4.2.4 WG has developed a suite of policies relating to renewable energy (listed above). In a letter, attached to WG's responses to the Panel's first Round of Written Questions, was the overarching statement that “... Welsh Government is strongly committed to unlocking the energy in our seas and we do recognise marine energy as a reliable source of renewable energy” [REP-561] and a more specific statement that: “Lagoon technology presents an interesting opportunity for Wales”. These views were re-iterated in subsequent WG representations [REP-822], and on 25 November 2014 and 4 December 2014 with the statement that the “project has the potential to assist the Welsh

Government in meeting its ambition to create a low carbon future for Wales" [REP-918 and REP-976].

- 4.2.5 The Royal Society for the Protection of Birds (RSPB) also expressed support for tidal energy in general, "RSPB believes that climate change is the most pressing threat to the UK's wildlife and that tidal energy has an important role to play in countering this threat" [REP-478]. RSPB "recognises that the Severn Estuary could be an important source of renewable energy" [REP-179] and advocates a step-by-step approach for the deployment of renewable energy in the Severn, "given the potential for severe adverse environmental outcomes and our lack of detailed understanding of the nature and scale of actual impacts" [REP-478]. RSPB has summarised its view of the project in the following terms [REP-479]:

"The RSPB believes that the proposed development could represent part of the answer to getting sustainable energy from the tidal power of the Severn Estuary if the correct approach is taken and with robust monitoring measures in place".

- 4.2.6 A contrary view was presented to the Panel by the Pontardawe and Swansea Angling Society Ltd (PASAS) who "don't accept that this development, which will have huge environmental impacts and only generate modest amounts of electricity, is justified within the terms of national energy policy" [REP-475]. PASAS argued that because EN-3 specifically states that it does not cover tidal range schemes there is no accepted need for this type of renewable energy infrastructure. PASAS has calculated the ratio of power output to installed capacity at "under 20%, which does not compare well with, for example, onshore or offshore wind" and reasoned that based on the actual average power output per hour the proposal would not qualify as an NSIP.

- 4.2.7 The Panel has considered the arguments advanced by PASAS that a scheme for tidal range energy would not be justified within the terms of national energy policy and that this project would not qualify as an NSIP. NPS EN-3 acknowledges that "tidal range energy schemes may be the subject of applications to the IPC in the near future" and makes no suggestion that tidal range energy is not something that can be regarded as an important element in a low-carbon economy. WG has specifically acknowledged the role of the proposed lagoon in contributing to a low carbon future for Wales [REP-822].

- 4.2.8 The question of whether a generating station is on a scale that meets the scale qualifies as an NSIP is related to the installed capacity of the proposal. For an offshore Energy NSIP the threshold is 100MW, the installed capacity in this case, is 240MW and it therefore qualifies as an NSIP. For these reasons the Panel do not share the view expressed by PASAS that the scheme would not be justified within the terms of national energy policy and do not attach significance to the fact that NPS EN-3 does not specifically cover tidal range energy. Apart from PASAS, there was no general case put to counter the applicant's

arguments in support of tidal range energy as a part of a national energy policy that sets out to be less carbon dependent.

- 4.2.9 The Panel consider that the general argument for developing tidal lagoons as a means of harnessing the potential of tidal range energy as a source of reliable, renewable energy is a powerful one. The Panel was informed that the prospect of delivering schemes is increasingly likely as technical and financial factors are becoming more favourable. As a number of parties have pointed out there remain areas of uncertainty in relation to environmental consequences of building structures to enclose water to create a lagoon, particularly as a result of the consequences on coastal processes. These aspects of the proposal are explored in other parts of this report.
- 4.2.10 The Panel's first round questions 2.1 asked about the cost attaching to tidal range energy [PD-010]. The applicant's response [REP-518] was that tidal range energy is relatively expensive in a financial calculation that attaches no value to production beyond 35 years and where the costs of carbon and climate change are treated as externalities. The applicant also presented an argument that the cost of this project as a pilot project (a First of its Kind) would be significantly higher than subsequent tidal range energy projects [REP-984]. The potential of this proposal as a pilot for a wider programme of tidal range energy proposals has been a consideration which the Panel has had regard to in weighing the overall benefits and disbenefits of the proposal.
- 4.2.11 The Panel considers that there are strong underlying arguments for the development of tidal power energy infrastructure projects. Whether that means that the present Project should be supported depends on the balance between particular arguments for and against this particular project discussed in this chapter.

4.3 ADAPTIVE MANAGEMENT AND MANAGING UNCERTANITY

- 4.3.1 In question 3.20 of the Panel first round of written questions sent out on 16 June 2014 [PD-010] the Panel specifically asked the following question:
- Are the dominant forces affecting sediment transportation and coastal morphology in and around Swansea Bay sufficiently understood to enable reliable assessments to be made of the broad consequences for patterns of erosion and deposition in and around the Bay from the introduction of a coastal lagoon between the mouths of the Rivers Tawe and Neath?
- 4.3.2 The responses from the applicant and NRW to this question were divergent. The applicant affirmed that the dominant forces affecting sediment transportation and coastal morphology in and around Swansea Bay are sufficiently understood, enabling assessments to be made of the likely broad consequences of the Project for patterns of erosion and deposition in and around the Bay, "with results that are considered reliable, sensible and justified" [REP-519]. NRW's response

[REP-509] was "No" followed by the statement that "The Coastal Processes assessment in the EIA has failed to convincingly demonstrate that a sufficiently high level of scientific understanding presently exists to determine all potential impacts with a high level of reliability."

- 4.3.3 NRW's response to the Panel first round of written questions was submitted on 4 July 2014 as an annexe to their Written Representations [REP-471]. In the section on Coastal Processes Assessment within that Written Representation, NRW called, at paragraph E1.22, for a more detailed and robust understanding of baseline conditions, for more model runs, for an application of alternative modelling tools, for consideration of a wider range of future scenarios and for investigation of potential impacts to sensitive receptors at a local scale. In paragraph E1.23 NRW reported that there remained "a significant amount of uncertainty which acts to limit our confidence in the predicted impacts over the lifetime of the development".
- 4.3.4 Responding to NRW's representations, the applicant produced a large quantity of material to seek to substantiate the case being put forward and to provide reassurance that the assessment underlying the information in the ES had been based on conservative assumptions and provided a likely worst case [REP-592]. However, in November 2014 NRW's position [REP-860] was that:
- "We maintain that a number of measures identified could have reasonably been undertaken to produce a more robust impact assessment. These include recommendations provided by us to the applicant during and since the pre-application stage of the process in order to reduce unnecessary uncertainty. The acceptance of our recommendations would have enabled greater confidence in the impacts predicted in the ES."
- 4.3.5 In the Panel's view, the difference between the positions taken by NRW and the applicant on question 3.20, encapsulate key differences in the stances that the two parties have taken overall. Part of what underlies those differences is a different estimation of the extent to which detailed predictions of the future should and can be made.
- 4.3.6 During the course of the examination of the Project there was increasing recognition that, using words from NRW, there are "inherent uncertainties in assessing the environmental impacts of a development of this nature" [REP-747]. The Panel consider that this proposal for construction of a tidal lagoon within Swansea Bay is one that, in relation to its potential effects on dynamic intertidal conditions, has to be regarded as inherently evolving and involving uncertainty.

DEALING WITH UNCERTAINTY IN DYNAMIC ENVIRONMENT

- 4.3.7 It follows that the next question is how to respond to inherent uncertainty, to consider whether a range of potential outcomes can be managed and adverse consequences avoided or minimised and finally whether the degree of any residual uncertainty is acceptable in the overall balance of considerations. In coming to a view, the Panel has drawn upon advice in the European Commission (EC) Guidance Document of 2011 entitled 'The implementation of the Birds and Habitats Directives in estuaries and coastal zones with particular attention to port development and dredging' (EC Guidance 2011). While the particular focus of that document is related to European sites, it engages with broad issues of development impacting on coastal ecosystems. On page 29, the advice given is that:

"In case of uncertainty on particular mechanisms of complex estuarine or coastal ecosystems port and waterway developers should assess the nature of the remaining uncertainties and manage them through targeted monitoring and adaptive strategies. Monitoring schemes should be designed in a way that they signal any unexpected developments at a stage where effective corrective measures can still be taken."

- 4.3.8 The Panel's view is that this advice is relevant to the present case and to many of the issues that are raised by the proposed construction of a tidal lagoon in Swansea Bay. The Panel consider that a similar approach, involving adaptive management would be an essential part of a response to inherently uncertain outcomes arising from bringing forward this novel project within the dynamic environment of Swansea Bay.
- 4.3.9 During the examination, much time was devoted to whether adaptive management would be a suitable and effective means of responding to likely and unforeseen consequences following from construction of the proposed lagoon. The Panel are conscious of the significance of the warning note in the representation from Fish Legal [REP-725] that "Mere adaptation (following project implementation) is not appropriate where there is a risk of a (significant) irreversible impact".

THE ADAPTIVE ENVIRONMENTAL MONITORING PLAN (AEMP)

- 4.3.10 Paragraph 23.6.0.4 chapter 23 of the ES introduces the concept of an Adaptive Environmental Monitoring Plan (AEMP) which is a "document to be updated and refined to give the best possible understanding of the Project's environmental effects such that mitigation can be adjusted" [APP-200]. Chapter 6 of the ES on Coastal Processes identified the need for a monitoring programme agreed with NRW prior to the construction of the Project which would become part of an agreed AEMP [APP-183]. Requirement 6 of the draft DCO submitted in February 2014 referred to an AEMP [APP-081] and, although substantially revised and expanded, requirement 6 of the draft DCO

dated 4 December 2014 [APP-1002] is concerned with the same subject.

- 4.3.11 An AEMP, ES Appendix 23.1 [APP-379], was submitted with the application. A revised and expanded AEMP was submitted on 25 November 2014 [REP-922]. The applicant's case at paragraph 5.9 responding to representations from Fish Legal [REP-725] commenting on the application of the precautionary principle is that: "Where uncertainty exists due to the dynamic nature of the environment, the AEMP provides a sufficient mechanism to manage any effects that occur outside of the likely significant effects that are predicted" [REP-980].
- 4.3.12 Q8.1 of the Panel first round of written questions [PD-010] was addressed to the applicant and NRW and made reference to Adaptive Management in the ES and in the EC Guidance note on the implementation of the EU nature legislation in estuaries and coastal zones, asking:
- What aspects of the proposal are particularly suited to this approach?
 - Are there aspects of the proposal that make such an approach unsuitable or inappropriate?
 - What provisions in the draft DCO or the separate application for a Marine Licence would support adaptive management?
- 4.3.13 TLSB's response [REP-524] was that "The use of the AEMP is considered particularly appropriate to monitor the effects of coastal processes and the use of mitigation measures for biological processes" and that "It is considered that the use of adaptive monitoring in relation to a new type of development such as a tidal lagoon, can assist competent authorities in determining an application and provide enhanced data for future projects".
- 4.3.14 NRW's answer [REP-509], making reference to the situation in relation to European site was that:
- "An AEMP can only be applied where there is certainty that the measures necessary to avoid any adverse effects will be secured. Typically this would involve monitoring that would alert to the likelihood that an activity is approaching a situation where an adverse effect might arise. This would in turn trigger pre-identified actions that would prevent that effect from occurring. An adaptive approach would not therefore be suitable for any activity that could not be altered or ceased so as to avoid such an effect."
- 4.3.15 Furthermore:
- "With regard to other potential impacts NRW would advise that whilst it is acknowledged that an AEMP will be a valuable tool in management of potential impacts it is reliant on an understanding of these impacts

to guide its content. The monitoring plan would need to be linked to triggers for agreed mitigation measures which must be deliverable and enforceable. As we consider there still to be a high level of uncertainty over many predicted impacts we are not currently able to provide detailed comments on what aspects of the application would be suitable or not for inclusion."

- 4.3.16 At the ISH on 16 September 2014 there was a "high level" discussion of Adaptive Management and its general relevance to responding to uncertain outcomes. Subsequent to that session, NRW produced a document for the Panel, Advice on Adaptive Management in respect of Marine Development Projects. This is to be found at Annex C of the representations submitted on 7 October 2014 [REP-747].
- 4.3.17 The Panel were informed that NRW has no formal policy position on the use of Adaptive Management and has only very limited experience of its application. In Annex C [REP-747], NRW acknowledged that in some cases, risks associated with development proposals may be unforeseeable or the likelihood of occurrence and the nature of any management measures to mitigate against a risk cannot be reasonably identified or expected to be identified at the time of project commencement. In such circumstances, the note continued, "...it may be appropriate to adopt an adaptive approach to managing the potential effects based on recognition that a greater understanding of the likelihood of occurrence of such effects will be evident once the development has been deployed".
- 4.3.18 NRW has set out on an interim basis twelve principles that should be adhered to when applying Adaptive Management to development planning. This interim statement was prepared for the benefit of the Examination into the project and is to be found at Annex C of the representations submitted on 7 October 2014 [REP-747]. Additionally, NRW emphasised that Adaptive Management should generally be considered a long-term arrangement and must be adequately resourced.
- 4.3.19 The principles set out are:
- (i) Adaptive management (AM) is a process whereby the best decisions are made on the information available, where the outcome of these decisions is monitored, and where management decisions are altered if the outcome falls short of what was intended. It is a structured, iterative approach to environmental assessment that allows the management of a project to be adjusted on the basis of learning once the development has been deployed.
 - (ii) AM may be adopted to allow a project to proceed despite, after robust assessment, there remain elements of uncertainty in respect of its implications or where the environmental baseline may itself be susceptible to change. If there is a reasonable likelihood that an activity will cause harm to the marine

environment, the Precautionary Principle should be applied and measures taken to exert effective control over that activity.

- (iii) AM should only be adopted after all reasonable efforts have been taken to confirm the likelihood of a potential effect occurring, and to secure all necessary avoidance or mitigation measures through conditions, restrictions or other obligations attached to any consents issued.
- (iv) AM should only be used to address potential effects where residual uncertainty about their occurrence/significance of effect remains.
- (v) AM may not always be an appropriate strategy, and where risks of significant effects remain high but the success of AM is uncertain it may be necessary to refuse consent for a project or seek other derogations.
- (vi) There should be certainty that the AM will be implemented. To provide the necessary certainty, the AM should be required as a condition associated with the licence issued by the appropriate licensing authority. The details of the AM would then be subject to agreement after consent has been issued.
- (vii) AM should be implemented through sound impartial governance and management processes that rely on robust monitoring data and information, expert scientific judgement, and which have the ability to deliver, fund and enforce the necessary monitoring, management and remedial actions.
- (viii) AM should be informed by observations or information that provides a robust measure of the occurrence of an effect, or change in level of effect, and the way the receptor may be impacted.
- (ix) AM should use mechanisms that can detect the trajectory of effects to allow action to be taken before an undesirable level or threshold of effect has been reached. In particular, where AM is being relied on to comply with Article 6(3) of the Habitats Directive, it should clearly provide for effects arising from the project to be detected and any necessary action taken in response, before any such effects constitute adverse impacts on any designated feature of a Natura 2000 site.
- (x) AM should utilise action triggers that are based on robust environmental standards and thresholds, with appropriate levels of precaution applied.
- (xi) AM will need to ensure that mechanisms are secured to allow for identification of the necessary remedial/mitigation should the need arise. NB. Where the AM is being relied on to comply with Article 6(3) of the Habitats Directive, it will be necessary to

provide certainty that a significant adverse effect will not take place. In these circumstances, any decision to approve a project will need to be subject to a condition that ensures that the project can only proceed if appropriate mitigation can be secured.

- (xii) Where a mitigation plan has been agreed as part of project approval an AM approach may be of value in monitoring the effectiveness of the plan post commencement to ensure that the envisaged benefits and outcomes are delivered or if not to allow for the plan to be adapted accordingly.

- 4.3.20 Following the 16 September ISH, the applicant provided the Panel with a Note, dated 7 October 2014 [REP-808], which included a summary table of the management and/or monitoring activities included in the AEMP; documents, including Cefas guidelines from May 2012, that have guided its development; and examples of two plans (Harwich Haven CMMA and the SeaGen Environmental Monitoring Programme) that are analogous to the AEMP. The Note concluded:

.... "the approach adopted in the AEMP is sufficiently certain in terms of delivery of management/mitigation, is supported as an approach to management and monitoring and is aligned with the successful deployment of management/monitoring used in marine environments."

- 4.3.21 On page 2 of a representation dated 4 November 2014, NRW [REP-860] set out a response to the Panel's repetition of Q8.1 but without giving a direct answer to the question as put. The letter made reference to the response given in the representation at Deadline II [REP-509], and confirmed that NRW's position as outlined at Deadline IV [REP-747], which at Annex C had included the interim position statement on Adaptive Management, was unchanged. The 4 November 2014 response [REP-860] stated that "the majority of our concerns regarding the AEMP have not been addressed".

- 4.3.22 The applicant's AEMP went through a number of iterations during the course of the examination, expanding from a document of 53 pages [APP-379] to over 200 pages [REP-922]. The range of issues covered was: Coastal Processes, Water Quality, Intertidal and Subtidal Benthic Ecology, Fish, Marine Mammals, Coastal Birds, Terrestrial Ecology and Marine Noise. Despite the extent of changes made, at the close of the examination, the 25 November 2014 version of the AEMP [REP-922] remained in a state where because of the range of issues being covered further refinement was still required.

- 4.3.23 NRW's Deadline IV representation [REP-747] contained the following paragraph:

"It is accepted that given the significance and lifetime of the project an adaptive monitoring and management approach should be adopted for impacts on receptors which cannot be reasonably foreseen at present. For instance a change in baseline species abundance as a result of far

field effects and /or climate change. As an approach it is largely an unproven technique in the UK and deliverability, enforceability and effectiveness are relevant considerations. A key issue in the application of adaptive management is the level of certainty in practical delivery for instance the building of consensus and the 'power to act' given the involvement of multiple stakeholders and potential activity on third party land. We hold the view that whilst adaptive management does have an important role, and whilst the company's approach in principle is welcomed, this should not be used (as) a substitute for a clear, upfront and enforceable mitigation plan."

Conclusion on Adaptive Management

- 4.3.24 In light of all the material presented during the examination, the Panel's view is that, particularly in relation to intertidal and coastal areas, a suitable scheme for Adaptive Management is an essential part of the TLSB project and that this is a reasonable and realistic approach. The EC Guidance 2011 has been heavily relied on by both the applicant and NRW and is viewed by the Panel as very significant in endorsing the potential application of Adaptive Management in this case.
- 4.3.25 The details of how adaptive management might apply to different areas of the coastline of Swansea Bay is the subject of later sections of this chapter. At this stage however it is important to identify that in relation to the European site at Kenfig (Kenfig SAC), the potential source of concern relates not to the presence of the lagoon but to disposal of maintenance dredging from the lagoon. In relation to that activity there would be scope for altering the operational process. The Panel agrees with NRW that in order to secure compliance with the Habitat Regulations, it is important that, where there is potential for adverse impact on European protected sites and Adaptive Management is to be relied on to avoid such impact, it should include the possibility of altering or ending the activity giving rise to adverse impact.
- 4.3.26 During the examination NRW noted that Adaptive Management has a part to play in this case. NRW retain an understandable wariness as to how measures in an AEMP would be delivered but the applicant's Note, dated 7 October 2014 [REP-808] provides substantial assurance that management measures that may prove necessary would be deliverable. The implications of adopting an approach of Adaptive Management in relation to different sections of the foreshore of Swansea Bay are considered in later sections of this chapter. This also consider the extent to which matters to be addressed by Adaptive Management can be left to an AEMP which is as yet not finalised and how much they should be reflected in more specific requirements that are themselves in the DCO.

4.4 BIODIVERSITY, BIOLOGICAL ENVIRONMENT AND ECOLOGY INCLUDING MIGRATORY AND NON-MIGRATORY FISH

INTRODUCTION

- 4.4.1 The impacts of the development upon protected habitats were examined during the ISHs and are discussed in report section 5.0 for internationally designated sites (including SACs, SPAs and Ramsar Sites). Further material on assessment under the Habitat Regulations is contained in the RIES, attached as an appendix to this report. Nationally designated SSSIs and the locally designated Swansea Bay SINC are discussed in report section 4.11.
- 4.4.2 The impacts of the development upon protected species are discussed in report sections 4.13 and 4.15 (marine mammals); 4.13 (otters); 4.13 (bats); 4.13 (Sabellaria reef and other benthic and sub tidal ecological interests); 4.13 (reptiles); 4.13 (breeding birds); and 4.15 (coastal birds). Section 4.16 brings together the conclusions on biodiversity and gives details on the planning balance.
- 4.4.3 The impacts of the development on benthic ecology, including Sabellaria reef, were also considered by the applicant in the context of an assessment under the Water Framework Directive (WFD) [REP-777]. WFD considerations are presented in report section 5.1.

FISH

- 4.4.4 The ES chapter 9 on Fish including Recreational and Commercial Fisheries [APP-342] included details on commercial fish and shellfish species, migratory fish, fish spawning and nursery areas. It described herring spawning and mariculture opportunities that the development would provide. The proposals for mariculture, cultivation of marine organisms for food and other products, include re-introduction of an oyster fishery to Swansea Bay and the creation of a lobster hatchery (paragraph 9.5.6.21).
- 4.4.5 The conclusion to ES chapter 9 is that residual effects from the construction, operation and decommissioning of the Tidal Lagoon would not have a significant effect on the majority of fish and shellfish, commercial or recreational fishing receptors identified. This conclusion was contested during the examination in relation to migratory fish and river based recreational fishing. The discussion of effects on fish at the Examination ISHs focussed on migratory fish although it is to be recognised that turbine entrainment would be potentially injurious to a wide range of fish species. These are reported upon below. Commercial fishing interests within Swansea Bay are discussed in report section 4.27.

Non-Migratory Fish and Shellfish

- 4.4.6 The Panel notes that the applicant has provided a requirement for fish and shellfish mitigation in the 4 December 2014 draft of the DCO [REP-1002] (requirement 27). This would require a written strategy

for the mitigation of impacts on fish and shellfish to be submitted to and approved by the relevant local planning authority in consultation with NRW and the relevant Port Health Authority. The fish and shellfish mitigation strategy provided for fish spawning enhancements by the introduction of spawning media at locations including the western face of Work No. 1a. It included targeted oyster dredge trawls of the proposed dredging area(s) prior to commencement of construction and the translocation of native oysters. It also required monitoring of turbine impacts upon fish populations including migratory fish and clupeids and provision for installation, review and adaptation of Acoustic Fish Deterrents (AFDs). AFDs were to be installed if the predicted level of mortality of sea trout exceeded 2%.

- 4.4.7 The Panel's draft DCO of the 11 November 2014 [PD-020] contained an additional requirement for the mitigation strategy for turbine impacts on fish including migratory fish and clupeids. This provided for a written strategy for the monitoring and mitigation of impacts of the development on fish populations generally with the use and monitoring of AFDs.
- 4.4.8 The Panel's recommended DCO, attached as an appendix to this report, proposes a separate requirement relating to turbines (requirement 34). This is discussed further in the section on migratory fish below. The Panel considers that this additional requirement is necessary in order to ensure that AFDs and sonar imaging facilities can be provided on the turbines prior to commencement of operation and record collisions and deterrents for all fish species, not just in relation to sea trout, if their mortality levels are exceeded.
- 4.4.9 Details of mitigation in relation to fish species are also contained within the Construction Environmental Management Plan (CEMP) in section 4.27.

Migratory fish

- 4.4.10 The Tawe and Neath are both river systems that support populations of migratory fish including salmon (*Salmo salar*), sea trout/sewin (*Salmo trutta*) and European eel (*Anguilla anguilla*). These fish spend parts of their life cycle in a river and part at sea. The proposed lagoon would be sited between the estuaries of these two rivers.
- 4.4.11 Atlantic salmon, sea trout and European eel are s42 species of principal importance in Wales, as defined under the Natural Environment and Rural Communities (NERC) Act 2006.
- 4.4.12 The River Basin Management Plan (RBMP) for the Western Wales River Basin District was prepared by the Environment Agency in December 2009. In October 2014, NRW started a process of consultation which will lead, in 2015, to an updating of the river basin management plan for the Western Wales River Basin District.
- 4.4.13 An Eel Management Plan for the Western Wales River Basin District was produced by DEFRA in March 2010. A Salmon Action Plan for the

Tawe was drawn up by the Environment Agency in 2001 and published in 2002 as part of the National Salmon Strategy for England and Wales.

- 4.4.14 This section of the report is concerned directly with Atlantic salmon, sea trout and European eel and it reflects the concentration on those fish species at the examination. Where the section addresses turbine entrainment it is of relevance to all fish populations within the bay. These include a number of UK Biodiversity Action Plan (BAP) species, notably whiting and plaice.
- 4.4.15 The potential effect of turbines on herring (*Clupea harengus*) which in Table 3.45 of ES chapter 9 [APP-186] has been identified as a Valued Ecological Receptor (VER) exposed to high magnitude, intermittent effects as a result of entrainment and injury from turbines have been assessed as of particular significance. This is related to spawning behaviour as the sea wall to Swansea Docks has created an area that attracts spawning by herring, this is within the proposed lagoon. The applicant's predictions on turbine impact on herring is based on this spawning behaviour continuing. However there are reports that the sea defences at the entrance of Port Talbot Dock are similarly used by spawning herring and the proposed lagoon wall which would create comparable ecological conditions may be attractive to herring spawning.

Issues in the Examination

- 4.4.16 The development of the proposed lagoon would not directly obstruct fish passage up or down any river system. However, there was debate during the examination on the effect of the scheme on salmon and sea trout as a result of two factors: potential disruption of olfactory trails, particularly those leading returning salmon to the mouth of the River Tawe, and fish mortality as a result of turbine entrainment. The issues raised are ones relating to nature conservation and potential consequences for recreational fishing interests on the Rivers Tawe and Neath.
- 4.4.17 ES chapter 9, Fish including Commercial and Recreational Fisheries [APP-186] includes material on species of migratory fish, on fish behaviour modelling and on the general issue of entrainment and injury risk to fish from the turbines. The extent to which modelling could be regarded as producing reliable estimates of likely levels of impact was in dispute throughout the examination.
- 4.4.18 The question of whether turbines should be fitted with screens as a mitigation measure to inhibit entrainment of migratory fish became an issue during the examination. The applicant has sought to make provision within Article 48 of the 4 December 2014 Draft of the DCO [REP-1002] "Licences relating to water, etc" for disapplication of elements of the Salmon and Freshwater Fisheries Act (SAFFA) 1975(v) and of the Eels (England and Wales) Regulations 2009(w). This issue is addressed below.

- 4.4.19 Fish Legal and PASAS presented an argument that the potential impact of the proposals on salmon and sea trout has wider implications in relation to the Water Framework Directive (WFD) and the extent to which a WFD assessment should take into account the effect of the proposal on the ecological quality of riverine water bodies. This matter is considered in section 5.1 of this report.

Modelling of Impacts on Migratory Fish

- 4.4.20 The effects of the Project on migratory fish have been investigated in chapter 9 of the ES [APP-186]. Detailed computer modelling was undertaken for key migratory and marine fish species. Ten different representative fish species were modelled including their relevant life stages, where appropriate. Two types of model were employed: fish behaviour modelling, called individual-based modelling (IBM) and entrainment modelling (STRIKER™ v.4). The two models are discussed in detail in appendices to ES chapter 9; Appendix 9.3 Fish Turbine Encounter Modelling [APP-344] and Appendix 9.4 Fish Turbine Passage Modelling [APP-345].
- 4.4.21 Although the instinctive forces that enable adult salmon to find their way back to their natal river are not fully understood, the accepted mechanism is that it relates to the ability of salmon to pick up “olfactory trails”. Such olfactory trails are suspected to be made of organic compounds which adult salmon seeking to return to their natal river can detect, and even more remarkably distinguish, at extremely low concentration. Present scientific opinion holds that adult salmon are attracted to the mouth of their natal river by olfactory trails in the range of 20km to 1km away [REP-1087].
- 4.4.22 The IBM fish behaviour model aims to predict how fish of a given species will react to water currents and topographical features. This then leads to estimation of the likelihood of the various fish species coming into the Lagoon area and the frequency of turbine encounters by fish species [APP-186].
- 4.4.23 The entrainment modelling used a turbine passage fish injury rate model to estimate the percentage of fish passing through a turbine that are likely to be injured. Overall the size of the turbines (7m in diameter) and low rotation speeds (approximately 67 rpm) would result in large gaps through which fish could pass [APP-186].
- 4.4.24 The applicant’s “fish and shellfish mitigation strategy” put forward in the 4 December draft of the DCO [REP-1002] proposed that if further modelling on turbines of the particular design to be selected were to predict a level of mortality on sea trout greater than 2% then mitigation measures would be taken. Further reductions in mortality could be achieved by the operation of acoustic fish deterrents (AFDs) that exploit the sensitivity of fish to sound. Results of trials reported in paragraph 9.5.6.16 of ES chapter 9 have shown deflection efficiencies of up to 70% for salmon and sea trout [APP-186].

- 4.4.25 Findings from La Rance Tidal Power scheme in France are reported in chapter 9 of the ES [APP-186]. A doctoral thesis from 1985 studied impacts on fisheries and demonstrated healthy and largely unchanged fish species either side of the tidal range barrage. Turbine impact was not rigorously studied but the report in paragraph 9.5.3.112 was that "mortalities associated with turbine passage appeared to be minimal although delayed mortality in delicate clupeid species could not be determined by the nature of his studies" [APP-186].
- 4.4.26 Within the applicant's updated WFD Assessment [REP-777], it is reported that: "The IBM model showed that olfactory trails from the Tawe and the Neath remain quite distinct with the Lagoon in place and turbines and sluices operating, allowing adult salmon to home to their natal rivers with minimal distraction". The conclusion drawn in paragraph 3.6.3.46 is that: "Results demonstrated that there is no significant effect on olfactory trails as a result of water being drawn in to the Lagoon and released again".
- 4.4.27 Further discussion of olfactory trails has been presented by the applicant in REP-1087. This has a more nuanced interpretation than that recorded in the WFD assessment as the output of the IBM model. Paragraph 4.1.1.2 acknowledges that trail patterns would be altered by the proposed lagoon but confirms that "it is not likely that the lagoon will entrain water from the rivers to such an extent that the olfactory trail from the lagoon could overwhelm the signal from either river" and that: "The strongest pathways appear to be approximately unchanged, but there will be weak additional paths, and the general concentration of the signal on the main path will be diminished. The relative importance of strength of signal in comparison to path pattern is unknown".
- 4.4.28 NRW's doubts on the reliability of the applicant's assessment of impact on migratory fish were repeated throughout the examination and were based on the general limited understanding that there is of fish migration. Even for Atlantic salmon, there are very few relevant tracking studies and the lack of studies on the inshore migratory behaviour of salmon, sea trout and eels is an acknowledged gap [REP-471]. It is impossible to verify the applicant's modelling when there are no comparable installations [REP-471].
- 4.4.29 In addition, NRW made a case for the installation of AFDs "due to the unprecedented scale of the development and the high degree of uncertainty associated with a novel approach" [REP-831]. In NRW's view given that AFDs are proven to be effective and efficient, it would be reasonable and proportionate that they should be installed before turbines start operating [REP-831].
- 4.4.30 Representations from Fish Legal [REP-465] and PASAS [REP-475] made reference to a report from APEM Aquatic Services which is a critique of an earlier version of chapter 9 of the ES [REP-1084]. The APEM criticisms have drawn a detailed response from the applicant [REP-1085].

- 4.4.31 Fish Legal on 25 November 2014 reiterated points made about the high levels of uncertainty relating to impacts on migratory salmonids [REP-902]. They referred to the lack of adequate baseline evidence about populations, large gaps in evidence about behaviour of migrating fish in Swansea Bay and limited levels of confidence in the IBM modelling.
- 4.4.32 Towards the close of the examination the applicant [REP-980] reported the position reached with NRW, in the following words:
- “In relation to Fish, the parties (i.e. applicant and NRW) are not in agreement. However, TLSB's independent expert advisers Turnpenny Horsfield Associates have developed modelling which alone presents scientific evidence of likely effects. The modelling is based upon two tested approaches used in combination and the Examining Authority may place great weight upon it”.
- 4.4.33 The applicant's Deadline VII response to PASAS [REP-1025, paragraph 7] was:
- “TLSB and PASAS disagree as to the effect of the project on riverine fisheries; TLSB considers that there is sufficient information before the examining authority, which is derived from scientific study on behalf of TLSB, to prefer its evidence. In this regard, TLSB has provided the only model of fish behaviour to the examination and supported it with independent expert witness evidence. No alternative evidence of that nature is before the Panel.”

Monitoring of Impacts on Migratory Fish

- 4.4.34 NRW, Fish Legal and PASAS were concerned that if the proposed development were to go ahead there should be effective monitoring of impacts. In their Deadline V submission [REP-830], Fish Legal set out a detailed description of the monitoring needed to assess the Project's impact on salmon and sea trout. Such monitoring should be associated with proposals for mitigation and should be robust, precautionary and secured at the DCO stage.
- 4.4.35 Fish Legal also stated that a migratory salmonid stock counter should be installed on the Tawe as soon as possible, to obtain stock data before the Project becomes operational. The proposal for a fish counter at the Panteg Trap as suggested in the then current version of the AEMP would sample only a tributary of the river and one that would not be representative of impacts [REP-830].

Modelling and need for Monitoring and Mitigation

- 4.4.36 The examination provided a forum for discussion of the applicant's approach to modelling and of the outputs from that modelling but there was little ground given on either side in relation to the points at issue. This is perhaps unsurprising given the innovatory character of the Project and the mysterious character of the salmon's homing instinct.

- 4.4.37 The turbine impact modelling is, in the Panel's view, sufficiently advanced to provide a realistic estimate of the proportion of different types and sizes of entrained fish that would be likely to be injured or killed. However, as NRW has pointed out, in the absence of real-life trialling, the modelling cannot be verified. Confirmation from the wording of Work No.2a in the 4 December 2014 draft of the DCO [REP-1002] that variable speed turbines would be employed provides some assurance that the proportion affected would be less than the estimates in chapter 9 of the ES [APP-186].
- 4.4.38 However, while the "STRIKER™ v.4" modelling provides proportions of fish of different sizes and different species impacted, what is less predictable is the numbers of fish that would be entrained in the first place. It is here that the use of AFDs is significant and the case for installing these from the outset is, in the Panel's view, well-made by NRW and others. The Panel consider that the inclusion of AFDs as part of the design of the turbine array should be an element of a requirement 34.
- 4.4.39 It is also important that the impact of turbines on fish is fully monitored. This should also be a part of turbine design which includes measures to record fish colliding with turbine blades and high resolution sonar imaging to detect fish passing through the turbines without impact. This should be part of requirement relating to the submission of details of the turbine housing and turbine design. It is to be noted that at present no detailed design for the turbines has been placed before the Panel. The Panel is confident that this is something that could be determined by the local planning authority in consultation with NRW however in the 4 December 2014 draft DCO [REP-1002] there was no requirement for further approval of details of the turbine design. This is referred to again in chapter 7.
- 4.4.40 The behavioural modelling is, in the Panel's view, less well developed than the turbine impact model. However, that is not surprising because the clues that an adult salmon uses to navigate its way back to its natal river are little understood and difficult to fathom.
- 4.4.41 The Panel do not share the applicant's confidence that the IBM model has shown that there is no significant effect on olfactory trails as a result of water being drawn in to the Lagoon and released again [REP-984]. The later assessment of modelling on olfactory trails demonstrates a degree of disruption but the conclusion drawn is that "the strongest pathways appear to be approximately unchanged" [REP-1087]. This gives a degree of assurance that adult salmon would be able to navigate their way back to the Tawe estuary and that, despite this additional hazard, the role of salmon and sea trout as part of the biodiversity of the river would not be lost.
- 4.4.42 Given that the scheme would not directly impede passage up the River Tawe, it is not in the Panel's view likely that the River Tawe's place as one of Wales's ten most productive salmon rivers would be seriously diminished. However, there is great value to be derived from

monitoring, particularly given that the Project is promoted in part as a pilot project and learning opportunity. It would be important to have such monitoring in place from as early a date as possible. The monitoring should be at a site where it would be representative of the full up river run of salmon and sea trout in the River Tawe. In addition monitoring at a site that would be representative of the full up river run of salmon and sea trout in the River Neath would be of significance; not only useful in itself but also giving a basis for assessing any differential impacts on the two rivers across time. While this has been discussed in the context of the AEMP, it needs to be developed as a deliverable project at suitably selected sites.

- 4.4.43 The AEMP provides a mechanism for ensuring that there would be monitoring up river passage by migratory fish and if the monitoring were to show that the presence of the lagoon and the operation of turbines were having an effect on numbers of fish finding their way back to the Tawe to spawn, there would be scope to implement offsetting measures designed to improve salmon and sea trout reproduction. If monitoring revealed that there were an identifiable impact on riparian fisheries, that would be a matter to which the compensation code might apply.
- 4.4.44 In the Panel's view, the impact of the scheme on the ability of salmon spawned in the River Tawe to find their way back to their natal river remains unpredictable. It is, however, our view that the best available techniques have been used to try to predict impact on olfactory trails and to assess the impact of turbines on entrained fish. The experience of La Rance does not provide any evidence that the impact of turbines on fish has been a major problem.
- 4.4.45 While it is very difficult to predict whether the proposed lagoon would have an effect on migratory fish, there is a risk that numbers of salmon and sea trout finding their way back to the River Tawe may fall. However in this area adaptive management responses based on the AEMP hold out realistic prospects that offsetting measures could be taken within the river itself. In the panel's view, only a low level residual risk of an adverse effect on migratory fish should be taken forward to weigh in the balance when taking account of the potential impacts and benefits of the proposed Project.

SCREENING FOR SALMON AND EELS

- 4.4.46 One further issue remains to be covered in relation to migratory fish and that is the question of screens to the turbines, which are generally required in relation to water intakes from water bodies containing salmon and eels. Special legislation applies to these species and there are two potentially relevant documents in existence, a Salmon Action Plan for the Tawe and an Eel Management Plan for the Western Wales River Basin District.
- 4.4.47 A question set out under Rule 17 was put to the applicant and NRW on 2 December 2014 [PD-023]. The question had risen in prominence

because the draft DCO of 25 November 2014 [REP-967] provided, in Article 48, headed "Licences relating to water etc," that certain requirements under the SAFFA 1975 and the Eels (England and Wales) Regulations 2009 were not to apply to the development. This had not been accepted by NRW [REP-860]. The applicant and NRW were asked to elaborate on their respective views of the legal position, and on the justification for exempting the Project from each of these requirements in the event that the SoS were to consider that it would be legally possible to do so.

- 4.4.48 In relation to the applicability of the Eels Regulations, the underlying question was whether the lagoon wall would or would not be a "Diversionary Structure". NRW's position on this changed during the examination. Responding to the Rule 17 [PD-023], NRW's view [REP-1007] was that:

"With regard to eel screens, having considered the applicant's Deadline VI submissions, we agree that the definition of 'diversion structures' is not engaged for the purposes of Regulation 17(1) of the Eels (England and Wales) Regulations 2009 and upon that basis eel screens are not required."

- 4.4.49 The applicant made two responses to the Rule 17 question. The first [REP-1031] advanced two lines of argument. Firstly the proposition that the Project would not comprise anything that could be defined as a "diversion structure" and therefore the Eels Regulations would not apply to it. Secondly, that if it were held to be a diversion structure, the Secretary of State had the legal power to disapply the requirement for eel screens and that this should be done because of the importance of maintaining water flows through the turbines [REP-1031].

- 4.4.50 The second response [REP-1033] was that not installing eel screens would not conflict with the objectives of the Western Wales River Basin District Eel Management Plan or with the purposes of Council Regulation (EC) No 1100/2007 of 18 September 2007 'Establishing measures for the recovery of the stock of European eel'. Having pointed out that the Project would not block entry or exit from the Rivers Neath or Tawe and not prevent "escapement to the sea", the argument set out was that there would be no reason not to disapply the Eels Regulations. The applicant stated that the benefit of any screen would be disproportionate in comparison to the effect upon power generation.

- 4.4.51 NRW's reply [REP-1007] to the Rule 17 letter [PD-023] in respect of salmon screens and the disapplication of SAFFA 1975 was that they maintained their view that the applicant's interpretation of the application of s120 (5) (a) was incorrect. They advised the Panel to seek its own independent advice in relation to any further issues of legal interpretation. NRW's view was that:

"Provisions under the Salmon and Freshwater Fisheries Act 1975 cannot be made under the Order. They do not comprise Prescribed

Consents under s150 and should not be considered 'Ancillary' to the development (we would refer in this regard to the absence of reference to such provisions in Part of 1 Schedule 5)." The applicant responded to NRW's statement on 8 December 2014 [REP-1031] presenting a legal arguments that SAFFA can be disapplied through a DCO under the s120(3), (4) and (5) of the PA2008 and that "omission of such screens is important for the operation of the project in respect of maintaining water flows through the turbines by which electricity is generated".

Panel's Conclusions on Eel and Salmon Screens

- 4.4.52 The legal background to matters relating to the Eels Regulations 2009 and SAFFA 1975 is set out in section 3 of this report. On the basis of the legal position described in section 3, the Panel agrees with the applicant's view that disapplication of SAFFA 1975 and of the Eels Regulations 2009 is within the SoS's power under the PA2008.
- 4.4.53 NRW has come to a view that the Eels Regulations would not apply on the basis that a tidal lagoon is not a diversionary structure [REP-1017]. However this has been a reversal of a position previously taken in the examination [REP-860]. The Panel recognises that the applicant requires certainty on the position of eel screens to the turbines. Noting that eels are catadromous, that is the adult eel migrates down a river to spawn in the sea, and that the proposal is for a lagoon which no rivers would flow into, the Panel can see no purpose in the imposition of eel screens in this instance and supports an express statement in the DCO to the effect that the provisions of the Eels (England and Wales) Regulations 2009 would not apply to the scheme. This has accordingly been included in Article 47 of the Panel's recommended DCO being submitted with this report.
- 4.4.54 The Panel considers that the question of salmon screens needs to be set within the context of the overall approach to turbine design, including the installation of AFDs. This has been referred to earlier with the conclusion in paragraph 3.5.8 being that AFDs should be included as part of the design of the turbine array. The Panel considers that it would be important for the operation of the project in respect of maintaining water flows through the turbines that the turbines should not be physically screened. The Panel's conclusion is that the provisions of the article headed "Licences relating to water, etc" which appears as Article 47 in the Panel's recommended DCO submitted with this report should include disapplication of SAFFA 1975.

4.5 NAVIGATION, SHIPPING, PORTS AND DREDGING

NAVIGATIONAL SAFETY

- 4.5.1 Navigational safety during the construction, operation and decommissioning of the Project was identified as a principal issue [PD-003] at the outset of the examination.

- 4.5.2 ES chapter 14 Navigation and Transport Assessment [APP-191] (Figure 1.4) gives a very good overview of the principal areas of interest with regard to navigation showing the approach channels to the River Tawe, River Neath and Port Talbot with the port limits for these harbours and the proposed lagoon itself.
- 4.5.3 As can be seen in Fig 1.4, the lagoon is located between the approach channel to the Swansea docks with the Swansea Marina located in the entrance to the River Tawe and the approach channel to the River Neath with several working berths each side of the River and the Monkstone Cruising and Sailing Club (MCSC) Marina.
- 4.5.4 Swansea and Port Talbot are both owned and operated by Associated British Ports (ABP) whereas Neath Port is an independent port operated by the NPA. All three ports are operated on a commercial basis. In terms of their capacity and usage, between January 2009 and June 2014, 3277 commercial vessels entered Swansea Port with the largest being 27,552 tonnes on 6.8m draft. In comparison, on an annual basis Neath Port sees 200 small commercial vessels of a maximum length of 125m and 6m draft maximum. Whilst Port Talbot also has approximately 200 arrivals a year but predominately very large bulk carriers of up to 170,000 tonnes of 16.5m draft with cargo for the nearby steel works.
- 4.5.5 The City of Swansea and the River Neath both have a Marina for recreational craft. Swansea Marina, operated by the CCSC, lies in a former dock close to the centre of the City and extends into the impounded lower reaches of the River Tawe. The Marina in the River Neath owned and operated by the MCSC, an IP throughout the examination is situated on the west side of the River Neath just below the M4 road bridge.
- 4.5.6 The Panel was required to examine the impacts of this project on all marine users both commercial and recreational.
- 4.5.7 The general port management is responsible for the running of its own port. They are governed by their own Byelaws tailored to the needs of each port. However, it is the Harbour Master (HM) of each port, under the Dock and Harbour Act 1972, who has a statutory duty to make the port safe for its users and ensure safety of navigation within its harbour limits. This applies to all vessels both commercial and recreational. The HM may issue general or specific directions to control the movement of vessels, in order to fulfil these statutory responsibilities. Therefore, in examining the Project consideration has been given to the views of the port authorities and harbour masters to ensure that their functions can be delivered.
- 4.5.8 Prior to the submission of their application the applicant held a hazard workshop in Swansea on 30 April 2013 to identify and assess the navigational concerns of the key marine stakeholders in the area affected by the proposed lagoon [APP-191] (para 14.3.4.1). Amongst

those attending were ABP, NPA, MCSC, Royal Yachting Association (RYA), Maritime and Coastguard Agency (MCA).

4.5.9 In ES chapter 14.1 Navigation Risk Assessment [APP-354] six hazards were identified by those attending the workshop as unacceptable in the worst case scenario with only standard mitigation measures. These were:

- Change to current Search and Rescue (SAR) responses;
- Drifting vessel allision with turbine housing or Lagoon seawall;
- Increased vessel to vessel collision risk;
- Wave reflection affecting vessel navigation in normal weather conditions;
- Vessel allision with lagoon seawall in adverse weather;
- Vessel stuck on Lagoon seawall [APP-354] (para 10.3.0.4).

4.5.10 In addition to standard mitigation measures normally found in a project of this type such as an Emergency Response and Co-operation Plan (ERCoP) the following are to be adopted as specific mitigation measures:

- Additional temporary Admiralty Notice to Mariners;
- Extensive promulgation of information including receptor specific;
- Safety zones around construction works;
- Dolphin piles and floating boom around temporary cofferdam and operational turbine housing and sluice gate structure;
- Guard vessels during the period of construction activity protecting vessels from dangerous areas of construction [APP-354] (para 12.3.2.3).

4.5.11 These mitigation measures, given in the CEMP, will apply during the construction of the whole length of the lagoon wall including the turbine housing and sluice gate structure.

RIVER NEATH APPROACH CHANNEL

4.5.12 In ES chapter 14 [APP-191] the Neath approach channel is described as 76m wide and maintained at a depth of 2m above Chart Datum (CD) [APP-191] (para 14.2.2.2) and has training walls each side of the channel constructed in the Victorian era.

4.5.13 The applicant plan to undertake various navigational works within the port to accommodate the proximity of the lagoon. Figure 1, Annex 2 of

NRW's response to further information for Deadline VI (25 November 2014) shows in detail the works to be carried out. [REP-907]. These include the eastern lagoon wall abutting a reinstated 1km section of the western training wall [REP-907] (Annex 4). Rebuilding and extending the eastern training wall seawards whilst at the same time widening the entrance between the walls to 100m at the request of the NPA [REP-354] (Table 11.1).

- 4.5.14 Consent for the new eastern training wall is sought through the DCO at Part 1B, Work No. 4 [REP-1004]. On 2 December 2014 the Panel requested (through a Rule 17 letter) that the applicant explain how they would obtain consent for the reinstatement of the western training wall as it appeared to lie outside the limits of the DCO. He replied that consent will be sought through the Marine Energy Works Licence applied for [REP-1034] (para 12-12) although the Panel do not have any evidence before them to confirm this.
- 4.5.15 The Briton Ferry Shipping Company, the owner and operator of one of the larger commercial wharves on the River , expressed concern [REP-030] that the building of the lagoon would affect navigation in the river. No further representation was received from them.
- 4.5.16 MCSC, operating the only Marina operating on the River Neath, expressed three concerns [REP-129] about the effect the lagoon would have on their operations. Firstly, wave reflection off the eastern lagoon wall could, under certain conditions, make it hazardous for small vessels to leave and enter the River. Secondly, an increased level of siltation within the river and Marina itself. Thirdly, the MCSC state that access is only possible 2 hours either side of high water. The effect of the lagoon being built will be that it will take longer for its clients' vessels to reach clear water for sailing or fishing so there will be less time available to spend on these pursuits.
- 4.5.17 In reply, the applicant [REP-607] states that the lagoon walls have been designed to minimise wave reflection [APP-191] (para 14.6.2.38). Moreover, with the wave direction from the South West the effect is "To the east of the Lagoon, decreases in significant wave height of up to 0.5m are predicted immediately in the lee of the lagoon" [APP-191] (para 12.4.8.4). With the wind from the South East "there is predicted to be no significant change with a 0.04m height increase" [APP-191] (para 14.4.8.5).
- 4.5.18 In reply to the second comment the applicant replied, "no change is predicted within the Neath Channel (outside natural variability)" [APP-183] (6.5.2.71).
- 4.5.19 As far as the third comment of the MCSC is concerned, the applicant replied that the Lagoon would not have any impact on the activities of the Club [REP-607]. The Panel agrees with the applicant's view.
- 4.5.20 At the Open Floor Hearing held on the 29 July 2014 the MCSC said "we absolutely believe that if the lagoon is built as proposed our club will

shortly cease to exist” [REP-675] (para 3). There were two reasons given for this view. Firstly, loss of members due to a possible dangerous confused sea off the entrance and the extra travelling time needed to get into the bay and secondly, the extra siltation occurring in the River and the MCSC Marina itself which they cannot afford to dredge [REP-675]. The Panel is of the view that the extra travelling time is marginal and the possibility of a confused sea is offset by the widening by the channel entrance.

- 4.5.21 In reply, the applicant confirmed that their assessment showed that that the River Neath will not be subject to increased siltation and that the lagoon wall would absorb wave energy thus improving the present situation rather than causing a deterioration [REP-686] (para 3.6.11).
- 4.5.22 In their written submission for Deadline IV (25 November 2014) [REP-744], the MCSC again reiterated their concerns about the Project on their business, namely that the eastern wall of the lagoon would form a ‘lee shore’ under South Easterly wind conditions, wave reflection causing a confused sea at the entrance and the difficulty of navigating within the constraints of the training walls and the eastern lagoon wall (para 6). In mitigation the MCSC asked for the entrance to be widened to 160m (para 37) and the gradient of the lagoon wall to be reduced to 1 in 4 in this area (para 17). In the same submission the applicant offered to enter into an agreement with MCSC regarding sedimentation in the Marina itself if it occurred (para 34).
- 4.5.23 At the ISH on the 18 September 2014 [REP-768] the NPA stated that they were satisfied with the proposed realignment of the eastern training wall (para 11.2.1).
- 4.5.24 Part C, Section 8 of the CEMP gives the details of how the safety of navigation during the construction phase will be managed [REP-994] and Part B; Section 3 of the OEMP gives the details of how the safety of navigation will be managed during the operational phase [REP-997].
- 4.5.25 At the close of the examination there was no agreed SoCG between the applicant and the MCSC, which in view of the foregoing is not surprising. The applicant has stated that it's still in negotiation with the MCSC to “provide comfort” [REP-998] and the applicant has agreed that a monitoring scheme regarding siltation in the Monkstone marina will be included in the AEMP. However, the Panel cannot find any explicit mention of the MCSC Marina in the AEMP Version 4 [REP-922]. Therefore, the Panel is inserting a provision in requirement 6 of the DCO requiring a siltation monitoring and management scheme for the MCSC Marina to be included in the AEMP.
- 4.5.26 Thus, one of the MCSC main concerns has been addressed, in that they should not be burdened with any extra dredging costs. Nevertheless, the MCSC appear implacably opposed to the Project.
- 4.5.27 In the SoCG between the applicant and the NPA [REP-702] there were no areas of disagreement between the parties with protection for the

NPA against any future navigational problems due to the construction and operation of the Project being secured by Protective Provisions in the DCO, Schedule 5, Part 2 [REP-1004].

- 4.5.28 In the SoCG between the applicant and the RYA the Panel notes that the RYA agrees that the risk of an allision between a vessel and the lagoon wall has been mitigated for as far as is reasonably practicable by the standard mitigation measures given above in paragraph 4.3.11 and specific mitigation measures given in chapter 14 of the ES [APP-354] (paras 12. 4.2.4 and 12.4.3.3).
- 4.5.29 The NPA through the HM for the River Neath is responsible for the safe movement of both recreational and commercial vessels in the approaches to and within the River Neath and is completely satisfied with the proposed works as they affect navigation. The RYA is of the opinion that with the proposed mitigation in place the risk to marine traffic has been reduced to as low as reasonably practicable. The Panel whilst mindful of the concerns of the MCSC but noting the views of the NPA and RYA conclude that the issue of safety of navigation in the River Neath has been satisfactorily addressed.

RIVER TAWE AND SWANSEA DOCKS APPROACH CHANNEL

- 4.5.30 In ES chapter 14 [APP-191] the Approach Channel is described as being maintained at a depth of 4m above CD [APP-191] (14.2.2.2). At the request of ABP, the owners and operators of Swansea Docks, the western lagoon wall is planned to be constructed parallel to, but offset by 100m from, this Channel [APP-174] (pg.7 (3)) for navigational safety reasons. This was agreed at some stage during the consultation process before the Application was submitted.
- 4.5.31 In their initial [REP-018] (para c) ABP were concerned that the western arm of the lagoon wall may have adverse effects on the approach channels, locks and breakwaters of both Swansea and Port Talbot. These effects include wave action and sedimentation.
- 4.5.32 The RYA stated in their [REP-180] that they were generally satisfied with the mitigation measures proposed by the applicant. However, they still had concerns about wave reflection from the lagoon walls affecting navigation under certain weather conditions.
- 4.5.33 In their RR [REP-458] (para 5.7) ABP again voiced their concerns about wave reflection off the western lagoon wall and vessel interaction such that safe access may be impeded in certain weather conditions. In ABP's opinion, these effects have not been clarified nor any mitigation measures proposed. To this end ABP require in the DCO Protective Provisions for, amongst other matters, safety of navigation. ABP also wanted confirmation from the applicant that the lagoon wall would be able to withstand an allision with a vessel of up to 35,000 DWT (5.3). Furthermore, ABP were concerned that increased sedimentation may block the inlets to the pump used for impounding the dock [REP-458] (para 5.2).

- 4.5.34 In their reply [REP-612] (11.1.1), the applicant stated that the lagoon walls are predicted to provide an overall sheltering effect to the Swansea Channel particularly in South West and South East wind conditions and as such will not significantly affect the channel. The applicant considers the probability of a vessel of 35,000 DWT colliding with the lagoon wall to be low because only a few vessels of this size visit the port and would have tugs in attendance. If one did occur the impact would be low because of the weight of construction of the lagoon wall, would not lead to a breach of the wall and would be repairable [REP-612] (para 5.3.6, 7, 8). The concern of ABP that the pump inlets may become blocked would be covered by Protective Provisions for ABP [REP-1002] (Schedule 5, Part 1).
- 4.5.35 The RYA in [REP-480] (para 3) expressed concern that the lagoon wall would pose an increased risk to all users of the approach channels and could be perceived as being a difficult place to enter or depart which, in turn, could have an effect on custom to the detriment of all marine businesses. CCSC expressed the same concern in their LIR [REP-563] (para 21.4).
- 4.5.36 However, the applicant considers in [REP-612] (para 5.3.3), that with the mitigation measures in place referred to above, there will be no significant adverse effect on navigation.
- 4.5.37 In Q 6.12 in the Panel's first round of written questions the applicant was asked if it had carried real time simulation studies of the Swansea and Neath Channels [REP-522]. The applicant's reply was that real time simulation had not been used because it was neither necessary nor appropriate. The applicant went on to say, as mentioned above, it is predicted that benefits to navigation will result from the presence of the Project [REP-612] (para 5.3.3).
- 4.5.38 ABP were asked in Q 6.6 [REP-522] if a "formal risk assessment" had been carried out as required by the Port Marine Safety Code. The reply was not yet as the applicant had not confirmed the parameters-wave reflection, proposed protection measures and the physical position of the lagoon [REP-505].
- 4.5.39 The applicant was asked a number of questions at the ISH on 18 September 2014 [REP-768] by the Panel.
- "Could you please explain how the Lagoon sea wall will provide an 'overall sheltering effect' when the swell is from the South West or West South West." [REP-768] (para 11.2).
- 4.5.40 The applicant carried out wave modelling using the DHI MIKE 21 spectral wave model to assess the impact that the Lagoon wall would have on the wave regime within the bay. The results indicated that the Western Lagoon wall could provide a 'sheltering effect' for the Swansea channel and Port entrance under all but the most extreme wind conditions [REP-768] (para 11.2.7).

- 4.5.41 In reply ABP stated that as far as the Swansea approaches were concerned the 'sheltering effect' would only occur when the wind was from the south east which is not the predominant direction [REP-738] (para 4.3)
- 4.5.42 In ABP's opinion the wrong type of model was used. The Boussinesq resolving wave model would predict wave height with more accuracy in the channel. The applicant maintains that the model used is the correct one. However, the applicant and ABP were having on-going discussions about this matter [REP-738] (para 4.4).
- 4.5.43 The applicant was asked if he had carried out any ship simulation studies to confirm his conclusions regarding the effect wave reflection would have on commercial, fishing and recreational craft entering and leaving Swansea. [REP-738] (para 5)
- 4.5.44 The applicant replied once again that they thought ship simulation was not necessary [REP-768] (11.2.29).
- 4.5.45 Requests had been made by ABP for ship simulation studies to be carried out as early as 30 April 2014 at the Hazard Workshop. This was referred to but not at this stage taken forward by the applicant. Nor in ABP's opinion were they asked at the workshop to contribute to the scoring of risk factors in relation to the potential severity for vessels of all types with the lagoon wall in place and whether mitigation would be required [REP-738] (para 5.3).
- 4.5.46 Further meetings were held between the applicant and ABP regarding ship simulation but the applicant suggested that such issues were not for the Panel on the grounds that such meetings were held on a "without prejudice" [REP-578] (para 5.2). ABP were of the view that this was not the case as ship simulation studies were required in order for them to fulfil their obligations to carry out a formal marine risk assessment as required in the Port Marine Safety Code. The results of these ship simulation studies will be used by ABP to determine what, if any, further mitigation measures will be required to keep the risks 'as low as reasonably practicable' (ALARP)[REP-578] (para 5.4).
- 4.5.47 The Panel agreed with this approach and required the applicant to carry out the ship simulation study. The applicant agreed and ABP furnished the applicant with a note [REP-768] (para 5.3(v)) detailing what was required of this study.
- 4.5.48 The applicant was asked how they would deal with the threat to life and possible pollution if a vessel were in an allision with the lagoon wall. The applicant replied [REP-768] (para 11.2.32) that a matter of this type would be dealt with by the provisions laid down in the ERCoP as required by Marine Guidance Note (MGN) 371 issued by the MCA.
- 4.5.49 ABP replied [REP-738] (para 7.3) that when the lagoon is built the area of water inside the lagoon will become the responsibility of the applicant, the water on the outside of the western lagoon wall will remain the responsibility of ABP. This is formally stated in the DCO as

Article 54 [REP-1004]. However, the ERCoP will deal with co-operation between the parties [REP-768] (para 11.2.33).

- 4.5.50 The applicant was asked would the safety zone prevent people coming close to the turbines [REP-768]. The applicant replied that outside the lagoon the demarcation line for safety, including navigation, would be a line of dolphin piles placed approximately 500m from the turbine housing, 50-100m apart with floating booms between them [APP-191]. These dolphin piles are for the protection of the turbines from vessels. It is thought highly unlikely swimmers would enter this area [REP-768] (para 11.2.40).
- 4.5.51 The applicant was asked if he intended to install protective dolphins along the western Lagoon wall as mitigation for the potential danger to life and damage to vessels [REP-768]. The applicant replied that it does not intend to install dolphins in this area as the lagoon wall is already 100m from the channel edge and installing dolphins would reduce this safety margin. There are no turbines in this area so they (dolphins) would serve no useful purpose [REP-768] (para 11.2.43).
- 4.5.52 ABP is in favour of protective dolphins along this western wall [REP-738] (para 9.2) but the simulation study should show whether they are needed or not.
- 4.5.53 The applicant was asked; "Are you confident that you will reach agreement with the Port Authority for the safe passage of commercial vessels without delay" [REP-768]. The applicant stated that they did not expect to impede the navigation of any vessel, commercial or recreational, in any event this subject is expected to be covered by Protective Provisions [REP-768] (para 11.2.47)
- 4.5.54 At the ISH on Navigation held on the 22 October 2014 the Panel noted that it had received a letter from the NPA stating that all of its issues with the applicant had been resolved and included in a draft 'Heads of Terms' document [REP-842] (para 18.5). The applicant confirmed this to be so.
- 4.5.55 The Panel also noted that ABP required a ship simulation study with wave modelling to be undertaken in order for a formal risk assessment to be carried out. The applicant confirmed that they had agreed to this with an input from ABP as to what was required [REP-242] (para 18.1.1).
- 4.5.56 ABP stated that the results of the ship simulation study and consequent risk assessment will be used in the preparation of the Safety of Navigation Scheme which ABP will discuss with the applicant and the LPA as to what mitigation measures will be required, if any [REP-825] (para 2.4).
- 4.5.57 ABP observed that they are required by the Port Marine Safety Code to operate an effective marine safety management system that must ensure that risks are controlled with the most severe eliminated and others reduced to 'ALARP' [REP-825] (para 2.20).

- 4.5.58 The Panel asked the applicant what was the position in respect of the dolphin piles being constructed alongside the western lagoon wall? The applicant replied that it had not assessed the construction of dolphin piles alongside the western lagoon wall and this was not contained in the Application. If the risk assessment showed that these piles were necessary then a marine licence would be applied for [REP-842] (para 18.1.3).
- 4.5.59 As already noted in Q3 of the previous ISH, ABP will remain responsible for the area of water outside the lagoon and as such will have full responsibility for the safe passage of vessels in the approach channel including contingencies for emergencies such as vessels stranded on the western lagoon wall for whatever reason [REP-825] (para 2.10). Section 252 of the Merchant Shipping Act 1995 grants a general power to Harbour Authorities to deal with a stranded or wrecked vessel in a harbour or its approaches [REP-825] (para 2.12).
- 4.5.60 ABP were asked how safe navigation could be secured during construction with no delay to commercial shipping [REP-825] (para 2.14). ABP replied through Protective Provisions Part 1 and Part 2 of the DCO [REP-1002].
- 4.5.61 On the 27 October 2014 the Panel issued a 'Note of Information Proposed by Interested Parties' [HE-53] where the Panel requested under Item 15 a "Note on the production of a ship simulation study and confirmation that any mitigation measures are secured by the DCO or that there is a reasonable prospect they can be secured".
- 4.5.62 In reply, in its note on Ship Simulation [REP-887] the applicant stated that it had arranged for a ship simulation study to be carried out that will meet the needs of ABP. The earliest that this could be done was mid-November 2014 and the subsequent report produced by the end of December 2014 (para 2.4) which was after the close of the examination. This is dealt with in the conclusions below.
- 4.5.63 The applicant goes on to state that if the study finds that dolphin piling along the western lagoon wall is necessary then the applicant would apply for a marine licence from NRW Marine Licencing Team with the same mitigation as proposed for the dolphin piling included in the Application, using the Joint Nature Conservation Committee (JNCC) protocol [REP-887] (para 3.4).
- 4.5.64 Furthermore, a new Article 24 has been included in the DCO. This Article has been agreed between the applicant and ABP and states that no marine works in the Project can be started until a scheme for safe navigation has been approved by ABP and that the authorised development of the Project must be carried out in accordance with the approved scheme [REP-887] (para 4.2). This will include any mitigation measures identified in the simulation study.
- 4.5.65 Appendix 14.3 [APP-356] confirms that the applicant has complied with all the requirements where applicable of MGN 371. The ERCoP

has been compiled with input of the marine safety branch of the MCA [REP-768] (para 11.2.32).

- 4.5.66 In the final SoCG between the applicant and the RYA [REP-961] it was agreed that a suitable Navigational Risk Assessment was carried out that provides on the best available evidence that the risks are at least tolerable. Although the RYA has concerns regarding siltation it was agreed that the mitigation and monitoring measures with the Protective Provisions in the DCO can manage any siltation. It is also agreed that a monitoring scheme regarding siltation of MCSC Marina will be agreed with the MCSC and included in the AEMP. It is also agreed that the mitigation identified manages the risk of an allision occurring including recreational vessels.
- 4.5.67 No final SoCG has been concluded between the applicant and ABP which the Panel feel is not unreasonable considering that the results of the ship simulation are not yet known. However, once the results of the study are known, the HM for the Port of Swansea in fulfilling his statutory duty will devise a scheme for the safety of navigation. This is formally incorporated in the DCO as Article 24 [REP-1002] which confirms that no marine works are to take place until a scheme has been approved and that the development will be carried out in accordance with it.
- 4.5.68 The Panel notes the topics that are to be considered in the study compiled by ABP are:
- Entry and departure parameters for selected vessels.
 - The impact of wave reflection on existing port infrastructure.
 - The impact of the Lagoon wall on safe navigation into and out of Swansea.
 - An assessment of the increased risks created by the existence of the Lagoon wall to vessels transiting the Channel into and out of the Port of Swansea.
 - An assessment of the potential severity for various mechanical failures and emergency situations which could result and the consequential need for mitigation to ensure the risks remain within ALARP [REP-1005].
- 4.5.69 The Panel is of the opinion that the results of these topics studied should bring to light any further mitigation measures that are required.
- 4.5.70 ABP is of the view that Article 24 in the DCO [REP-1002] should be sufficient in the circumstances to ensure the provision for such mitigating measures as may be identified from the above study will be included in the scheme for the safety of navigation [REP-987] (para 3.7).

- 4.5.71 In conclusion, therefore, the Panel is satisfied that the safety of navigation in the approach channels to the River Neath and the Port of Swansea has been satisfactorily addressed in so far as they can be at the close of the examination. The SoS will have the results of the ship simulation studies and proposed, if any, mitigation measures before him but he may be confident that with the input of the HM Swansea, Trinity House, MCA, NPA and the CCSC the scheme for the safety of navigation in Article 24 of the DCO will be fit for purpose.

DREDGING

- 4.5.72 Capital dredging will be required in the construction of the Project both for the lagoon wall, turbine, sluice gate housing and within the lagoon itself. ES chapter 2.4, Project Description, states that approximately 8.1 million cubic metres will be dredged within the Project area of which 7.3 million cubic metres will be used in the construction of the Project itself, leaving an estimated 800,000 tonnes of unsuitable material to be disposed of [APP-181] (para 4.3.1.13). A Marine Licence has been applied for the disposal of this material at the Swansea Outer Disposal Ground (LU130) [REP-1034]. In addition, 114,000 cubic metres will also be removed in the widening of the Neath Channel [REP-907] (Annex 2). A licence to dredge and dispose of this material will be sought from the NRW Marine Licensing Team at the appropriate time [APP-181] (para 4.3.1.13).
- 4.5.73 ES chapter 2.6, Coastal Processes, states that maintenance dredging is required at the present time for the Swansea Approach Channel, Neath Approach Channel and the Port Talbot Approach Channel. With the Lagoon in place the applicant predicts that there will be no change to this requirement within the Neath Channel [APP-183] (para 6.5.2.71) but the average annual maintenance dredge will increase by 20% to 34% in the Swansea Channel and 1.2% to 2% in the Port Talbot Channel and Outer Harbour [APP-183] (para 6.5.2.74). The applicant will assume responsibility for this maintenance dredging whilst the respective sections of the lagoon wall are built. Thereafter the responsibility for this will be returned to ABP and the NPA respectively [REP-768] (para 11.5.23).
- 4.5.74 The RYA [REP-597] expressed concern that there would be increased siltation within Swansea Marina and in the immediate vicinity of the river itself. The CCSC had the same concerns with regard to siltation, with the added concern of the area immediately above the River Tawe barrage which could also be subject to siltation on spring tides [REP-563] (para 11.23).
- 4.5.75 The applicant replied that there was not any predicted increase in siltation in this area. In the SoCG between the applicant and CCSC it was agreed that CCSC would provide the historical data to indicate any extra siltation occurring but any increased dredging outside the natural variation caused by the Project will be covered by Protective Provisions in the DCO, Schedule 5, Part 9 [REP-1002] agreed with CCSC including costs [REP-597] (para 7.4).

- 4.5.76 The extra costs involved with the increased maintenance dredging in the Swansea, Port Talbot and Neath Channels will be addressed by Protective Provisions in the DCO, Schedule 5, Part 1 for the benefit of ABP and, indeed, Protective Provisions in the DCO, Schedule 5, Part 2 for the NPA should it prove necessary. [REP-612] (para 5.2).
- 4.5.77 ES chapter 2.6 Coastal Processes, states that maintenance dredging will also be required within the lagoon itself in order to maintain the power generation effectiveness. However, the applicant estimates this will not be required for 10 to 15 years after completion of the Project and thereafter approximately every 2 years [APP-183] (para 6.5.2.76).
- 4.5.78 The applicant proposes that the arisings from the lagoon are disposed of in the Swansea Outer Deposit Ground (LU130). These arisings would represent an increase of between 29% and 47% of the volume now received in LU130 although the applicant notes that this deposit ground has received significantly greater volumes in the past which quickly dispersed with little change occurring to the seabed [APP-183] (para 6.5.2.77).
- 4.5.79 The applicant states that, whilst dispersion from LU130 extends towards Kenfig SAC, the predicted changes to this area are in the order of background variation and, as such, will have no impact on the designated features of this site as no sedimentation will occur [APP-183] (para 6.5.2.80).
- 4.5.80 NRW in their RR [REP-141] (E.19) state that the potential impacts of the disposal of up to 0.8 million cubic metres of arisings within a relatively short time frame have not been modelled nor the predicted impacts assessed.
- 4.5.81 Moreover, in an independent expert assessment carried out for NRW [REP-141] (Appendix E.1.1(para 3.11)) of the sea bed characteristics and the transport pathways between Swansea Bay Outer Deposit Ground and the Kenfig SAC of the potential effects of the construction and maintenance arisings from the Project over a 120 year period is inadequate. In their view, and endorsed by NRW, insufficient evidence has been provided to demonstrate that there will be no adverse effects to Kenfig SAC [REP-141] (E1.23 (para 15)).
- 4.5.82 In the applicant's view the volume of both capital and maintenance dredged arisings from the Project fall well within the capacity of LU130 which has received on average 2.6 million tonnes per annum between 1986 and 2010 with 9.1 million tonnes in 1996. At the present time, 5.3 million tonnes is licenced to be deposited annually in LU130 [REP-592] (para 52 (9)).
- 4.5.83 Moreover, there has been historically no accretion of mud on the foreshore of the Kenfig SAC even though, as noted, disposal activities have been taking place annually at LU130 for many years and there

has always been an adequate supply of sand to Kenfig SAC [REP-592] (para 52(11)).

- 4.5.84 To allay the uncertainties expressed by NRW in this respect the applicant intends to provide mitigation measures in the AEMP [REP-592] (para 52 (15)).
- 4.5.85 In [REP-645](para 5) the NRW stated that under Regulation 61 of the Habitat Regulations they were not in a position to conclude that there would be no adverse effects on the integrity of the Kenfig SAC.
- 4.5.86 Their main concern being whether a progressive increase in the extent and thickness of mud and muddy sand in the area to the west of Kenfig over the 120 year lifetime of the Project, could result in a reduction, or even a cessation, of sand movement between the outer western part of Swansea Bay and the Kenfig foreshore [REP-645] (para 6).
- 4.5.87 An early warning monitoring scheme should be in place to remove this risk. In NRW's view, the most obvious mitigation measure available to the applicant would be to move the disposal of the arisings to another location. Furthermore, a site should be identified now for use in this respect [REP-645] (para 7). What is required in this respect is given as an Appendix to [REP-645].
- 4.5.88 At the ISH on 16 September 2014, the applicant's stated position on this matter was that the Panel only needs to be satisfied that there is a reasonable prospect of TLSB securing a suitable location in 10 to 15 years' time to deposit the dredged maintenance arisings with the appropriate licences. There is such a reasonable prospect, although it need not necessarily relate to LU130 [REP-768] (para 6).
- 4.5.89 As already noted the applicant is of the view, that modelling undertaken shows that the Project will not have any significant effects on Kenfig SAC either alone or in-combination. Should the Project be found to be having significant effects on Kenfig SAC then appropriate mitigation measures can be applied [REP-768] (para 6).
- 4.5.90 Furthermore, in the applicant's opinion the correct time to carry out an HRA, with regard to the deposit of the maintenance arisings and the effect on Kenfig SAC, is when the relevant marine licences are sought in 10 to 15 years' time [REP-768] (para 6.1.6).
- 4.5.91 At the same ISH, NRW stated that on the basis of the shadow HRA and the AEMP, adverse effects on the integrity of the Kenfig SAC could not be ruled out and the proposed monitoring measures were inadequate [REP-748] (para 6.3.9).
- 4.5.92 Moreover, NRW were not in favour of the issue of the maintenance dredging and disposal of arisings not being dealt with comprehensively at this examination. NRW's concerns are that the applicant has included this aspect of the Project in the HRA and ES from the start and that hiving off parts of the Project run significant risks in deferring

decisions to future consenting regimes. The risk for the applicant is that it will be left with a "stranded asset" which is unable to gain permission essential to its continuing operation. The risk to the consenting body is that when the marine licence is applied for in 10-15 years' time, the grant of consent will appear as a "fait accompli" because of the infrastructure already built and operational [REP-748] (para 6.3.9).

- 4.5.93 However, NRW is of the view that a proper monitoring system with precautionary mitigation measures can be developed for inclusion in the DCO [REP-748] (para 6.3.10).
- 4.5.94 In response to the Panel's Action Note for submission at Deadline IV (7 October 2014), NRW confirm that they and the applicant are discussing a draft requirement regarding the above issue in the DCO [REP-749] (para5).
- 4.5.95 Agreement was reached between NRW and the applicant on this issue and it appears as requirement 35 of the DCO [REP-1002].
- 4.5.96 It has already been noted in the SoCG between the applicant and the RYA [REP-961] that the applicant will include a provision in the AEMP to monitor and, if necessary, dredge the MCSC Marina, although the Panel cannot find the MCSC Marina explicitly mentioned in the AEMP Version 4 [REP-922]. To correct this apparent omission the Panel is inserting in requirement 6 of the DCO a provision for a siltation monitoring and management scheme for the MCSC Marina to be included in the AEMP.
- 4.5.97 Thus, it can be seen that all the issues regarding capital and maintenance dredging have been resolved to the satisfaction of the parties involved and the Panel.

4.6 WELSH MARINE LICENCE

- 4.6.1 In the context of this Project the following marine licences will be required:
- A Marine Licence for the construction of the lagoon and associated infrastructure. This licence only applies to works below Mean High Water Spring (MHWS) tide line.
 - A Marine Licence for capital dredging and the disposal of the material at a designated disposal site in Swansea Bay.
- 4.6.2 The Marine Licence Applications were submitted on 6 February 2014, with an Environmental Statement, Habitat Regulation Assessment and a Water Framework Directive Assessment.
- 4.6.3 Under Part 4 of the Marine and Coastal Access Act 2009, it is the NRW Marine Licensing Team (MLT) who undertakes the function of Marine Licensing in Welsh territorial waters on behalf of Welsh Ministers who are the Licensing Authority.

- 4.6.4 It is for the MLT alone to determine the Marine Licence Applications. Indeed, the Panel will not see the Licences in their final form.
- 4.6.5 Consultation with the public and Consultation Bodies with responses from the applicant was carried out from February 2014 until November 2014. Responses were received from NRW, Cefas, MCA, TH, Crown Estate, WG, Bridgend County Council, NPTCBC, CCSC, RSPB, NE, EA, Marine Management Organisation (MMO), RYA, ABP and the NPA. The MLT is in the process of reviewing these responses and they are also awaiting additional advice with regards to the Water Framework Assessment and awaiting the results of the sediment data for the Secondary Dredge area [REP-1037].
- 4.6.6 In a later iteration of the Marine Licence for Energy Works [REP-1034] details of the proposed method of construction are given. Almost all the works would be carried out in situ except for the internal parts of the turbines which would be assembled ashore and offsite but no details of the design specification for the turbines are given.
- 4.6.7 NRW has stated that its intention is that these marine licence applications should progress broadly along the timescales applicable to the DCO determination [REP-1037].

4.7 CIVIL AND MILITARY AVIATION AND DEFENCE INTERESTS

- 4.7.1 The applicant demonstrated within the application documents that consultation had been undertaken with the Civil Aviation Authority (CAA) and Ministry of Defence (MoD) [APP-093]. The Panel are aware of Swansea Airport on the Gower and of smaller airfields both licensed and unlicensed surrounding Swansea. However, no representations were received from the CAA or MoD or any other aeronautical or defence organisation nor did any representation raise civil or military aviation as an issue in relation to the project
- 4.7.2 Therefore the Panel concludes that there are no issues regarding civil and military aviation or defence with the Project.

4.8 CLIMATE CHANGE MITIGATION AND ADAPTION

- 4.8.1 Section 4 of the Planning Statement [APP-384] is addressed to the Energy and Climate Change Policy Context in which the Project has been brought forward and concludes at paragraph 4.2.1.17 that: "The Project will contribute to the fulfilment of the aims of these policies."
- 4.8.2 Section 26 of the CCSC LIR [REP-563] refers to climate change in the context of Sustainability and at paragraph 26.8 states that: "If built as per the project description, the proposal will make a significant contribution to renewable electricity generation, using a natural resource in a sustainable way". The section moves on to specific consideration of climate change and decarbonisation. Paragraph 26.11 states that "At this present time, the proposal will make some but limited impact in terms of climate change mitigation" but the LIR goes on to say in paragraph 26.12 "... if this scheme proves the concept,

then the Tidal Lagoon Swansea Bay could be the gateway to larger tidal lagoon projects which would have a much greater national impact.”

- 4.8.3 Section 6.3 of the Design and Access Statement [APP-383] is headed Flood Risk and Sea Level Change and describes the approach taken to accommodating rising sea level over the projected 120 year design life of the lagoon. The design has been related to a 50 year scenario but there is sufficient flexibility within the design of the seawall to permit alterations for a projected 100 year sea level rise. This could be re-assessed at a future stage. Remedial work would be likely to comprise raising rock armour on the seaward side only by some 30 to 50cm. The seawall would be a new defence against coastal flooding of land, inland from the lagoon

4.9 COASTAL PROCESSES AND ENVIRONMENTAL CONSIDERATIONS

- 4.9.1 The subject of the effect that construction of the lagoon would have on Coastal Processes was one that occupied a significant proportion of the hearings that were held during the examination. The material in this section of the report is based primarily on the chapter 6 of the ES, Coastal Processes, Sediment Transport and Contamination [APP-183].
- 4.9.2 There were expert witnesses on both sides and when it came to assessing the consequences of the changes to coastal processes there were strongly expressed differences of opinion based on professional judgement. This section of the report is designed to set the background against which those differences emerged. The changes as set out in chapter 6 of the ES itself were not directly challenged.
- 4.9.3 Swansea Bay takes the form of a broad but relatively shallow embayment on the north side of the Bristol Channel. It is bounded at its western end by Mumbles Head, a Carboniferous Limestone promontory, but to the east there is no such obvious terminal feature. Porthcawl Point, where the coast turns from south-eastward to more firmly eastward, is identified as the eastern limit in chapter 6 of the ES [APP-183]. However in the context of defining the seaward limit of the Swansea Bay coastal water body, a line from the Mumbles to Sker Point, between Kenfig and Porthcawl has been selected, as shown on Figure 3.2 in the ES [APP-208].
- 4.9.4 Studies of the coastal processes operating within Swansea Bay identified differences between the western and the eastern bay, partly because of the influence of Mumbles Head. Paragraph 6.4.2.7 of chapter 6 of the ES [APP-183] refers to “an anti-clockwise circulation in the lee of the headland”. A generalised view of the directions in which sand is transported around the bay is presented in Figure 6.15 in Volume 6 Folder 3 of the ES [APP-208]. The patterns displayed accord with the baseline tidal residual pattern as shown on Figure 6.40 in Volume 6 Folder 3 of the ES [APP-245]. The tidal residual pattern, which is what remains after averaging out the oscillation associated

with tidal ebb and flow, is described at paragraph 6.5.1.41 of chapter 6 of the ES [APP-183] as including:

- An anticlockwise circulation eddy to the west of Swansea Channel, extending from the shoreline to the 10m below CD contour;
- Shoreline parallel residuals across the Swansea Bay intertidal areas in a westerly direction between Mumbles Head and Port Talbot; and
- North-east tidal residuals in the eastern region of the bay, between 0m CD and the 10m below CD contour, orientated towards Aberafan Sands and Port Talbot.

4.9.5 To the east of Swansea Docks, depositional forces have given rise to coastal accretion and coastal dunes are prominent features.

4.9.6 In the western bay, the situation is more varied. The CCSC's LIR refers in paragraph 11.12 [REP-563] to aerial photographs and beach survey data that show that there have been periods when there has been a more or less continuous cover of mainly sandy sediment across the north-western part of the Bay, and others when the sand has been concentrated into discrete sand wave features [REP-563]. The photographs taken at low tide from viewpoints 5, 7 and 11 [APP-315 & APP-318] illustrate the scale and varied character of the intertidal area. Towards the Mumbles there are more extensive areas of exposed sub-strata or bedrock within the intertidal zone; north of the Mumbles, the Blackpill SSSI is characterised by a greater proportion of silty sands and in front of Swansea itself there is more sand particularly on the higher reaches of the intertidal zone.

4.9.7 Within the Western Bay, forces of erosion and deposition affecting the intertidal zone and associated with regular ebb and flow of the tide are evenly balanced with the greater exposure of bedrock towards the Mumbles reflecting more dominant erosional forces in the intertidal zone. The situation is dynamic with spatial and temporal variation in intertidal beach conditions that give rise to a mosaic of different habitats. Sandy areas at the top of the beach, give way to sand/mud and silt in the lower intertidal areas, with occasional outcrops of gravel and peat [REP-538]. The natural variation in conditions under existing conditions is very considerable. Figure 8.4 in ES Volume 2 Document 6.3 records the spatial range of biotopes in the western bay [APP-260].

Main changes with a lagoon

4.9.8 The proposed lagoon would extend south of land at Swansea Docks and create a structure which projects into the bay. chapter 6 of the ES [APP-183] which is concerned with Coastal Processes, Sediment Transportation and Contamination says at paragraph 6.5.2.59, "This is

effectively splitting the bay into two smaller embayment cells whereby the Lagoon structure essentially becomes a headland”.

- 4.9.9 The western part of the bay is already sheltered from some south westerly influences because of Mumbles Head. It would have its character as a separate, enclosed, bay accentuated. This bay would extend in a tightening curve from the mouth of the Tawe, passing the beaches that front the City of Swansea and the inter-tidal Blackpill SSSI, in front of Oystermouth and round to Mumbles Head. Its eastern boundary would be formed by the dock features at the entrance to Swansea Docks and the low line of the new western arm of the lagoon wall. The connection between the bay and the more open seas of the Bristol Channel would be to the south and south east and would be narrowed.
- 4.9.10 The eastern part of the bay would retain the overall character of a shallow embayment open to influences from the south west, south and south east. From the proposed eastern wall of the lagoon, the coastline first runs eastward past Crymlyn Burrows (an SSSI) to the mouth of the River Neath and then turns south-eastwards past Baglan Burrows, Aberafan Beach (and Aberavon Esplanade) and Port Talbot (tidal harbour, steel works and town) to Margam Sands and the extensive dunes of Kenfig Burrows (an SAC). Of these identifiably separate sections of the eastern bay, it is the section nearest to the lagoon wall, the area between Crymlyn Burrows and the mouth of the Neath which would be most affected by development of the proposed lagoon.
- 4.9.11 The ES makes an assessment of the impact on coastal processes of the lagoon construction process, but with the lagoon and tidal power generation project having an anticipated life of 120 years it is changes arising from the presence of the lagoon over the operational period that would be of much greater significance. This gives rise to difficulties in impact assessment associated with unknown extraneous factors such as long-term rates of rise in sea level and changed frequency and intensity of extreme weather events. In relation to changed distribution of superficial deposits of mud, silt and sand, the consequences of one major period of stormy weather such as occurred in early 2014 can be the equivalent of many years of regular patterns of erosion and deposition associated with the tidal cycle of high and low tide.
- 4.9.12 In paragraph 6.5.2.2 of chapter 6 of the ES [REP-183] the consequences of lagoon construction are identified as:
- Direct changes to hydrodynamic processes (water levels, currents and waves);
 - Direct and indirect changes to the sediment (morphological)
 - A requirement for future maintenance dredging of the Lagoon and for a more frequent dredging of the Swansea, Port Talbot

and Neath approach channels, with resultant increases in dredge arisings for disposal.

Changes to hydrodynamic processes and sediment regime

- 4.9.13 Figure 6.41 in the ES [APP-246] shows plots of tidal residuals resulting when the lagoon scenario is modelled. Comparison of these plots shown on Figure 6.41 with those on Figure 6.40 [APP245] shows the changes to the residual tidal flow patterns (speed and direction) within Swansea Bay that are predicted by modelling after the lagoon has been constructed and is in operation. Paragraph 6.5.2.12 of chapter 6 of the ES [REP-183] comments that:

“It is these changes to the residual currents within the bay that are likely to have a significant impact on the sediment (morphological) regime, particularly with respect to fine suspended sediments (mud).”

- 4.9.14 The main changes identified in that paragraph of the ES are set out below, what this means in terms of effects on erosion and deposition (the sediment regime) within the intertidal zone are described in following paragraphs:

“the anticlockwise residuals within the western part of the bay are noticeably reduced, particularly along the Swansea shoreline (immediately to the west of the Lagoon structure). Within the central section of this region residual flows are orientated more to the north/north-west compared to the baseline. Whilst these changes are principally controlled by the presence of the Lagoon structure, the accelerated flows from the Lagoon over the ebb tide (clearly identified as residuals), generate a clockwise circulating eddy to the north of the flow jet, further exacerbating flow changes from the Lagoon infrastructure alone.

“the presence of the Lagoon structure within the bay removes the westerly tidal residual from the Neath to the western part of the bay (shoreline parallel). Furthermore, tidal flows become largely aligned with the Lagoon seawalls, particularly along its eastern and southern extents; and

“tidal flows in and out of the Lagoon (over the flood and ebb tide) result in a distinct clockwise circulatory residual pattern, largely controlled by the shape of the Lagoon and the ability for a gyre to be created within the southern corner of the Lagoon. Importantly, however, the residual patterns further illustrate the reduced flow speeds at the back of the Lagoon, which will likely lead to increased sedimentation rates”.

Effects of changes to the Sediment Regime

- 4.9.15 The medium and long term changes arising from creation of a lagoon as they affect sedimentation in the western bay are described in paragraph 6.5.2.59 and 60 of chapter 6 of the ES [APP-183] in the following terms:

".... the western region of the bay is expected to experience an increased 'trapping' potential of sediments (predominantly mud) in the future compared to existing conditions, particularly across the shallow subtidal areas adjacent to the Blackpill SSSI and within the Swansea Approach Channel. Increased sedimentation across the intertidal (although to a much lesser extent) is also expected".

"With respect to sand transport, the construction and operation of the lagoon will impede an infrequent supply pathway that potentially exists from east to west across the bay (i.e. from the Neath to Blackpill) under extreme storm conditions. Nevertheless, the dominant (direct) sand transport pathways to this region of the bay from the Bristol Channel under strong SE and SW wave and wind conditions will be unhindered. The reduction in tidal currents within this region of the bay, following the construction and operation of the Lagoon, may in fact reduce the re-suspension and ebb transport of sand out of the bay once it has accumulated. Thus, although there is a potential for a very small reduction in sand supply to this region of the bay (from the east), a net positive increase in sand volume in the medium to long-term could potentially occur".

Environmental consequences of changes to coastal processes

- 4.9.16 The focus of debate on coastal processes at the examination was not directly on the changes to coastal processes themselves but on what consequences those changes would have on adjoining stretches of coastline. In Question 3.1 of the Panel's first round of questions [PD-010] the Panel asked about the consequences of changes for 5 particular areas: Kenfig SAC, Crymlyn Burrows SSSI, Blackpill SSSI, Swansea Town Beach and Aberavon Town Beach. In the event the focus of the inquiry was on the first three of these. The consequences for the Town Beaches were not seen as raising major issues because the sandy beaches were not viewed as being particularly susceptible to change.
- 4.9.17 The proposed impacts of the development upon the designated sites at Blackpill SSSI and Crymlyn Burrows SSSI are discussed in report section 4.11. The effect on Kenfig SAC has principally been addressed within the context of section 5.0 and Habitat Regulations Assessment.
- 4.9.18 The Panel concludes that in terms of coastal processes the tidal lagoon would have the effect of creating a sub division in Swansea Bay. The most important consequence of this would be that the character of the Western Bay as a separate, more enclosed bay would be accentuated.

4.10 CONTAMINATED SEDIMENTS AT SEA AND ON LAND

- 4.10.1 Planning Policy Wales Edition 7 (2014) (PPW7) sets out the land use planning policies of WG In respect of risks from land contamination, PPW7 advises that:

"the planning system should guide development to lessen the risk from natural or human made hazards, including risk from land

instability and land contamination. The aim is not to prevent the development of such land, though in some cases, that may be the appropriate response. Rather it is to ensure that development is suitable and that the physical constraints on the land, including the anticipated impacts of climate change, are taken into account at all stages of the planning process. However, responsibility for determining the extent and effects of instability or other risk remains that of the developer. It is for the developer to ensure that the land is suitable for the development proposed, as a planning authority does not have a duty of care to landowners."

- 4.10.2 The UK Marine Policy Statement (2011), by HM Government, Northern Ireland Executive, Scottish Government and Welsh Assembly Government identifies in paragraph 3.6.6 that where sediments are contaminated, dredging has the potential to cause significant environmental and health effects through exposure to contaminants in the dredging plume. These contaminants arise from diverse sources such as the legacy of industrial pollution, for example metals and polychlorinated biphenyls. Issues for consideration by decision makers in considering an application for dredging activities or deposit of dredgings should include a detailed evaluation of the potential adverse effects of any dredging activity or deposit on the marine ecosystem and others using the sea.
- 4.10.3 Both CCSC and NPTCBC Unitary Development Plans contain policies that require the nature, scale and extent of contamination, which may pose risks to health to be taken into account in determining applications. NPTCBC policy ENV16 welcomes proposals which would tackle contaminated areas, provided they address the contamination without causing unacceptable impacts.
- 4.10.4 The ES chapter 18 [APP-195] provided an assessment of land quality and land use history of the development area in order to characterise baseline conditions and to assess the need for mitigation to protect future users or the environment from any significant contaminant sources identified. The potential on-site contamination sources are listed in Table 18.8 of ES chapter 18 and off-site contamination sources are listed in Table 18.9.

IMPACTS

- 4.10.5 The ES considered that, based on the results of the baseline assessment, the magnitude of the impact of the contamination risks identified for the areas that would be included in the construction activities are minor. This is because the footprint of the onshore works avoids areas of known contamination, particularly those associated with former oil industry infrastructure. For all areas of both permanent and temporary construction works, further phased investigation and assessment would be completed prior to development commencing, with further sampling and analysis of materials within the development footprint.

- 4.10.6 Potentially, impacts could arise from soil and groundwater contamination, storage of potentially contaminating materials and accidental spillage, disturbance of asbestos in made ground or in buildings to be demolished, disturbance of dust and silt, ground gas being present in the built development area, underground structures and unexploded ordnance. ES chapter 17 [APP-194] (paragraph 17.5.1.21) states that contaminated hotspots within the made ground underneath the area of the Project would be avoided where possible, or removed, treated or isolated prior to construction commencing.
- 4.10.7 Normal construction mitigation measures would be implemented to protect the health and safety of construction workers and the environment. These measures are identified in the CEMP [REP-994] and in requirement 12 of the DCO of the 4 December 2014 [REP-1002]. ES chapter 17 [APP-194] identifies that the use of driven piles, rather than cast in place or bored piles would provide little potential for the pollution of water. If using the latter, potential risk to underlying aquifers could be mitigated by the use of pile casing and isolating and sealing features from surface water. Use of these methods is considered to result in a minimum magnitude of change and an insignificant impact. The risk of soil or groundwater pollution would be reduced. However, due to likely ground contamination from previous site uses, it was considered that there is a minor adverse impact significance.
- 4.10.8 The residual impacts assessment (post mitigation) regarding land-based contamination issues were considered in the ES Table 18.11 to be negligible or minor beneficial. The remediation work undertaken at SUBC area where contamination risks associated with part of the former Transit Site tank farm was considered to represent a moderate beneficial reduction in risk for the project.

OFFSHORE SEDIMENT CONTAMINATION ISSUES

- 4.10.9 The first set of analysis results for sediments from the footprint of the lagoon were described in the ES chapter 6 [APP-183]. Results from these analyses showed that surface sediment contamination levels from within the proposed lagoon footprint would be similar to those seen across the wider Swansea Bay, with slightly elevated levels (ie above the Centre for Environment, Fisheries and Aquaculture Science (Cefas) Action Level 1 [see REP-1029 for details]) of some heavy metals (eg chromium, copper, nickel and zinc). Organic contaminants (ie tributyltin (TBT) and dibutyltin (DBT)) were predominantly below Cefas Action Levels, with some localised increases in DBT along the eastern side of the proposed lagoon.
- 4.10.10 Polyaromatic hydrocarbons (PAHs) were also generally below Cefas Action Levels, although some individual hydrocarbons were found to be above the Cefas Action Level 1 in near surface samples (less than 1.5m depth), and mostly located in the southern part of the proposed lagoon. Samples with results above Cefas action level 2 would not be suitable for sea disposal, whereas action level 1 or below are

considered fit for use in the ES. The Cefas guidance explains that dredged material with contaminant levels between action levels 1 and 2 require further consideration and testing before a decision can be made.

4.10.11 Polychlorinated Biphenyl (PCB) levels were conservatively analysed as being higher than Action Level 1, due to limitations from the limits of detection associated with the analysis. In summary, no samples exceeded Cefas Action Level 2 for any contaminant. There was also evidence of reducing contamination levels with depth, suggesting that deeper sediments across the bay had not been exposed to historic anthropogenic activities. The ES concluded on this matter that the sediments that would be dredged and subsequently used in the construction of the lagoon or disposed of at a dredging disposal ground were not considered to be contaminated with respect to using and/or disposing of the sediments in the marine environment.

4.10.12 The Panel asked a question (Q3.10) regarding whether the intervention thresholds within Dutch Standards are relevant to marine sediments. The applicant responded stating that Dutch standards remain relevant to marine sediments, but Cefas action levels are more relevant since they are the accepted UK standards that Cefas will be seeking to use (as the development would be within UK territorial waters) [REP-519]. NRW sought advice from Cefas on this matter and their response was:-

"The Dutch standards are not directly applicable to marine sediments in England and Wales as they are soil standards based primarily on toxicology data. The Dutch standards could be used to provide an indication of contamination and potentially used as a screening tool but we would not recommend they are solely used as a decision tool. The Dutch do also have dredged material assessment standards similar to Cefas action levels which highlights that there are two different sets of standards used in the Netherlands also" [REP-509].

4.10.13 Preliminary results from the second phase of sediment analysis were reported at Deadline VIII (8 December 2014) [REP-1027 and REP-1028]. Based on Cefas guidance [REP-1029], of the 35 samples that had been analysed 86% were below action level 1, and 14% (5 samples) had one result just above a metal action level 1. This was for one sample that had an arsenic level of 24.3mg/kg (the level 1 threshold is 20mg/kg) and four samples had levels just above the action level 1 threshold of 20mg/kg for zinc, with results between 20.08-24.17mg/kg zinc. No samples were recorded above action level 2.

4.10.14 Preliminary results for DBT and TBT had also been received by Deadline VIII (8 December 2014). All levels were below the detection limit of the analytical equipment and also below action level 1.

Representations

- 4.10.15 Swansea University raised concerns throughout the Examination regarding contaminated sediments and soils [REP-653 and REP-685] and [REP-766] including requiring the CEMP and OEMP to include details of appropriate mitigation in relation to the sediments and deposits within or outside the lagoon.
- 4.10.16 Representations including those from Dr Hywel Francis MP [REP-858], Geraint Davies MP [CORR-018], Miss E Harry [REP-892] and Swansea Environmental Forum (SEF) [REP-487] raised concerns about the pollution potential arising from contaminated sediments in the bay, especially with its legacy of contamination of the 'Copperopolis' era [REP-892].
- 4.10.17 SEF were concerned that the copper, lead, nickel and zinc levels in samples were above the Dutch standard and raised other concerns about the potential synergistic and bioaccumulation potentials if these metals are re-suspended in a short time. Mr Davies MP [CORR-018] was concerned that "5 millions of tonnes of contaminated waste and heavy metals have been discharged into the bay since the early 1700s and high concentrations of these remained in the 1980s". He referred to a research paper by CM Vivian on Trace Metal Studies in the River Tawe and Swansea Bay. In his view, the assertion by the applicant that the very high concentrations of heavy metals, notably cadmium, copper, nickel, lead and zinc identified in Swansea Bay, which had remained there for hundreds of years would have disappeared in the past thirty years was not credible. He was of the opinion that the Examining Authority should have called expert witnesses and commissioned independent sampling or challenged the methodology of non-sampling beyond the western and southern areas of the lagoon.
- 4.10.18 Dr P Muirhead, at the ISH [REP-679], explained that she had studied mercury contamination in relation to bivalves and fish in Swansea Bay in the 1980s, at Swansea University. It was her opinion that mercury was binding onto silica particles, effectively making it unavailable to the marine ecosystem, as mercury would only be released in an acid environment.

Mitigation

- 4.10.19 Requirement 12 of the DCO [REP-1002] requires the applicant to prepare and have approved by the LPA in consultation with NRW, a scheme to assess the nature and extent of any contamination on the Order land prior to any development commencing. The scheme must include any remediation works required prior to any phase of the development commencing. Such works would be to bring the Order land to a condition suitable for the intended use by removing any unacceptable risks to human health, buildings, other property and historic environment. NRW at Deadline VI (25 November 2014) [REP-907]) explained that they welcomed the inclusion of requirement 12 regarding contamination and groundwater in the draft DCO.

- 4.10.20 The CEMP [REP-994] requirements in Section 2 include the use of good practice and available guidelines being incorporated into the final CEMP including CIRIA publications and the EA publication Pollution Prevention Guidelines on Works and Maintenance in or near Water (PPG5) requirements. The final CEMP would identify pathways for marine contamination during construction together with risks and actions required to mitigate such risks. It also includes operational details that would be required in order to avoid the potential for the re-suspension of contaminated materials, with sediments used for seawall and coffer dam construction being chosen on quality criteria. The final version of the CEMP will have to be submitted to and agreed by the relevant LPAs.

Reasoning and Conclusions

- 4.10.21 Turning to the suggestion received after the end of the hearings, prior to the close of the Examination, that the Panel should have 'called' expert witnesses to assist the Examination on these matters, the Panel notes that whilst the PA2008 'Guidance for the examination for development consent' identifies that the Procedure Rules allow the Examining Authority to call expert witnesses to give evidence on specific points at hearings it considered that this was not necessary. The Panel considered that sufficient information was before the Examination in the form of technical analyses of sediment samples, WRs and oral and written evidence regarding sediment contamination matters. The Panel concluded that there was no need to call an independent expert on this matter.
- 4.10.22 Furthermore, the research paper that was referred to by Mr Davies was not before the Examination, however it is in the public domain, entitled, 'Trace Metals in Waters and Sediments of the River Tawe, South Wales, in relation to local sources' by C M G Vivian and K S Massie, published in Env. Poll. (1977). The sampling stations used for that study were on the River Tawe with sediment samples taken from the Tawe and Neath rivers, not from Swansea Bay, so the results did not correspond with the current application area. It is the Panel's view that no weight can be given to sediment sampling analysis from this study conducted in the 1970s, as it did not relate to the application area.
- 4.10.23 The Panel is satisfied that the marine sediment sample results should be compared with the Cefas action levels and not the Dutch standards as Cefas action levels are relevant to the marine environment, whereas the Dutch standards are primarily soil standards. The applicant used an independent laboratory for the sample analyses; it is the Panel's view that this gives sufficient comfort that the results submitted to the Examination represent the situation that was sampled. Results from both sets of recent sampling of sediments undertaken by the applicant gave results which exhibited some heavy metal presence, which appear credible and realistic, given the history of the industrial areas around Swansea. The samples were within the same order of magnitude and all samples were below the Cefas action

level 2 limit. Whilst some samples were identified as being between Cefas action level 1 and 2 in both sets of analyses, under the Cefas guidance, these would need further consideration before use. The Panel understands that this will be a matter for NRW's consideration in the marine licence.

- 4.10.24 The Panel concludes that from the evidence before them, with suitable sufficient mitigation and controls as specified in the DCO and in the CEMP, the use of sediments from the lagoon footprint in the construction phase of the project would not cause any significant impacts on human or ecological receptors from the release of heavy metals or other contaminants.
- 4.10.25 The Panel also concludes that the mitigation that would be provided in the CEMP [REP-994] and the DCO [REP-1002] regarding the testing and analysis of the built footprint, together with the management and/or remediation of any contaminated areas would be sufficient to ensure that there is no risk to sensitive receptors from contamination arising from the development. There is therefore no risk to any sensitive receptors from pollution arising from contaminated sediments on land or off-shore from the development.

4.11 ENVIRONMENTAL CONSEQUENCES IN RELATION TO CHANGES TO COASTAL PROCESSES

CRYMLYN BURROWS SSSI

- 4.11.1 SSSIs are protected by national legislation included in the Wildlife and Countryside Act 1981 (as amended). This legislation provides a mechanism for landowners and occupiers of land to apply to the statutory body responsible for these nationally important nature conservation sites (NRW in Wales) in order to undertake identified operations which could damage the SSSI's special features.
- 4.11.2 The ES chapter on Terrestrial ecology (section 6.2.12) [APP-189] gives a summary of the reasons for designation of Crymlyn Burrows SSSI. It is notified as one of the last sections of Swansea Bay that is largely unmodified by industrial development. The site supports sand dune ridges interspersed by tongues of saltmarsh. rare or notable plant species recorded from the site include field wormwood (*Artemisia campestris* ssp *maritima*), dutch rush (*Equisetum hyemale*), dittander (*Lepidium latifolium*), rock hutchinsia (*Hornungia petraea*), round-leaved wintergreen (*Pyrola rotundifolia*), variegated horsetail (*Equisetum variegatum*), rock sea-lavender (*Limonium binervosum*), sea stock (*Matthiola sinuata*) and fen orchid (*Liparis loeselii*). The site also supports separate dune invertebrate assemblages and independently qualifying invertebrate species feature – a rare strandline beetle (*Eurynebria complanata*). Further details of the invertebrate assemblages found here are given in paragraphs 12.4.5.26-12.4.5.36 [APP-189]. The location and extent of Crymlyn Burrows SSSI is shown on ES Figure 8.3 [APP-259].

Impacts

- 4.11.3 The ES [APP-259] identifies that coastal processes will begin to change as soon as the first section of the lagoon wall are constructed. Coastal process modelling suggests that there will be a build-up of sandy sediment along the outer edge of the eastern lagoon seawall, as well as towards the western edge of Crymlyn Burrows. Computational fluid dynamic modelling of south-westerly wind flows also suggested a slight reduction in velocity at ground level within 100m of the lagoon wall. It is likely that an intertidal sand ridge would culminate in new foredune/mobile dune habitat adjacent to the eastern landfill of the lagoon at the western edge of Crymlyn Burrows SSSI.
- 4.11.4 Supply of windblown sand to the western edge of Crymlyn Burrows SSSI is not expected to significantly change during construction.
- 4.11.5 The qualifying features of Crymlyn Burrows SSSI include saltmarsh; sand dune and; important invertebrate assemblages, in addition to specific invertebrate interest due to the strandline beetle. Their predicted changes are tabulated below.

Qualifying Feature	ES Expected/Predicted Changes
Saltmarsh	Predicted changes do not appear likely to alter the flow of water into the saltmarsh habitat associated with Crymlyn Burrows during tides
Sand-dune	No net loss of sand-dune communities (strandline, foredune, mobile dune, fixed dune and dune slacks) is envisaged based on modelling results, particularly given that a net gain of sediment is expected. However, it is likely that the strandline and mobile dune frontage will change in shape reflecting the physical presence of the lagoon seawall and deposition at its outer edge.
Invertebrate Assemblage	The bulk of habitat is expected to remain unchanged and therefore modifications to the invertebrate assemblage would not be expected. Sand accretion at the outer edge of the lagoon wall would be expected to change the position of the strandline. However, a dynamic strandline and the invertebrate assemblage associated with it is expected to remain.
Eurynebia complanata	This predatory ground beetle is closely associated with beach detritus as the high tide line of some sandy beaches. A reduction in the available strandline habitat at Crymlyn Burrows is not expected and therefore an impact on the strandline beetle is also not expected.

- 4.11.6 The significance of the potential impact of coastal processes upon this receptor of national importance during construction was considered neutral in the ES.
- 4.11.7 The applicant prepared a further briefing note in response to a request by the Panel following the ISHs on the 21-23 October 2014, which acknowledged the difference of opinion between NRW and its technical advisors and itself on these matters [REP-954].

Disturbance to the SSSI from the cable route

- 4.11.8 Construction work necessary for laying the cable and grid connection for the export electricity generated by the project would directly affect the northern fringes of the SSSI. The route of the cables is shown in Figure 4.19 [APP-181]. In the ES chapter on the Project Description [APP-181] two options were considered for routing in Section 4 of the cable route (which is the section between Fabian Way and the west side of the River Neath). The two options were (1) following the southern verge/cycle path along Fabian Way; or (2) following a track through Crymlyn Burrows SSSI. For both options, if the existing pipework could not be used as ducting under the River Neath, then directional drilling would be required.
- 4.11.9 The ES explained that cable installation would result in the creation of a 10-15m wide easement over an 1850m SSSI cable run, excluding the area covered by a linear track, temporary loss or disturbance of between 11,600m² and 20,500m² of existing fixed dune grassland habitat would result. In addition, a compound of 40m by 40m would be required to intercept or launch the directional drill between the SSSI and the eastern bank of the River Neath. Mitigation proposed to limit disturbance to the SSSI is described in paragraph 12.5.4.22 [APP-259]. It would include the use of the metalled track for site access for eastern sections of the SSSI, seasonal timing of construction activities during autumn/winter months when vegetation is relatively inactive, minimizing the time working in sensitive habitats (progressing at 30-40m per day), use of geotextiles or ground protection mats for topsoil and subsoil storage to reduce compaction and tracking over habitats, storage of topsoil and subsoil separately, use of trenching immediately adjacent to the track to reduce the temporary loss of habitat and the re-instatement of the disturbed area.
- 4.11.10 By utilising cable route 1, which would involve installing the cable in a trench in the region of 70cm wide over 1km of verge along Fabian Way, the impacts on the SSSI would be further reduced. Mitigation measures for this conservation verge would be the same as those proposed for the cable corridor in the SSSI, so that the impacts upon the conservation verge would be minor adverse in the short term to no impact in the medium term.

- 4.11.11 The ES considered that the construction activities associated with the cable route would result in minor adverse impacts in the short term and no impact in the longer term on this receptor of national value.
- 4.11.12 At the ISH of the 17 September 2014, the applicant confirmed that the cable would be routed through the Fabian Way pavement/cycle-track rather than through the SSSI. The applicant's note of this hearing [REP-768] provided plan details of the proposed cable easement between the SSSI and the west side of the River Neath. Paragraph 7.4.1-7.4.2 of this note explained that there would be disturbance to a total of 0.84ha of the SSSI from the cable route.

Representations

- 4.11.13 NRW and their advisors, Kenneth Pye Associates Ltd (KPAL) expressed concerns at the ISHs on the 16 September 2014 and 21 October 2014 as well as in their summary of case [REP-831] that further baseline information on coastal processes would be necessary to ensure that a robust EIA is undertaken. Their concerns focused on several matters including that the presence of the lagoon walls and changes to the Neath training walls could lead to a sheltering effect on the foreshore and frontal dunes of Crymlyn Burrows SSSI, leading to a loss of dynamism and increased stability with potential adverse effects on the foreshore and foredune habitats and associated species, including the following:
- Reduction in supply of wind-blown sand to the frontal dunes;
 - Reduction in wave action resulting in accumulation of sediment, including areas of muddy sand in the intertidal zone; formation of one or more sand bars with windblown sand and areas of muddy sand behind attached to the eastern lagoon wall. The differences of opinion between the applicant and NRW's advisors related to the magnitude of the effect and the consequences for the mobility of foreshore and frontal dune features as well as a reduction in wave energy across the Crymlyn foreshore caused by an increase in height of the western training wall which would cause waves from any direction to break;
 - Less frequent/intense erosion of the frontal dunes and lower mobility of the intertidal sand bar features due to a reduction in wind-blown action;
 - A reduced influence of salt-spray on frontal dune vegetation;
 - These would lead to a reduction in ecological and geomorphological dynamism of the system.
- 4.11.14 During hearings held on 29 July 2014 and 22 October 2014 and their written summary of the oral case put before the Examination [REP-839], it was explained that SUBC is responsible for the management of Crymlyn Burrows SSSI. In the ISH of the 22 October 2014, SUBC

requested that requirements are included in the DCO that ensure that an assessment of the impact of the development on the management of the Crymlyn Burrows SSSI is carried out and that measures are agreed with the landlord to reimburse its additional management costs of the Crymlyn Burrows SSSI as a result of the impact of the development [REP-839].

- 4.11.15 NPTCBC, in their LIR, expressed concerns about the impacts that the development would have on this SSSI [REP-565].

Further mitigation

- 4.11.16 The applicant, whilst not agreeing with NRW's predicted impacts upon Crymlyn Burrows SSSI, has agreed to undertake the further monitoring and mitigation necessary to address these concerns within the draft AEMP of 25 November 2014 [REP-922] at Table 5.1 and Table 11.1. The AEMP states, "should any of the effects identified in the NRW scenario become apparent on Crymlyn Burrows intertidal zone, strandline, embryo or shifting/mobile dune features of the SSSI due to the presence of the lagoon, then a range of management measures to address the impacts would be considered, subject to peer review and any interventions agreed with NRW".
- 4.11.17 There was difference of opinion regarding the predicted effects of the project upon Crymlyn Burrows SSSI and the significance of those effects. However, the environment at Crymlyn Burrows is a dynamic one, which is changing because of coastal processes. The Panel considers that the identified further monitoring and mitigation in the 28 November 2014 version of the AEMP [REP-922], in relation to Crymlyn Burrows is the correct way to monitor and manage any impacts to the SSSI arising from the development. This also gives the parties concerned a degree of responsiveness in that the AEMP will be regularly reviewed and updated and it contains provisions for long-term monitoring of change. Annual topic reports would be provided to NRW and the LPAs and trigger levels will be constantly reviewed. In the event of unpredicted results during monitoring, a device for rapid action in the form of a 'Summary Information Action Sheet' AEMP paragraphs 3.3.0.4 and 3.4.0.2 would be implemented.

Reasoning and conclusion

- 4.11.18 The Panel acknowledges that the magnitude of impacts upon Crymlyn Burrows SSSI remained under debate and unresolved at the close of the Examination. However, in view of the dynamic, changing nature of the environment prior to any intervention by new built development, the Panel considers that the monitoring and mitigation measures proposed in the AEMP are realistic and proportionate. Whilst there may be some long-term changes at Crymlyn Burrows SSSI due to the project construction, adaptive management gives a credible and deliverable range of mechanisms for ensuring that any changes to the range of existing qualifying features are minimised. The Panel concludes that, so long as the range of mitigation measures included

in the AEMP is available and implemented as and when necessary, throughout the operation of the project, and during decommissioning, residual impacts upon the integrity of the SSSI would be minimised.

BLACKPILL SSSI

- 4.11.19 The ES chapter on terrestrial ecology (6.2.12) [APP-189] gives a summary of the reasons for designation of Blackpill SSSI. It is notified for its importance as an over-wintering and passage site for waders, particularly ringed plover (*Charadrius hiaticula*) and sanderling (*Calandris alba*), supporting <1% of both British and western European populations and making the bay of international importance for these species. The site is also considered of local importance for oystercatcher (*Haematopus ostralegus*), grey plover (*Pluvialis squatarola*), bar-tailed godwit (*Limosa lapponica*), knot (*Calidris canutus*) and dunlin (*Calidris alpina*).
- 4.11.20 Its terrestrial ecology interests are limited to dune habitats which fall within the SSSI boundary but which is otherwise located between hard-engineered sea defences and the SSSI [APP-189].
- 4.11.21 Its location and extent are shown on Figure 8.3 [APP-259].

Impacts

- 4.11.22 Construction of the Project would interrupt aperiodic transport of sandy materials from the eastern part of the bay to the west, leaving direct transport from offshore during south-westerly and south-easterly storms as the primary source of sand. Blocking of more intermittent sand supply appears likely to lead to a more stable profile in future. However, the ES does not predict impacts to suspended solid concentrations or sediment deposition during the construction phase of the project [APP-183].
- 4.11.23 An indirect impact upon Blackpill SSSI would occur as the construction nears completion, through a 1-2cm increase in low water levels across the western areas of Swansea Bay. This would result in the loss of 2.88ha of intertidal habitat within Swansea Bay and a 0.62% loss of this habitat within Blackpill SSSI (which is 467.4ha). The ES does not consider that this loss would affect the integrity of the SSSI.
- 4.11.24 Potential impacts during construction relate to the interruption of sand sediment supply (from east to west). This has the potential to result in a reduction in sand supply to the western region of Swansea Bay under certain storm conditions, which may lead to a small, long-term erosion of sandy beaches within the upper extent of the intertidal zone. The ES considers the significance of this change to be neutral, equating to no impact upon this receptor of national importance.

Representations

- 4.11.25 The main concerns raised about Blackpill SSSI during the Examination were in relation to the possible change of substrate of the inter-tidal

zone, with NRW and their advisors anticipating that sand would be replaced by muddy sand and mud. At Deadline VI (25 November 2014) NRW stated that they have expressed concern about the efficacy, practicality and desirability of the applicant's proposal for mitigating against adverse consequences of potential mud accretion within the western bay by dredging/scraping the intertidal areas to remove deposited muds, its potential adverse ecological impacts and whether it would mitigate potential adverse impacts to the SSSI features has also been raised. They also questioned the sustainability of this measure. Neither the applicant nor NRW were aware, at the time of the Examination, of alternative mitigation measures for mud accretion of this nature. Therefore in the absence of an agreed, effective method of mitigating for intertidal mud accretion in northwest Swansea Bay including Blackpill SSSI they are of the view that this should be considered as a potential adverse effect of the Project and whilst mitigation should continue to be explored, compensation measures should be actively considered [REP-907].

4.11.26 NRW [REP-907] stated that they welcomed the inclusion of requirement 39 in the Panel's Consultation Draft DCO [PD-020]. However, although all potential mitigation measures should be considered and assessed they advised that if increased mud accretion in the Western Swansea Bay did occur in line with their view on potential impacts, there is no proven mitigation measure that they are currently aware of. If a decision is therefore made to issue a DCO then it should be made on the basis that their potential predicted impacts may occur and that no mitigation may be possible, as such there exists a residual risk to the SSSI.

4.11.27 CCSC also raised concerns about the loss of sand over this part of Swansea Bay, the replacement of sandy areas with muddy sand or mud and the impacts that this would have upon tourism and existing recreational uses of the beach areas. In its SoCG with the applicant [REP-899], it states, "CCSC does not agree that the effect of deposition of mud, sandy mud and muddy sand upon strandline habitats and receptors has been fully assessed or that its effects upon birds and their prey can be fully mitigated. CCSC considers that baseline data is required in relation to morphological features and sediment types".

Further mitigation including recommended changes to the DCO by the Panel

4.11.28 The AEMP version of 25 November 2014 [REP-922] contains further mitigation to address issues of habitat change including beach replenishment (section 5.3), even though the ES does not predict the potential scenarios which require this mitigation would arise. The matters of concern to CCSC have been addressed through a requirement in the DCO [REP-1002], for the provision of a beach mitigation strategy for North West Swansea Bay (requirement 36) to be approved by the LPA prior to the operation of the authorised development. The requirement includes the need for the applicant to

provide for regular monitoring of beaches in north-west Swansea Bay throughout the operational, decommissioning and post-decommissioning phases of the development with flexibility to select the most appropriate mitigation measures from the identified options which may include sediment nourishment, sand or mud removal, vegetation removal or spraying, and construction of sand fences or other forms of physical barriers to control wind-blown sand. Whilst this specifically does not refer to the conservation requirements at Blackpill SSSI, the Panel is satisfied that the LPA, working in conjunction with NRW can use requirement 36 together with the monitoring and mitigation that is proposed within the AEMP, to ensure that impacts of the development upon Blackpill SSSI are managed and minimised.

Reasoning and conclusions

- 4.11.29 The Panel understands the concerns raised by NRW and CCSC and accepts that the development could result in a residual risk of unpredicted habitat change, including the spread of mud and muddy sand habitat. However, the likelihood of that risk occurring has not been quantified. The Panel considers that the protective requirement in the DCO for North West Swansea Bay (requirement 36), together with the monitoring and mitigation proposals for Blackpill SSSI in the AEMP are deliverable and proportionate. The Panel considers that any long-term impacts upon the SSSI can be minimised through the implementation of the measures that this requirement and AEMP contain.
- 4.11.30 The Panel concludes that, after mitigation, there is a risk that sandy habitats may change to muddier ones and as the mitigation proposed if this situation arose is unproven, there is a further risk that the mitigation may not be effective. There is therefore a residual risk to the SSSI that it may be significantly affected by the development. However, the likelihood of this occurring has not been quantified. If these changes did occur and the mitigation was not effective there is a risk to the features of the SSSI as well as its integrity.

KENFIG POOLS AND DUNES SSSI AND NATIONAL NATURE RESERVE (NNR)

- 4.11.31 NRW confirmed at the ISH of the 16 September 2014 that the features of Kenfig Pools and Dunes SSSI and NNR that are of conservation importance are the same as those for the Kenfig SAC and the boundaries of the two designated areas (one an internationally designated site and the other a nationally designated site) are effectively the same [REP-748]. It is not necessary therefore to describe here the impacts, representations and mitigation for Kenfig Pools and Dunes SSSI as these matters are the same as those described for Kenfig SAC.

SWANSEA BAY SINC

- 4.11.32 A brochure containing details regarding the Swansea Bay Site of Importance for Nature Conservation (SINC) was circulated at the accompanied Site Inspection on the 30 July 2014. The brochure is entitled, 'Swansea Bay The Wildlife on Your Doorstep' and at the time of writing this report, could be downloaded from the Swansea Council website at the following web address:
www.swansea.gov.uk/article/2874/Swansea-Bay
- 4.11.33 The SINC includes all of the Blackpill SSSI, a small area beyond the southern limit of the SSSI covering the coastal area around Knab Rock and the coastal area to the north of Blackpill SSSI as far east as the western bank of the River Tawe.
- 4.11.34 The applicant provided details regarding the Swansea Bay SINC at Deadline IV (7 October 2014) [REP-806]. It was understood that Swansea Bay may have been a candidate SINC until a recent review. Within the ES the only SINC feature that had been previously and specifically identified within Swansea Bay relating to sand dune habitat fronting the maritime quarter, immediately west of the River Tawe. However, all dune habitats not falling within statutorily designated sites were considered and as such, the SINC was assessed.
- 4.11.35 The SINC covers the main Swansea Bay beach area, encompassing sand dunes and the intertidal area with associated marine and ornithological interest. Some of these habitats and species are also covered under national statutory designations or legislation, including Blackpill SSSI, UK Biodiversity Action Plan (BAP) habitats and species. In terms of terrestrial ecology, the sand dune habitats including communities associated with Swansea Bay SINC are described in 12.4.5.43 of the ES [APP-189] as sand dune habitat outside statutory designated sites, and the habitat is included as a key ecological receptor of county importance.
- 4.11.36 A walkover survey conducted on behalf of the applicant in September 2014 [REP-806] recorded many key species including sea stock (*Matthiola sinuata*) and prickly sandwort (*Arenaria paludicola*) in addition to many of the locally common species listed in the SINC citation. The note identified that the winter storms of 2013/2014 had removed much of the pioneer sand dune habitat fronting hard engineering sections of the western bay or resulted in steep erosional fronts to dunes. Habitat supporting some species was also removed during the storms, for example, dune vegetation previously supporting small-flowered catchfly (*Silene gallica*) was reported to have been washed away. However, CCSC disagreed with this; their Deadline V (28 October 2014) representation [REP-828] stated that they had not seen any evidence to support the assertion that dune vegetation previously supporting small flowered catchfly was washed away.

- 4.11.37 Matters including impacts, representations and mitigation related to Blackpill SSSI are described above and so this part of the report will consider only to the non-SSSI parts of the locally designated site.

Representations

- 4.11.38 CCSC [REP-828] did not agree with the applicant on their assessment of 'no significant impacts' that the project would have upon sheltered muddy gravels SINC habitats. This issue remained unresolved as part of the wider issue on coastal processes.

Reasoning and conclusions

- 4.11.39 This section will only consider the impacts and mitigation for the areas of the Swansea Bay SINC that are outside the SSSI. The Panel considers that the suite of mitigation which is agreed within the AEMP and the CEMP, together with the requirements relating to this area of Swansea Bay (requirement 36) [REP-1002] are adequate and proportionate for the impacts that are forecast as well as those that are not anticipated by the applicant. It is concluded that the development would give rise to a significant impact upon the SINC area, due to loss of habitat. Through mitigation, the overall impacts upon the SINC habitats will be minimised, as far as is practicable. The Panel concludes that the loss of SINC habitat is a matter to be weighed in the planning balance.

4.12 CONSTRUCTION IMPACTS IN RELATION TO LAND-BASED RECEPTORS

- 4.12.1 This section considers construction impacts in relation to land-based receptors. It considers the construction process and associated impacts from noise and vibration (in relation to human receptors), then reviews transport and traffic impacts during the construction process, it reviews air emission impacts and then considers issues in relation to statutory nuisance.
- 4.12.2 In the Initial Assessment of Principal Issues the Panel identified the effects of the construction phase (alone and in combination) with developments such as SUBC; SA1 Development, Coed Darcy Urban Village and marine projects in terms of lorry movements, noise, dust and vibration during the construction phase.
- 4.12.3 A draft CEMP was submitted with the application [APP-330] and this was expanded and updated as the Examination progressed with the final draft version being submitted to the Examination on the 4 December 2014. [REP-1107]. Requirement 6 of the 4 December 2014 DCO [REP-1002] requires the CEMP to be submitted and approved in writing by the relevant planning authorities in consultation with NRW prior to any work commencing.

CONSTRUCTION, NOISE AND VIBRATION (IN RELATION TO COMMUNITY RECEPTORS)

Introduction to the construction process

- 4.12.4 ES chapter 4, entitled the Project Description [APP-181] section 4.6 identifies that the construction phase would require approximately 7,700,000m³ of sediment and this would be obtained from an area within the proposed lagoon. The construction method would use Geotubes filled with the locally sourced sediment. Rock armour and rock underlayer for the project walls would be derived from a hard rock quarry in Cornwall, which has the benefit of an extant planning permission and a jetty for the export of materials off site by sea. Approximately 2,790,000 tonnes of hard rock would be needed for the lagoon walls and this would be transported by 10,000t barges from the Cornish quarry, giving rise to approximately 5 barge deliveries of rock per week during the three year construction period.
- 4.12.5 Temporary elements of the Project required for the construction phase would include the formation of temporary construction compounds in Swansea Port including a concrete batching plant (which would work 24/7), offices, stores, car parking and a plant yard [APP-181]. A lagoon access road would be constructed to provide vehicular access through the port area to the south of Queen's Dock, via the Fabian Way junction known as the Park and Ride/McDonald's junction. Other construction works aspects which were considered in the noise assessment, included the landfall works and the construction of the cable route.
- 4.12.6 The applicant confirmed [paragraph 2.3.3 of REP-768] that the turbine fabrication facility would be located off site and that this is not a part of the proposed development.
- 4.12.7 Offshore, gantry cranes would be installed in the location of the turbine housing unit. Temporary rock store areas of 400m by 400m by 3m high adjacent to the western seawall and 250m by 250m by 3m high by the eastern seawall would be required during construction [APP-181]. The Project construction phase would take three to four years.

Cable Route

- 4.12.8 The electrical output generated by the turbines would be transferred to Baglan Bay substation to the east of the River Neath. The route of the grid connection is described in ES chapter 4, section 4.3.4 [APP-181]. The ES states in section 19.5, that the noise levels from these works would be transient as work progresses along the path of the cable route and would be no louder than typical roadwork activities, and would be undertaken only in daytime. They would not be expected to have a significant effect upon receivers.
- 4.12.9 Where the cable route runs under the River Neath, the applicant proposed to use either existing conduits or to directional drill beneath

the river. During the Examination, the applicant confirmed that directional drilling would be necessary [REP-768]. Underwater noise levels arising from the directional drilling would result in very low levels of noise on the river-bed whilst directly above the noise source. These levels would be only slightly higher than the background noise levels and so impacts on underwater receivers in the river could be considered to be so low that they can be discounted [APP-196, para 19.5.1].

Extension of the Dwr Cymru Welsh Water (DCWW) outfall pipe

4.12.10 Chapter 4 of the ES [APP-181] explained that the long sea outfall from Swansea Bay Waste Water Treatment Works (WWTW), owned by DCWW terminates in the proposed lagoon area. The outfall discharges a high quality tertiary treated ultraviolet (UV) disinfected final effluent. After heavy rainfall there is the occasional discharge of screened storm water from the long sea outfall. At the time of the application, two options were proposed for dealing with water quality enhancement works, in order to ensure that an appropriate standard of water quality would be maintained all year round in the lagoon to enable water contact sports to be carried out. The two options were:-

- UV disinfection of the storm water; or
- Extension of the existing long sea outfall beyond the seawall of the lagoon by approximately 1.5km.

4.12.11 The applicant explained in its response to the Panel's Q3.15 on this matter [REP-519] that following submission of the application documents, further discussions were undertaken with DCWW who raised concerns about longer-term water quality management issues and future responsibilities. NRW, CCSC and the Port Health Authority at that time had all agreed that their preferred engineering solution would be the extension of the existing outfall. As a result of these discussions, the applicant had removed the proposal for UV disinfection of the storm water and the UV treatment works and decided on the option of extending the long sea outfall beyond the seawall of the lagoon.

4.12.12 The Panel notes that Work No.3 in the applicant's final draft DCO [REP-1002] Schedule 1, Part 1B (Ancillary and Necessary Work) is for the burial of the extension of the long sea sewage outfall and replacement of diffuser apparatus and all works related to the UV treatment plant have been removed from the DCO. The Panel agrees that the extension of the long sea outfall is the better solution to ensure that a high standard of water quality within the lagoon is maintained.

Other work to support the project

4.12.13 The Panel notes that other permanent works would need to be carried out to enable the construction of the lagoon. These comprise the

demolition of the Eastern Breakwater at the entrance to the River Tawe and the realignment of the eastern training wall at the entrance to the River Neath estuary. If possible, the Harbour Light, which is located at the end of the breakwater would be retained and relocated [APP-181, paragraph 4.3.10]. The new River Neath eastern channel training wall is Work No.4 in the draft DCO [REP-1002].

Vibration impacts on land based receptors resulting from piling

- 4.12.14 At Deadline VI (25 November 2014), the applicant clarified the position on piling [REP-938], explaining that the piling for the slurry wall would be 'terrestrial piling' (that is on top of the sediment bund) although this would be undertaken on an area temporarily reclaimed from the sea, rather than on land. The slurry wall is situated in the bund wall which would form the area where the turbines would be housed. This piling would consist of sheet piles, which would be jetted/vibro piled into position and not percussion piled. This piling would give rise to noise levels which would not be significant enough to cause material effects and no specific mitigation other than the use of these piling techniques would be required. Noise from this piling would be lower than the noise levels arising from the installation of twin sheet piles for the cofferdam, which were originally assessed in the ES, but no longer forms a part of the application for the DCO. The piling for the slurry wall would have to be installed at the same rate as the lagoon wall is being built for safety reasons and therefore it would have to be carried out 24/7 (its construction could not be delayed by only doing this activity in daylight). The construction of the slurry wall would take 6 weeks.
- 4.12.15 The locations of piling necessary for the construction of the development are shown on the updated piling plan [REP-813].
- 4.12.16 All other piling required for the construction of the facility (which would be marine piling, as shown on the Piling Plan), would be undertaken during the hours of daylight and in good visibility only, as specified in the CEMP version of the 4 December 2014, Part C, paragraph 5.0.0.3 [REP-994].
- 4.12.17 Impacts from piling are documented in the ES chapter 19 [APP-196], as well as in the note from the applicant [REP-938]. Piling was considered to be the highest energy noise source during the construction process. Noise sources such as concrete batching would transfer considerably lower levels of energy into the ground and hence disturbance to sensitive receptors would be at lower levels. Due to the very large distances between the construction activities (concrete batching area and offshore piling) and residential and other buildings, vibration due to piling or other construction activities were considered to be imperceptible at receptor locations, and therefore generate no impacts.

Construction phase noise - background and impacts

- 4.12.18 EN-1 section 4.14 explains that it is very important that possible sources of nuisance under section 79(1) of the 1990 Act are considered and how they can be mitigated or limited so that appropriate requirements can be included in the DCO. Section 5.11 explains that operational noise, with respect to human receptors should be assessed under the principles of the British Standards (for example BS4142:BS6472 and BS8233) and other guidance.
- 4.12.19 In Section 19.8 [APP-196], the ES assesses the noise and vibration impacts of the construction, operation and decommissioning on nearby noise sensitive receptors. In addition, underwater noise source levels had been calculated and predicted noise levels at a range of distances. Onshore works had been assessed in relation to nearby receivers for both daytime and night time works and no impacts were shown in most instances. The potential impacts of offshore construction works include those arising from piling, dredging, unloading of rock armour and the installation of turbines.
- 4.12.20 The Panel asked questions on these matters [PD-010]; questions 3.1-3.5 (construction) and 10.13-10.17 (noise and vibration). The applicant in response confirmed that the noise assessment would represent a realistic worst-case scenario and listed the plant and operations that were included in the noise assessment predictions. [REP-526]. These matters were also discussed in the ISHs on 23 September 2014 and 21 October 2014.
- 4.12.21 Construction noise arising during daytime workings would be assessed using the Fixed Limits methods within Annex E2 of BS 5228-1:2009. Typically, on construction sites, noise limits for works are set to avoid interference with speech in nearby buildings. Annex E2 provides advice on suitable maximum levels of site noise during daytime hours (07:00-19:00). The guidance states that external noise levels outside the window of the nearest noise sensitive room should not exceed 75dB(A) in urban areas near a main road or in heavy industrial areas and 70dB(A) in rural, suburban areas away from a main road and industrial roads. For daytime construction noise assessment, due to the location of Fabian Way and the nearby docks, the receivers at Baldwin's/Elba Crescent were assessed against the 75dB(A) criterion, for all other receivers, the 70dB(A) criterion had been used.
- 4.12.22 The ES identifies that the daytime background noise environment at nearby sensitive receptors varies between 43 and 63dB(A) Laeq and between 47 and 58dB(A) Laeq at night-time with a minimum LA90 of 32dB(A) at night-time which was measured at the northern boundary of the SUBC site. Existing ambient noise levels are dominated by traffic noise from the A483 and surrounding roads, with a contribution from rail noise at the eastern receivers and noise from the sea at many of the receivers on the sea front [APP-196, section 19.4.2].

- 4.12.23 Onshore works, where possible, would only be undertaken during the daytime and hence most noise assessments were made against daytime noise levels, whereas work at sea would be dictated by tides and weather and, as such, could well be undertaken 24 hours a day [APP-196, section 19.3.4].
- 4.12.24 All road traffic access to the site would be along Fabian Way, which currently has high traffic flows and is a considerable distance from nearby dwellings. Vibration levels due to traffic related to the construction site were considered to cause an imperceptible change and are considered by the applicant to be entirely acceptable [APP-196, section 19.5.4].
- 4.12.25 In cases where impacts were identified, practical mitigation measures were proposed. The noise impacts from offshore works were assessed for terrestrial receivers. Due to the very large distances involved, all activities were shown to have no appreciable impact on the receivers during both daytime and night-time works. Noise generated by the operation of the project was shown to have no negative impacts on receptors. Overall, the case for the applicant on noise and vibration impacts was that their impacts relating to all aspects of development on land-based receptors were likely to be negligible.

Representations on land-based noise and vibration impacts

- 4.12.26 Jill and Brian Burgess [REP-674], expressed concerns about the impacts of 24/7 piling on the residents of Mumbles, situated 2.2 miles away from the works. They also expressed concern about the lack of attention that the applicant gave to sound emission and impact upon the immediate population. They explained that noise emissions from a recent piling project for the new lifeboat station at Mumbles Pier was invasive, but short lived and necessary for its purpose, whilst the piling proposals for TLSB would be major and over a considerable period which would have a severe impact on the mental well-being of the community and given the amphitheatre topography of the bay, which would be experienced by other communities.
- 4.12.27 Swansea University raised concerns in their WR [REP-488] and during the ISHs of the 16 September 2014 [REP-766] and 23 October 2014 [REP-839] that noise and vibration from the construction phase may impact upon the new Bay campus after it starts to be used in September 2015. In particular, there will be about two thousand residential students there and ten thousand people living and working at the Bay Campus. The University's concerns were firstly that it would have a duty to ensure that these people are safe and can continue their day-to-day business without interruption. Secondly, the impact of vibration on highly sensitive scientific equipment in the University's College of Engineering was a concern. They considered that the applicant had failed to assess the impact of the development on the use of such equipment or to have regard to the use that the University will make of the Bay Campus [REP-839].

- 4.12.28 However, the applicant considered that the University's concerns over noise emissions were unfounded on the basis of the distance of the piling operations (some 4.5km) from the University (ISH of the 23 October 2014 reported in [REP-766]).

Mitigation

- 4.12.29 The applicant's final draft DCO [REP-1002] includes a requirement 18, which requires the applicant to prepare a written scheme providing for the monitoring of noise generated during the construction and for it to be approved by the Local Planning Authorities (LPA) prior to the commencement of the development. Requirement 19 requires the applicant to prepare and have approved by the LPA, a piling method statement prior to the commencement of any piling activities as shown on the certified plan TLP-SWANSEA BAY -14003-VO.2. In addition, noise mitigation methods that are to be implemented during the construction phase are detailed within the CEMP, which is to be approved by the LPAs prior to development commencing.
- 4.12.30 To protect the amenity of residents in the SUBC in particular, the Panel recommends that the final version of the DCO includes, in requirement 5 regarding Construction and Operation Environmental Management Plans, a clause to ensure that when working outside the hours of daylight, or on weekends or bank holidays, reversing beepers utilised on HGVs and mobile plant operating on the development site the site must not be audible beyond the site boundary. Whilst this matter was included in the final draft version of the CEMP [REP-994], the wording in that document stated that this would happen 'where practicable'. The Panel considers that this should be an absolute requirement to protect the amenity of local communities including those at SUBC.
- 4.12.31 Requirement 5 (5), requires that reversing alarms which are not audible at the boundaries of any nearby noise sensitive properties, including the residential areas within SUBC, must be fitted and used on any HGVs and mobile plant that are active during the construction phase during hours of darkness, weekends (Saturdays and Sundays) and bank holidays.

Conclusion

- 4.12.32 Piling activities would be short term, undertaken normally during hours of daylight only and would be remote from sensitive receptors on shore. The Panel is satisfied that the construction controls that are identified within the DCO as well as those within the CEMP are appropriate and necessary. The Panel considers that the proposed additional part of requirement 5 specified above is essential to protect the amenity of human receptors, in particular the residents at SUBC. The mitigation measures with regard to the monitoring and control of noise and vibration from piling, when implemented, would ensure that environmental impacts that arise during the construction phase in relation to land-based receptors are adequately controlled and

mitigated. The Panel concludes that there would not be a significant impact upon human receptors arising from construction and piling.

TRAFFIC AND TRANSPORT

- 4.12.33 The applicant's road transport assessment is contained in chapter 6.2.15 of the ES [APP-192]; chapter 6.2.16 of the ES contains the applicant's air quality review [APP-193].
- 4.12.34 The Panel asked questions on these matters (Q10.4-10.12) [PD-010], with questions directed to the applicant and IPs including, but not limited to the CCSC and NPTCBC. Matters relating to transport were discussed in the ISHs on the 23 September 2014 and the 21 October 2014.

Impacts including mitigation

- 4.12.35 Whilst the ES project description (chapter 6.2.4) [APP-181] identified that it may be possible to import some construction materials into the development site by rail as there is an existing railhead in Swansea docks, the ES transport assessment was based on the 'worst case scenario' of road based transport being necessary for the materials required for the concrete plant [APP-192] and all other construction materials apart from the sea-borne hard rock materials and Geotubes which would be used to construct the lagoon walls [APP-181]. During the Examination it became clear that the use of the railhead for importation of construction materials was unlikely and so the Examination progressed on the basis that construction materials needed for the concrete plant would be brought to the site by road.
- 4.12.36 Vehicle access for the Project would be via the Fabian Way/Langdon Road/Park and Ride junction (junction 3). Vehicle access is shown on Figure 15.6 [APP-192]. At the roundabout to the south of this junction, traffic would turn east along Langdon Road. From the eastern end of Langdon Road, a new road to link to the south side of the Port and Queen's Dock will be provided, as well as a new coastal access road extending to the western landfall of the lagoon. From Langdon Road, the route would turn south and then east, running parallel to and immediately north of the existing port access road, before running to the boundary of the existing WWTW. From here, the existing port road would be moved south and the lagoon access road would continue past the entrance to the WWTW.
- 4.12.37 Approximately 50m east of the entrance to the WWTW, the lagoon access road would turn south crossing the port access road by a priority junction, and extend west along the south of Queen's Dock. A new port security entrance would be created and the existing security gatehouse will be relocated to the west of the lagoon access road. Access to the port would continue to be from Baldwin's Bridge junction.
- 4.12.38 The lagoon access road would also include facilities for pedestrians and cyclists along its entire length in the form of a Shared Use Path

(SUP) which would be 3m wide, flat and for the vast majority of its route, segregated from the vehicular carriageway by a 1m wide grass separation strip.

- 4.12.39 The ES identifies that construction phase traffic would result in an increase in daily traffic of up to 2.6% on Fabian Way to the east of the Park and Ride junction (Junction 3), and up to 0.7% to the west. On Langdon Road, traffic is predicted to increase by 11.4%. In terms of HGV traffic, there would be an increase of approximately 12% on Fabian Way to the east of Junction 3. On Langdon Road HGV traffic will increase by 16%. Whilst construction traffic would have a negligible impact on the current morning and afternoon peak hour traffic flows, there would be increases in flows prior to the morning peak and after the evening peak. Construction traffic is therefore expected to have a short-term minor adverse impact on the local highway network.
- 4.12.40 It is not anticipated that many of the construction staff would travel by bus and instead the focus would be on promoting cycling and car sharing. The impacts arising from the construction phase on public transport is considered to be negligible.
- 4.12.41 There would be some impact on amenity for existing cyclists due to the increase in traffic on roads leading to the Project area, particularly along the short length of Langdon Road to the east of Junction 3. However, a segregated pedestrian/cycle lane would be provided on the new roads constructed within the Project area and along a portion of Langdon Road. The ES considered the impact of construction traffic upon pedestrian and cyclist amenity to be negligible.
- 4.12.42 The applicant's final draft DCO [REP-1002] includes a requirement in relation to construction traffic (R21) which specifies that the applicant must submit and have approved in writing (by the relevant LPAs) a Construction Traffic Management Plan (CPTMP) prior to the commencement of the development. Amongst other matters, the CPTMP must make provision for the importation of rock armour and sediment only by sea, and the avoidance of HGVs entering and leaving the development site between the hours of 0800-0900 and 1600-17:30.

Representations

- 4.12.43 Royal Mail's (RM's) WR [REP-756] submitted to the Examination for Deadline IV of the 7 October 2014 raised concerns about traffic impacts causing disruption to its services during the construction phase as well as the routing of HGVs delivering construction materials from the motorway to the development site. Their principle concerns were in relation to traffic impact on Fabian Way (which in their view is already close to capacity at peak hours) and the potential for additional congestion in Swansea City Centre caused by construction traffic.

- 4.12.44 RM had reservations regarding whether the ES conclusion that construction traffic would have a short term minor adverse impact on the local highway network would, in practice, be the case. They were concerned that their ability to provide an efficient mail sorting and delivery service from their six depots in the Swansea area may be adversely affected.
- 4.12.45 A SoCG between the applicant and CCSC, which included road transport matters, was prepared during the Examination and the final signed version of 25 November 2014 was submitted to the Examination for deadline VI [REP-899]. A further SoCG between the applicant and NRW on matters of on-shore noise, traffic, dust and vibration was prepared during the Examination and the final version dated 27/28 October 2014 was submitted for deadline VI (25 November 2014) [REP-855].
- 4.12.46 CCSC agree in the SoCG that the Transport Assessment is sufficient, except it has agreed with the applicant that additional mitigation to cover any residual impacts from traffic will be available in the form of improvements to the Park and Ride and Port Tennant Junction by securing funding in the S106 agreement. It was also agreed in the SoCG with CCSC that there is no need to impose requirements to control construction traffic, save at peak times between 08:00-09:00 and 17:00-18:30. This is secured in the applicant's final draft DCO requirement 21 [REP-1002]. It was also agreed that there is to be a contribution of £187,000 towards the Fabian Way corridor study, to be secured through an obligation in the S106 agreement.
- 4.12.47 CCSC also agreed in the SoCG that the conclusions of the ES on transport are appropriate and the project will not have unacceptable impacts in respect of noise, dust and vibration if the development is constructed in accordance with best practice and the CEMP.
- 4.12.48 WG at deadline VII (4 December 2014) [REP-976], confirmed that it is content that the need for a construction management plan has been established in the DCO.

Mitigation

- 4.12.49 The Panel is not proposing any changes to the DCO in relation to transport or traffic.

Reasoning and Conclusions

- 4.12.50 The Panel is satisfied that the designated route to and from the development site for HGVs is adequate and acceptable. The Panel agrees with CCSC and concludes that with the proposed mitigation, including restricting HGV movements to and from the site to avoid peak rush hours, the impacts from transport and traffic arising from the development upon the local transport network would be minimised. The Panel concludes that there would therefore not be any significant impact upon sensitive receptors from traffic and transport arising from the development.

AIR QUALITY

4.12.51 The assessment of the potential effect on air quality effects from the construction and operational phases of the lagoon was described in chapter 16 of the ES [APP-193]. The nearest sensitive receptors which were considered in the assessment are shown on Figure 16.1 [APP-193]. They included:-

- The northeast corner of the Swansea University Bay Campus (SUBC), south of A483, Fabian Way;
- Traffic light junction of Elba Crescent and Fabian Way;
- South of Fabian Way at the northern boundary of Crymlyn Burrows SSSI;
- South of Fabian Way/Ffordd Amazon roundabout at the northern boundary of Crymlyn Burrows;
- Crymlyn Bog Special Area for Conservation (SAC), Ramsar and SSSI;
- Residential properties at Lamberts Road, along Fabian Way; and Residential properties at the corner of Sebastopol Street and Fabian Way.

Impacts with proposed mitigation

4.12.52 ES chapter 16 [APP-193] concluded that the construction phase has the potential to generate fugitive dust emissions as a result of demolition, construction, earth works or track-out of material. Fugitive dust is particulate matter suspended in the air by wind action and human activities. Fugitive dust particles are normally composed of soil minerals. Track-out materials include mud and sediments that get attached onto the tyres of lorries and mobile plant and as they dry, they may become released into the atmosphere as they leave the area.

4.12.53 The concentration of any airborne particulate matter generated by these activities would be controlled using on site management practices, resulting in a predicted negligible significance on dust deposition rates at nearby sensitive receptors. The impact of fugitive PM10 emissions at these receptors would be negligible, when the proposed mitigation is incorporated into site management practice. The dust control mitigation proposed is identified in the draft CEMP [REP-1107]. Overall, the effect of fugitive emissions (particulate matter (dust and PM10)) from the proposed works was considered to be not significant with respect to potential effects upon health and amenity.

4.12.54 A SoCG was agreed with CCSC [REP-959], which included matters in relation to dust. It stated, in the section on onshore traffic, noise, dust and vibration that:

"The parties agree that the conclusions of the ES are appropriate in relation to this topic and that it is not considered the project will have unacceptable impacts in respect of noise, dust and vibration if the development is constructed in accordance with best practice and the CEMP. CCSC considers that impacts on air quality would be minimised if construction traffic is split between both existing port entrances."

4.12.55 A further SoCG was agreed with NRW on the matters of onshore traffic, noise, dust and vibration [REP-855]. It stated that:

"It is agreed that there will be no adverse effects, from the Project alone or in-combination with other Projects on Crymlyn Bog SAC, Ramsar site".

4.12.56 The SoCG explained that it was agreed that the environmental impacts in relation to noise, dust and onshore vibration from construction activity for the Project can be managed through the implementation of an agreed CEMP secured by an appropriate requirement. Such a requirement is contained in requirement 6 in part 3 of Schedule 1 to the draft DCO.

4.12.57 It was also agreed in the SoCG that the CEMP can provide suitable pollution prevention measures subject to an appropriate requirement to secure agreement of the CEMP prior to construction.

4.12.58 It was also agreed that most nuisance dust from construction sites is coarse in size and readily falls in relatively short distance from the source.

4.12.59 The CEMP [REP-994] includes mitigation that would minimise impacts from aerial emissions including:-

- Managing and minimising construction vehicle emissions;
- Undertaking nuisance dust surveys at nearby receptors during the whole of the construction phase;
- Implementing good practice in construction site management including the construction of site roads, reducing vehicle speeds on site roads, using water as a dust suppressant in dry weather, minimising aggregate delivery drop heights, covering loads and cleaning vehicles, clearing any mud tracked onto public highways and implementing a programme of wheel washing;
- Preparing a method statement which would include best practice for dust suppression and use of the crushing plant would be conditional on meeting all requirements set out in the method statement;

- Demolition would be undertaken in a phased and controlled manner, especially at locations within 100m of nearest receptors;
- Regular inspections of works for visible signs of dust emissions and early application of measures to minimise dust emissions at source;
- Considerate location of temporary storage of dusty materials and material transfer operations;
- Operation of mobile crushing plant to requirements of permit;
- Agree lines of communication between local authority pollution control officer and contractors prior to commencement of works for both demolition and earthworks and establishing procedures for reporting dust events or complaints;
- Over extended periods of dry weather (especially over holiday periods). Plan for additional mitigation measures to avoid wind-blown dust issues both within and outside normal working hours; and
- Avoiding long-term stockpiles of material on site without the application of measures to stabilise the material surface, such as applications of suppressants or seeding.

Representations

- 4.12.60 In CCSC's representation of the 7 October 2014 [REP-761] and at the ISH of the 21 October 2014, they raised concerns about a likely Air Quality Management Area (AQMA) that will be designated along parts of Fabian Way. This was confirmed in their later representations [REP-828], which stated that a split of the construction traffic via the existing (port) junctions would significantly assist in matters relating to air quality management in this area. The potential AQMA designation relates to the air quality situation as it exists at present.
- 4.12.61 The case for the applicant on this matter was that an alteration of the proposed construction access arrangements was not proposed. The ES transport assessment was undertaken on the basis of all construction traffic using the Park and Ride/McDonald's exit from Fabian Way. Use of the existing port access for construction traffic was not assessed in the ES. The ES transport assessment identified that no significant air quality impacts would arise from the construction traffic using the Park and Ride/McDonald's exit as access and egress because construction traffic would have to avoid peak hours. Therefore, in the view of the applicant, the access route does not need to change [REP-824].

Conclusions and reasoning

- 4.12.62 The Panel accepts that the ES transport assessment is predicated upon the construction traffic using the Fabian Way Park and

Ride/McDonald's junction, in paragraph 15.5.1.5 [APP-192] and [REP-842, paragraph 15.3.1]. The ES did not assess the impact of splitting the construction traffic so that half of it uses the existing port entrance. The DCO of the 4 December 2014 [REP-1002] Requirement 21 (2) (d) identifies that the CEMP will make provision for the avoidance of Heavy Goods Vehicles entering and leaving the development site between the hours of 0800-0900 and 1600-1730.

- 4.12.63 The Panel is not proposing any changes to the DCO on this matter.
- 4.12.64 It is unfortunate that the issue of the Fabian Way AQMA was brought to the attention of the Panel late in the Examination. The Panel notes that the use of the existing port access for half of the construction traffic was not assessed in the ES, nor is this entrance into the port included in the application site boundary. The Panel is not aware whether such a use of the port entrance would cause un-surmountable problems for the safe continued operation of all other port activities and/or whether ABP would be prepared to permit TLSB to do so. The Panel considers that it cannot impose a requirement for this, as to do so would be outside the 'Rochdale Envelope' principle of development for NSIPs.
- 4.12.65 The Panel is satisfied that emissions from construction traffic would not have any significant impact upon sensitive receptors. The Panel agrees with the assessment of impacts of aerial emissions in the ES, in that no changes in air quality levels would be expected from the development. Similarly, there was no evidence before the Examination that would give rise to concerns that the development would lead to a breach of air quality limits.
- 4.12.66 The Panel concludes that the mitigation included within the CEMP, when secured and implemented would be sufficient to minimise the risk of any adverse impacts from dust and aerial emissions upon the nearest sensitive receptors.

4.13 CONSTRUCTION IMPACTS & THE CEMP IN RELATION TO ECOLOGICAL RECEPTORS

MARINE MAMMALS

- 4.13.1 The Panel identified the impacts of the project (alone and cumulatively with other projects and activities) on marine mammals and turtles with the role of environmental monitoring and any triggers for programmed mitigation measures in the Initial Assessment of Principal Issues.
- 4.13.2 There are two marine mammal species for which SACs have been designated in Wales: grey seal and bottlenose dolphins. The UK has not identified any SACs for harbour porpoise as a qualifying feature [REP-584], although the Skerries and Causeway SAC was put forward by the UK in 2012 as a new candidate SAC with harbour porpoise present as a qualifying feature, but not as a primary reason for site selection [REP-661].

4.13.3 The main case for the applicant on marine mammals is contained within ES chapter 6.2.10 (Marine Mammals and Turtles), [APP-187], with further information submitted as an Addendum to the Marine Mammals Chapter, Report R2286, at Deadline II of 9 July 2014 [REP-542], The Shadow Habitat Regulations Assessment relating to Cetaceans and Pinnepeds, submitted for Deadline III of the 5 August 2014 [REP-661] and the Updated HRA Screening of July 2014, submitted for Deadline II (9 July 2014) [REP-584]. The applicant also submitted a summary note on the distribution of grey seal in Swansea Bay at Deadline V (28 October 2014) [REP-802] and details on a Marine Mammal Acoustic Deterrent Device Review (September 2014) contained in [REP-768].

4.13.4 There were no SoCGs agreed on matters relating to marine mammals.

Harbour Porpoise (*Phocoena phocoena*)

4.13.5 Harbour porpoise are the most numerous and commonly recorded species of porpoise within Wales. There is a relatively high density of sighting of harbour porpoise in Swansea Bay and off the Gower Peninsular. The applicant's ES [APP-187] referred to surveys undertaken as part of the pre-construction baseline monitoring data for the Scarweather Sands Offshore Wind Farm, which showed that harbour porpoise regularly occur around the Gower Peninsular, Swansea Bay, Scarweather Sands and the Port Talbot harbour approaches. The ES also referred to published data by Pierpoint (2008a) and Jenkins and Oakley (2013).

4.13.6 Pierpoint had recorded higher harbour porpoise activity during the summer and autumn and also early winter, suggesting some seasonality in harbour porpoise movements in Swansea Bay. The survey also found that a relatively high proportion of harbour porpoise pods in Swansea Bay included young calves (19% overall), which were most common between June and September. Jenkins and Oakley are cited as concluding that locations around Port Talbot dock and Swansea Bay/Mumbles must be considered important habitats for harbour porpoise, as survey and stranding data suggests these areas are regularly used by mothers and their young as well as being reliable foraging and feeding grounds for this species. The applicant's ES raises concerns about these statements by stating that it is important to note that no data is provided within the study to support this statement. However, the ES assumed, using a precautionary approach that harbour porpoise occur in the application area at similar frequencies to other parts of Swansea Bay such as Port Talbot.

4.13.7 The importance of the Bristol Channel area for harbour porpoise has been highlighted in a report commissioned by the World Wide Fund for Nature (WWF) which recommended that the Outer Bristol Channel should be considered as a draft SAC for harbour porpoise (Evans and Prior, 2012, cited in [REP-661]).

- 4.13.8 The Shadow HRA report relating to Cetaceans and Pinnipeds [REP-661] was prepared by the applicant in August 2014 and submitted to the Examination at Deadline III (5 August 2014), in order to provide further details and assessments with regard to harbour porpoise, despite there being no European site within the UK designated for this species. It was based on the assumption that the Outer Bristol Channel may be, at some point in the future, be designated as a SAC.

Short-Beaked Common Dolphin (*Delphinus delphis*)

- 4.13.9 The short-beaked common dolphin (common dolphin) occurs mainly in the outer part of the Bristol Channel, typically in moderate or high sighting densities (The Atlas of the Marine Mammals of Wales by Baines and Evans (2012) cited in the ES chapter 10.4)[APP-187].
- 4.13.10 While common dolphin has sometimes been recorded in Swansea Bay, the species has a large offshore distribution, typically where water depths range from 50-150m. Three groups of common dolphins were recorded during the pre-construction baseline monitoring for the Scarweather Sands Offshore Windfarm between 2005 and 2007.

Bottlenose Dolphin (*Tursiops truncatus*)

- 4.13.11 The bottlenose dolphin is recorded in the Atlas of the Marine Mammals of Wales (Baines and Evans 2012), cited in ES chapter 10.4 [APP-187] as having the highest densities of sightings in southern Cardigan Bay but with moderately high sighting rates also extending north into Tremadog Bay. The species also occurs off the north coast of Wales, particularly north and east of Anglesea.
- 4.13.12 The Cardigan Bay Special Area for Conservation (SAC) is the nearest designated site to the application area that has bottlenose dolphins as a qualifying feature.
- 4.13.13 No bottlenose dolphin sightings have been recorded in any of the recent monitoring surveys or from data compiled in the Atlas of the Marine Mammals of Wales (Baine and Evans 2012), cited in the ES chapter 10.4 [APP-187]. The applicant considers that this species is only likely to occur rarely in Swansea Bay.

Risso's Dolphin (*Grampus griseus*)

- 4.13.14 The Risso's dolphin has a relatively localised distribution, forming a wide band running south-west to north-east that encompasses west Pembrokeshire, the western end of the Llyn peninsula and Anglesey. The species is also commonly recorded along the south east coast of Ireland and waters around the Isle of Man.
- 4.13.15 No Risso's dolphin sightings were recorded in any recent monitoring surveys in Swansea Bay or from data compiled from the Atlas of the Marine Mammals of Wales (Baines and Evans, 2012), cited in the ES chapter 10.4 [APP-187]. The applicant therefore considers that this species is only likely to occur very rarely in Swansea Bay.

Minke Whale (*Balaenoptera acutorostrata*)

- 4.13.16 The Atlas of the Marine Mammals of Wales (Baines and Evans, 2012) shows minke whales occurring in low or moderate sighting densities in several parts of the outer Bristol Channel. The applicant's ES reports that no minke whale sightings were recorded in any recent monitoring surveys or in Swansea Bay as indicated in the Atlas of Marine Mammals of Wales (Baines and Evans, 2012) cited in the ES chapter 10.4 [APP-187]. The applicant therefore considers that this species is only likely to occur very rarely in Swansea Bay.

Grey Seal (*Halichoerus grypus*)

- 4.13.17 The grey seal is the qualifying feature of the Lundy Island SAC, which is some 70km to the south west of the application site [REP-584]. It is understood from CCSC at the ISH 21 October 2014 and [REP-828] that numbers of grey seals regularly haul out on the rocks at Worms Head (Gower) and there are records of seals hauled out in Swansea Bay, both on Swansea beach (with the most recent record in October 2014, near Blackpill, near Mumbles Pier and near Limeslade). The ES [APP-187] identifies that they are occasionally reported at Tutt Head (Mumbles), on the Mumbles foreshore and off Rotherslade Bay (Gower). Grey seals are assumed to occur relatively frequently in Swansea Bay, but only in small numbers.
- 4.13.18 The applicant [REP-802] considered that seals recorded in Swansea Bay would be expected to be from the minor haul out site at Worms Head on the Gower, as well as occasional individuals from the larger populations found in Pembrokeshire and around Lundy Island. Swansea Bay is considered to constitute a very small fraction of the foraging range of these seals.
- 4.13.19 There is evidence of interchange between grey seals found at Skomer Island (Pembrokeshire) and sites in west Cornwall, a distance of over 170km (Boyle et al (2012), cited in paragraph 6.8.2.6 of [REP-584]). It is known that grey seals may range widely between haul out sites, tracking has also shown that foraging probably occurs within 100km of haul out sites (SCOS, (2013), cited in [REP-584]).

Leatherback Turtle (*Dermochelys coriacea*)

- 4.13.20 The ES [APP-187] explains that leatherback turtles are occasionally recorded in Swansea Bay but are more commonly encountered further west in Carmarthen Bay. The ES considers them to be rare visitors to Swansea Bay.

IMPACTS ON MARINE MAMMALS

General impacts

- 4.13.21 The Examination focused attention on the two more common species of marine mammals found in the vicinity of the Swansea Bay area, those are harbour porpoise and grey seals.

- 4.13.22 Likely significant effects upon harbour porpoise were considered by the applicant [REP-584] to include the following aspects of the development (all of which would result in significant effects):-

Activity	Potential Effect
Piling, capital dredging, general construction activity	Disturbance/displacement/mortality /injury through increased underwater noise and vibration, visual disturbance and increased collision risk
Presence of the lagoon walls and associated infrastructure	Foraging habitat fragmentation and isolation due to presence of lagoon; Increase in noise and vibration due to turbine operations, changes in water currents; Injury/mortality as a result of entrainment in turbine flow; Barrier to movement; Electromagnetic field generation
In combination effects of construction/operation/decommissioning with other projects	In combination effects

- 4.13.23 Adopting a very conservative precautionary principle approach, the potential for likely significant effects could not be ruled out on the harbour porpoise within the proposed draft SACs of the Celtic and Irish Sea, namely the Outer Bristol Channel, Pembrokeshire Marine, Southern Cardigan Bay, South West Llyn and north and west Anglesey sites during construction and operation. No significant impacts were expected on harbour porpoise during decommissioning activities, as these works would be carried out from the overhead gantry cranes and within the turbine housing.

Impacts upon marine mammals from noise and vibration during piling and other construction activities

- 4.13.24 The ES [APP-187] concluded that the sensitivity of harbour porpoise and grey seals to underwater noise is moderate. The probability of occurrence is high, as is the importance of harbour porpoise and grey seals, given their level of protection. Effects during vibro-piling were considered to be limited to behavioural responses within close proximity to the construction site (less than 22m), the magnitude of effects is considered to be small. Percussive piling would be used during construction on an 'as required basis only'. Although no significant physiological effects were predicted to occur, a strong behavioural response would occur over a relatively small area and the magnitude of effects is considered, at worst, to be medium. Overall, the temporary noise disturbance during construction was considered to have a minor adverse impact during vibro-piling and a moderate

adverse impact during percussive piling. However, the level of impact from piling upon marine mammals, particularly harbour porpoise was disputed during the Examination by IPs including NRW, Rhosilli Working Group (RWG) and Porthcawl Environmental Trust (PET).

Representations including any which remained unresolved at the end of the Examination

- 4.13.25 CCSC and NPTCBC raised concerns about the impacts of the development upon marine mammals in their LIRs, especially as there had not been any specific surveys undertaken for the ES so the data presented did not explain porpoise habitat use or the location of critical habitats within the Bay [REP-564 and REP-563]. NPTCBC were concerned that the details for the harbour porpoise within the Swansea Bay area in the ES and other application documents were inaccurately represented, with too much emphasis on mothers with calves, in that harbour porpoise populations as a whole are known to use the Bay [ISH of the 16 September 2014].
- 4.13.26 During the ISHs of the 16/17 September 2014, RWG raised concern about the applicant's interpretation of Pierpoint reference documents [REP-731] and requested that other non-published documents by this author were submitted to the Examination.
- 4.13.27 In their written submission of oral case at the hearing on the 16 September 2014 [REP-748], NRW confirmed that there are no European sites for harbour porpoise in the relevant sea areas, and so a HRA is not required. NRW were (at that point) awaiting the conclusion of research commissioned by the JNCC on harbour porpoise distribution and abundance. This would determine whether it is possible to identify areas of persistent high density for harbour porpoise in UK waters that could assist in the identification of SACs for this species. Swansea Bay and the wider area may form an 'area of search' in this process. Once completed, NRW would be in a position to discuss with WG how to analyse the suitability of Welsh waters for harbour porpoise.
- 4.13.28 In their written submission of oral case of the hearings on the 16 September 2014, NRW [REP-748] also confirmed that it is percussive piling that would cause the main impact on marine mammals, with a risk of auditory injury from percussive piling leading to hearing damage. It could cause behavioural disturbance and displacement.
- 4.13.29 PET and RWG expressed concern about the impacts of the piling and turbine operation on harbour porpoise. These concerns were maintained through the Examination, for example [REP-730, REP-731, REP-732 and REP-835 from RWG and REP-834 from PET]. Both RWG and PET brought to the attention of the Examination the possibility of legal action by the Infringement Unit of the Directorate-General Environment of the European Commission against the UK Government in respect of the Government's failure to nominate SACs in UK waters for the harbour porpoise. This was reported to have resulted from a

complaint made by WWF to the European Commission. In their submission to the Examination for deadline VI of the 25 November 2014, [REP-834], PET stated that the latest stage of legal action that they can report upon is that the European Commission has decided to continue the infringement action under Article 258 of the Treaty on the Functioning of the European Union by sending a Reasoned Opinion to the UK Government on 25 October 2014. RWG noted that this is the second stage of legal action; the UK would have two months to respond before any action may be taken to the European Court of Justice.

- 4.13.30 RWG also raised concerns that NRW (as the Welsh Government's advisory body) may have a clear conflict of interest and could not be considered to be impartial in this matter. They were of the view that there are currently no European sites for harbour porpoise because the Welsh and UK Governments have failed to carry out their legal responsibilities [REP-730].

- 4.13.31 RWG considered that the Shadow HRA on Cetaceans and Pinnepeds had inadequacies and used inappropriate methodology for assessing potential effects on the harbour porpoise population. [REP-730, REP-731 and REP-732]. Their concerns focused on the frequency of the piling noise, the frequency range used by the applicant in assessing the impacts of pile driving upon harbour porpoise is inappropriate to the most sensitive frequency range of the porpoise. They quoted a paper by Dahne et al (2013) who reported that, during construction of a German offshore windfarm, the avoidance area of porpoise to piling extended to a radius of 25km-50km from the source of the noise, whereas the noise radii for the development would seem to be very small and limited, perhaps too limited when compared to the noise contours suggested for other developments.

- 4.13.32 The applicant explained in its summary of Oral Case of the 21/22 October 2014 hearings [REP-842], that in respect of the noise from the dolphin piles, the applicant's consultants had assessed the full harmonic range but did not report on it because they reported only on the worst case noise scenario having regard to the relevant marine mammal receptors.

- 4.13.33 The RWG view in the ISH of the 21 October 2014 with representations submitted to the Examination for Deadline V (28 October 2014) [REP-835] was that the potential effects of the development must address the 'local' harbour porpoise population of Swansea Bay and the Outer Bristol Channel. They considered that the greatest danger to the population would come from piling [REP-835].

- 4.13.34 PET [REP-834] raised concerns that the applicant was doubting whether a European Protected Species (EPS) derogation licence was required, and questioned whether the 'three tests' pursuant to Article 12.1 (which is transposed in the UK by the Conservation of Habitats and Species Regulations (2010)), have been undertaken. One of these tests is that there is no satisfactory alternative to the application site.

They considered that the EPS licence should contain conditions restricting all noisy construction work such as pile driving during the breeding season of the harbour porpoise.

- 4.13.35 The applicant explained in response [REP-890] that the duration of the piling is relevant, because it is related to the degree and therefore the significance of any disturbance. If piling were to occur for only a short period, during the day, with JNCC protocols in place, the significance of any impact would be much less than if it were 24 hour piling for 6 months. It also clarified that the hearing thresholds for harbour porpoise were obtained from published audiogram data, which is an accepted methodology from which to base modelling of impact on behaviour. The assessment of piling noise and the impacts on marine mammals looked at the peak piling noise levels (and the corresponding hearing threshold of marine mammal species at this frequency). This was because it was found that this was where there was the greatest difference between the peak piling noise and hearing threshold and this would therefore determine the worst case impacts that could occur. If considering the minimum hearing threshold of marine mammal species (that is the levels and frequencies in which they are most sensitive to noise) the noise energy generated by piling is considerably smaller in this part of the spectrum and therefore less of an impact.

Mitigation, including changes to the DCO being recommended by the Panel

- 4.13.36 Mitigation to reduce the impacts upon marine mammals was expanded and updated during the various versions of the CEMP, to take into account some of the IPs concerns about the possible impacts of the development upon marine mammals.
- 4.13.37 The 4 December 2014 CEMP [REP-994] included the following mitigation:-
- The retention of an Marine Mammal Observer (MMO) during offshore works associated with the installation of the dolphin piles;
 - The use of low-noise piling techniques, such as vibro-piling would be used wherever possible; the piling required for the installation of the dolphin piles would only be undertaken during hours of daylight and in good visibility (that is in conditions which would enable the MMO to be able to observe any mammals near the development site);
 - Where percussive piling is required, a series of steps would be implemented to minimise impacts, including using 'soft start' procedures, establishing a mitigation zone of radius 500m around the piling site for the dolphin piles, within which the observer and passive acoustic monitoring (PAM) would detect any marine mammal activity;

- Piling would not commence if marine mammals were detected in the mitigation zone, and then work start 30 minutes after the after the last visual or acoustic detection and;
- Work vessels would avoid speeds above 6 knots when moving about the site and JNCC guidance on the risk of corkscrew injuries (linked to the use of ducted propellers) would be followed.

4.13.38 The 25 November 2014 AEMP [REP-922] included the following mitigation:-

- Pre-construction surveys including the deployment of C-PODS for continuous acoustic monitoring and monthly surveys of seal haul-out site at Worms Head, Rhosilli, (Gower);
- Implementing various mitigation during construction including following the JNCC protocol for the installation of the dolphin piles, noise monitoring during piling and other activities;
- The use of ADDs for mitigation for potential turbine collision; and
- Turbine collision monitoring, surface detection and the use of a monitoring devise (PAM) during operation and the management of any marine mammals found in the lagoon through establishing a protocol to be followed.

4.13.39 Despite concerns being raised by PET and RWG there was no mitigation for marine mammals proposed by the applicant in any versions of the draft DCO, including the final draft version at 4 December 2014 [REP-1002]. The Panel proposed a requirement for Marine Mammals Mitigation in their consultation draft DCO of the 11 November 2014 [PD-020]. The applicant did not agree to its inclusion, as it considers that the requirement provides for events which are not predicted to happen. However, [REP-952] from the applicant explained that if this requirement is to be included in the DCO, should Potential Biological Thresholds be exceeded, the additional mitigation should not include cessation of the turbine operation. The Panel accepts that without this clause, the continuous operation of the turbines, when installed could be jeopardised resulting in the loss of energy generation and this in turn could impact potential project funders and the viability of the scheme.

4.13.40 Having considered all the evidence, the Panel recommends that this requirement for Marine Mammals is included in the final DCO, with a minor addition so that any actions that are necessary in response to Potential Biological Renewal (PBR) do not include prolonged cessation of the turbines. In taking this view, it has had to consider in the planning balance the potential risk to marine mammals against the risk to the project if the turbines had to be switched off. As the risk to marine mammals is not forecast within the ES, the Panel considers

that by limiting the time that the turbines would be switched off to 24 hours, this should not impact significantly upon the potential generation of electricity. The proposed requirement is as follows:-

Marine Mammal Mitigation Strategy

"41.(1) No part of the development is to commence until a written strategy for the monitoring and mitigation of the impacts of the authorized development on marine mammals has been submitted and approved in writing by the relevant planning authorities. The marine mammal mitigation strategy shall provide for:-

(a) monitoring and mitigation to minimise the potential for disturbance to marine mammals during construction and operation;

(b) monitoring and mitigation measures to minimise the potential for marine mammal collision with the turbines during operation; and

(c) agreement of thresholds of mortality of marine mammals (potential biological removal), and action to be taken if those thresholds are exceeded, for any given year during the operation of the project. Such action will not require prolonged cessation of the turbine operation, where 'prolonged' is considered to be more than 24 hours.

(2) The approved strategy must be implemented throughout the construction and operation of the development.

(3) The strategy must be reviewed annually unless otherwise agreed in writing by the relevant planning authorities.

(4) No changes to the strategy are to be implemented unless they have been approved in writing by the relevant planning authorities."

Reasoning and conclusions

4.13.41 The precautionary approach taken in the Shadow HRA for Cetaceans and Pinnipeds is considered by the Panel to be correct and proportionate.

4.13.42 With regard to references by Pierpoint, which were not publicly available and were not before the Panel, no weight could be given to their content and where disagreements occurred between interpretations of these references, no weight could be given to their content or interpretation.

4.13.43 The AEMP and CEMP include mitigation that would be implemented in order to minimise the impacts of the construction phase of the development on marine mammals, including following the JNCC 'statutory nature conservation protocol for minimising the risk of injury to marine mammals during piling' (JNCC 2010), undertaking offshore piling offshore in hours of daylight only and using soft start procedures for percussive piling. However, the Panel considers that

the level of protection that should be given to harbour porpoise, in particular, justifies the inclusion of mitigation for their protection and for other species of marine mammals during the construction and operational phases within the requirements of the DCO. This is for several reasons :-

- At the end of the Examination, the CEMP and the OEMP were not so well advanced as the AEMP and there remained questions about the adequacy of the content and uniformity of these documents in relation to marine mammal monitoring and mitigation;
- The Panel concurs with NRW that there should be a mechanism for monitoring PBR and agreeing mitigation in case thresholds of injury are exceeded, whilst ensuring that any actions that are necessary to minimise the risk of further collisions should not adversely impact upon the energy generation process; and
- The Examination focused attention primarily on harbour porpoise and grey seals. As this is a long-term project, with an operational phase of 120 years, other species of marine mammals may well become more populous in the vicinity of the TLSB during this time, so their long term monitoring and protection should also be secured through the DCO.

4.13.44 The Panel accepts that the development, if consented could result in some residual adverse effects on marine mammals. It acknowledges that not all impacts can be mitigated against. Any potential residual impacts upon marine mammals would however be minimised through mitigation.

4.13.45 The Panel concludes that whilst there may be some adverse residual impacts from the construction phase upon marine mammals, impacts from the piling operations would most likely result in behavioural responses, that is marine mammals would move away from the Bay area. In view of the mitigation proposed in the environmental management plans and with the additional DCO requirement for marine mammal mitigation that is proposed by the Panel within the DCO itself, the impacts upon marine mammals would be minimised.

INTERTIDAL AND SUB-TIDAL BENTHIC ECOLOGY

4.13.46 The ES chapter 8: Intertidal and Sub-tidal Benthic Ecology [APP-185] provided an assessment of the impacts of the development upon the intertidal and sub tidal ecology of the application area. It considered the baseline situation together with assessing the impacts that would occur during the construction, operation and decommissioning phases. The study area for this part of the ES is shown on Figure 8.1 [APP-257] and included the offshore works area and a wider study area. The wider study area extended from around Mumbles headland to Port Talbot.

- 4.13.47 The offshore works area does not overlap with any internationally designated or prospectively designated SAC, SPA or Ramsar site. Figure 8.3 [APP-259] shows the location of the application site in relation to International and National Designated Sites. There are no nationally designated SSSIs which directly overlap with the offshore works area. There were six SSSIs in the wider study area, although none were designated for marine features, two of which support birds which feed in the intertidal area. These two SSSIs are discussed in this report section 4.11.
- 4.13.48 The nearest recommended Marine Conservation Zones (rMCZ) are over 35km away from the application area.
- 4.13.49 The ES records that a number of UK BAP and nationally important habitats and species are found within Swansea Bay. These include biogenic reef forming species including honeycomb worm (*Sabellaria alveolata*), hydroid rockpools, piddocks in clay with mussels, piddocks in peat with red algae, intertidal mudflats and sandflats, subtidal sands and gravels and the native oyster (*Ostrea edulis*).
- 4.13.50 *Sabellaria alveolata* is a gregarious segmented worm that builds tubes from sand or shell fragments. It is found in the intertidal zone (although occasionally subtidally). The tubes are often densely aggregated forming a honeycomb pattern and may form large reefs up to several metres across. *Sabellaria* reefs are a UK BAP habitat and are named in the list of habitats of principal importance for conservation of biological diversity under s42 of the NERC Act 2006. The location of *Sabellaria alveolata* reefs within the application area are identified on a Plan [REP-541].
- 4.13.51 The native oyster is a UK BAP species and along with *Ostrea edulis* beds, is included in the OSPAR list of threatened or declining habitats and species as well as being identified as a s42 NERC Act 2006.
- 4.13.52 The other identified features of the intertidal zone in the study area are described in chapter 8 of the ES [APP-185].
- 4.13.53 During the 2013 survey for the ES, large beds of the invasive non-native American slipper limpet (*Crepidula fornicata*) were observed in the South east corner of the *Sabellaria alveolata* reefs.
- 4.13.54 The proposed activities and impact pathways arising from the development, in relation to intertidal and subtidal benthic ecology would result in the direct loss of intertidal and subtidal habitats under the footprint of the lagoon, removal of sediment and change in substrate depth through dredging and the introduction of hard surfaces. Indirect effects may occur through localised changes to water flow, suspended sediment concentrations and smothering. Potential impacts may also arise from the introduction of non-native species and accidental spillages resulting in direct toxicity to marine ecology receptors.

Assessment of impacts including mitigation

- 4.13.55 The major adverse impacts inside the lagoon would be specifically associated with protected features i.e. Sabellaria reef, hydroid rockpool and intertidal mudflat and sandflat. Mitigation measures for the loss of these habitats include the translocation of the Sabellaria reef prior to construction work commencing and opportunities to encourage the settlement of Sabellaria larvae. Bioblocks and rockpools would be constructed in the lagoon wall with the aim of promoting and enhancing ecological diversity and providing a biodiversity offsetting measure for these losses. The residual impact was considered to be minor to moderate adverse significant.
- 4.13.56 Consideration of impacts upon the subtidal ecology included reviewing impacts upon oysters in Swansea Bay. As the ES considered that there are unlikely to be any oysters in the areas where habitat changes are likely to occur, the impact on this species was considered to be insignificant, despite their high level of protection. Other aspects of the subtidal ecology were considered to have high sensitivity to change, given that changes would be permanent and irreversible, resulting in a high vulnerability. The importance of subtidal ecology ranges from low (for unprotected features) to high (for nationally protected features, subtidal sands and gravels). The overall significance of changes in habitat extent during operation was considered to range from minor for unprotected features to major adverse significant for protected habitats. Residual impacts upon the subtidal ecology were considered to be minor to moderate adverse significant, after consideration of the mitigation that would be provided including the artificial rocky reef and oyster beds.
- 4.13.57 The main mitigation measures that are proposed to reduce the impacts of the development upon the intertidal and subtidal benthic ecology are tabulated in Section 8.7 and Table 8.10 of chapter 8 [APP-185] and include:-
- Translocation of Sabellaria reefs prior to construction;
 - Adoption of guidelines and best practice during construction activities in the CEMP in order to minimise any changes in suspended sediment concentrations during construction;
 - Adoption of good practice in the CEMP during construction to minimise the risk of releases of contaminants into the marine environment, and the implementation of contingency measures should a spillage occur;
 - Adopting measures to minimise the risk of non-native species colonising the intertidal and subtidal areas, including implementing the details within the Biosecurity Risk Assessment and INNS Strategy (when agreed), which are in draft form in the CEMP of the 28 November 2014 [REP-924].

- 4.13.58 In addition, the applicant has proposed enhancement measures including enhancing the lagoon wall to make it suitable for Sabellaria larvae and species associated with hydroid rock pools as well as measures to provide enhancements for native oysters.

Representations including issues raised by the Panel in questions and key remaining issues

- 4.13.59 A plan showing details of the Sabellaria translocation donor and receptor site details [REP-541] was provided in response to an Examining Authority question, together with a written response to a question [REP-540] on this matter. During the Examination, in the ISH of the 17 September 2014 and in the applicant's note [REP-807], an interim report regarding an initial Sabellaria translocation project that had been undertaken as part of a Swansea University postgraduate research project was provided. This had proved to be initially successful. In response to a matter raised through the Panel post hearing note of actions, the applicant provided details regarding the engineering solutions that would improve support for Sabellaria on the lagoon wall and details of monitoring and adaptive management in relation to Sabellaria [REP-807].
- 4.13.60 During the Examination both NRW [REP-747 and REP-748] and CCSC [REP-761] raised concerns about the Sabellaria translocation proposals, as they were untried and untested and the long term results would not be understood until after the lagoon wall was in place, by which time its original habitat would be lost. NRW [REP-747] consider the reduction in wave height, current speed and increased sedimentation in parts of Swansea Bay would make the survival of the Sabellaria alveolata reef untenable.
- 4.13.61 In their SoCG with the applicant on this matter, [REP-899] CCSC stated,
- "It is agreed that whilst a Major adverse effect upon the Sabellaria reefs is predicted on a precautionary basis, any successful translocation will mitigate the magnitude of this effect. While CCSC has no objection to the statement in itself, it is accepted by both parties that the mitigation methodology is unproven. The methodology for the mitigation remains to be completed. Therefore, the applicant, being presently unable to demonstrate deliverability of such mitigation, accepts that the impact should still be assessed as a Major adverse effect upon the Sabellaria alveolata reefs in the absence of mitigation. However, if the mitigation should prove to be successful, the Council accepts that significance may reduce".
- 4.13.62 CCSC [REP-828] considered that the draft DCO requirement for this species should include additional details regarding the steps that should be taken if the translocation failed, or if the translocated reef adversely impacted upon existing undisturbed reef adjacent to it. Whilst this had been added into the Panel's consultation draft DCO

[PD-020] and the applicant had agreed to accept it, it was not included in the applicant's final draft DCO [REP-1002].

Further mitigation, including any changes to the DCO being recommended by the Panel

4.13.63 The creation of purpose-designed artificial rocky shore habitat on new sea walls is included in requirement 29 of the applicant's final draft DCO of 4 December 2014 [REP-1002]. Mitigation for Sabellaria translocation is included in requirement 30 of the Draft DCO of the 4 December 2014 [REP-1002]. Details in relation to its translocation, monitoring and management are included in the CEMP and the AEMP [REP-1107] and [REP-922].

4.13.64 The Panel recommends that the additional part of requirement 29 is added to this requirement; in order to secure the delivery of measures should the translocation project fail. The wording of this (as consulted upon in the 11 November 2014 version of the DCO [PD-020]) is as follows:-

"2(e) further/remedial action to be implemented in the event of an unsuccessful translocation programme or a detrimental effect upon the adjacent undisturbed honeycomb reef."

Reasoning and conclusions

4.13.65 The Panel accepts that the translocation of Sabellaria is untried and untested. Whilst results of the pilot project have been encouraging, they do not provide any confidence that in the long term, the translocation project would be successful. The Panel accepts that there would be a significant impact upon this species and upon other intertidal and subtidal receptors from the development. The Panel recommends that the additional part of requirement 29 from the Panel's consultation DCO [PD-020], identified in the paragraph above, is included within the final DCO, in order to make provision for further mitigation in the event of the translocation not being successful.

4.13.66 Subject to this addition to requirement 29 being agreed by the SoS, the Panel concludes that the mitigation and enhancement that is proposed in the DCO and in the environmental management plans, when implemented, will minimise the impacts of the development upon these habitats, although there will be a significant impact upon them from the development through the loss of habitat.

BATS

4.13.67 As part of the ES, the applicant commissioned a bat survey over parts of the application site in 2013 [APP-351], focussing on the southern arm of Queen's Dock. At that time, it was considered that the open and exposed character of the coastal habitats present within the study area did not appear to favour bats although records showed some evidence of bat foraging activity. The survey identified two species of bats, common pipistrelle (*Pipistrellus pipistrellus*) and Soprano

Pipistrelle (*Pipistrelle pygmaeus*) present flying over the site or foraging at various survey points and along the transect locations. Both of these are s42 NERC 2006 species. A static bat detector in 2013 also indicated use by a *Nathusius pipistrelle* (*Pipistrellus nathusii*). The ES chapter on terrestrial ecology [APP-189] considered the level of interest for bats to be a receptor of parish/local value. There were no direct impacts from the construction phase upon bats anticipated, as the existing sea defences would be modified during the construction phase as new habitat becomes available and the continued presence of aquatic flies with the continued potential to support foraging bats was considered likely. A neutral magnitude of impact to bats was considered insignificant.

- 4.13.68 Mitigation in relation to bats provided in the CEMP [REP-924] is in relation to the provision of a sympathetic lighting regime which avoids light spill to enable the continued use of the available foraging habitat. This is also included in a requirement (requirement 24 on construction and security lighting scheme) within the DCO. The Panel concludes that there would not be a significant impact upon bats.

REPTILES

- 4.13.69 The ES chapter on terrestrial ecology [APP-189] noted that a small population of common lizards (*Lacerta vivipara*) was found in habitat in the vicinity of the existing port sea wall. All lizards are protected by the WCA 1981 and common lizards are also identified as section 42 NERC 2006 species. The site was considered to support a population of local conservation importance. The impact of construction upon this species was considered of moderate negative magnitude equating to an insignificant impact.
- 4.13.70 Mitigation measures were proposed to ensure compliance with legislation. The CEMP [REP-924] includes a Reptile Strategy as appendix 4. This includes details of the proposed partial habitat retention as well as species translocation including the use of exclusion fencing within the dock area and the proposed methodology for minimising impacts upon the population of reptiles that would be impacted by the cable route at Crymlyn Burrows. The Panel concludes that there would not be a significant impact upon reptiles.

OTTERS

- 4.13.71 Otters are European Protected Species. The ES chapter on terrestrial ecology [APP-189] stated that otters are wide-ranging animals and there had been local recorded sightings of otters (*Lutra lutra*) from the River Neath, River Tawe and Tennant Canal. An otter survey, concentrating on the seawall and at the south-western end of Queen's Dock was carried out in 2013.
- 4.13.72 It is likely that one or more otters occasionally forage within the docks estate and therefore construction activity has the potential to cause

disturbance. No holts or other resting places would be directly affected by the development. They were considered to be a receptor of parish/local value.

- 4.13.73 The removal of the existing port seawall could increase connectivity between the coastline and docks estate. A minor negative magnitude of impact to otters was considered to be insignificant.
- 4.13.74 Mitigation proposed to minimise the impacts of the construction phase on otters, within the CEMP [REP-924] were identified as follows:-
- Checks for the presence of otters in the vicinity of Swansea Docks would take place prior to the commencement of work, during construction and following completion;
 - Directional lighting would be used at the construction compounds in order to avoid light spill onto open water areas of the docks, in accordance with requirement 24 of the DCO [REP-1002];
 - Exclusion fencing around high risk areas would be installed and alternative access routes provided for otters in accordance with R10 of the DCO (fencing and other means of site perimeter enclosure);
 - Access between the docks and the coastline is to be maintained at all times and barriers that could impede movement of otters will not be created. Where obstacles exist, suitable mammal access would be provided.

- 4.13.75 However, the Panel notes that requirement 10 of the DCO does not identify the need for access routes for otters in the fencing schemes. The Panel therefore proposes that a new clause is added to requirement 10 of the DCO [REP-1002], as follows:-

"5(c.) alternative access routes for otters".

- 4.13.76 The Panel concludes that if this additional part of requirement 10 is included in the final DCO there would not be any significant impacts upon otters.

BREEDING BIRDS

- 4.13.77 The applicant commissioned a breeding bird survey of land within the Swansea dock estate as well as along the route of the cable route to the south of Fabian Way and coastal fringe near Baglan power station in 2013. The results are given in Appendix 12.5 of the ES [APP-351]. Impacts to breeding birds along the route of the cable would be minimised through timing of the work. The CEMP [REP-924] provides details of the mitigation measures that would be implemented during the construction phase to minimise impacts upon breeding birds. The Panel concludes that there would not be a significant impact upon breeding birds.

INVASIVE NON NATIVE SPECIES (INNS)

- 4.13.78 Requirement 31 (Other Ecological Matters) of the DCO [REP-1002] requires the applicant to submit to the LPA a written strategy to secure the removal and/or management of Japanese Knotweed and other invasive non-native species. The scheme has to be approved prior to the commencement of the development. In addition, a draft biosecurity risk assessment and INNS strategy is provided at Appendix 3 of the CEMP [REP-924]. The Panel is satisfied that these measures, when implemented, will minimise the risk of INNS being brought into the application area from further afield and minimise the risk of INNS establishing/expanding.
- 4.13.79 The Panel concludes that the mitigation provided in the DCO and the CEMP is sufficient to ensure that when implemented the development would not result in any significant adverse impacts in relation to INNS.

4.14 OPERATIONAL IMPACTS AND THE OEMP IN RELATION TO COMMUNITY RECEPTORS

- 4.14.1 Turning now to the impacts that would arise from the project during the operational phase of the development, the following section of the report considers impacts upon local communities in relation to traffic and transport and noise.
- 4.14.2 The application submitted an outline Operational Environmental Management Plan (OEMP) at Deadline II (9 July 2014) [REP-498]. This was updated at various stages of the Examination and the final version before the Panel was the 4 December 2014 version [REP-1110]. The OEMP explains that during the operational phase, lagoon wardens would be employed, whose responsibilities include securing the delivery of the OEMP. Amongst other matters the outline OEMP includes details of the turbine operation, public access control, dredging and health and safety matters. requirement 5 of the DCO [REP-1002] states that no operation of the development can commence until an OEMP, substantially in accordance with the outline OEMP has been submitted and approved by the relevant LPAs. Operation of the development must then be carried out in accordance with the approved OEMP.

OPERATIONAL TRAFFIC AND TRANSPORT IMPACTS

- 4.14.3 The ES chapter 15 [APP-192] explains that vehicle access to the development during the operational phase would continue to be via the Fabian Way Park and Ride junction (Junction 3). Access would be required at all times for Operational and Maintenance (O&M) staff and emergency vehicles; local pedestrian, cycle and vehicular access for staff and visitors and visitor access for major sporting events. Traffic associated with the daily operation of the lagoon would be 'minimal' with an expected 21 O&M staff who would be likely to be operating on a three shift system in order to have continuous cover. They would be travelling to and from the site during off-peak hours. Whilst the DCO

does not include provision for the visitor and recreational facilities, the Panel notes that there would also be approximately 52 staff required to service these aspects of the proposal.

- 4.14.4 CCSC's LIR [REP-563] raised concerns about the assumptions made in the ES regarding the applicant's assumption that leisure use at the site would be greatest at weekends and therefore does not coincide with the weekday peak flows experienced on the highway network. CCSC was of the view that traffic flows in the summer holidays at weekends and lunchtimes can be in excess of the morning and afternoon weekday peaks and hence severe congestion may arise. The solution that was proposed was the installation of an automatic traffic counter, with a financial penalty being imposed if car numbers are greater than those expected. NPTCBC had at that stage suggested a sum of £535,000 as a financial contribution for the Fabian Way Corridor Study work.
- 4.14.5 A SoCG with CCSC [REP-959] agreed that the operational effects of the Project were predicted to be 'de minimis' in relation to traffic generated by employees. However, this does not consider the impact of visitor numbers. It was agreed that a suitable contribution to the Fabian Way Corridor Study is £187,000 and that this should be secured by an obligation under s106 Town and Country Planning Act 1990. Of that sum, £40,000 should be applied to improvements at the Park and Ride Junction and Port Tenant Junctions.
- 4.14.6 The SoCG identified that the lagoon would form a new focal point as a tourist attraction within the Bay and therefore an assessment of the impact on leisure related traffic has been made. In relation to the traffic generated by visitors in the ordinary course of operation (i.e. other than during a major event), it was agreed the numbers of visitors does not materially affect the highway network subject to securing the mitigation noted.
- 4.14.7 CCSC considers that traffic flows in the summer holidays at weekends and lunchtimes can be in excess of the a.m. and p.m. peaks of a normal working week and hence severe congestion may arise. As some of the junctions are approaching capacity already this could result in unacceptable congestion and delays being experienced. The mitigation measures should enable congestion and delays to be minimised.
- 4.14.8 It was agreed in the SoCG with CCSC that Major Events are and should be precluded by requirement 23 contained in Part 3 of Schedule 1 to the DCO unless a satisfactory Major Event Strategy has been submitted to and approved in writing by CCSC. Individual Major Event Management Plan(s) (MEMP) are required to be submitted to and approved in writing by CCSC. Subject to this, the effects of operation of the Project upon onshore transport networks are acceptable.

- 4.14.9 It was agreed in the SoCG that it is not necessary for a shuttle bus service to serve operational employees working at the Project. However, any Operational Phase Travel Management Plan (OPTMP) should provide for suitable routing and destinations for the shuttle bus service in relation to visitors.
- 4.14.10 Whilst the control of any major events held at the lagoon would be outside the DCO, the Panel notes that the DCO (requirement 22 on Operational Traffic) [REP-1002] requires the preparation and approval by the LPA of an OPTMP prior to the operation of the development. The approved OPTMP must make provision for the installation of and collection of data from a suitably located automatic traffic counter provided by the developer. DCO requirement 23 (in relation to Major Events) requires the preparation and approval of an overarching Major Events Strategy (MES) before any major events are held at the development. The Panel is satisfied that the agreement of these documents with the LPAs would assist in controlling any major events that may occur on the development outside the DCO.

NOISE DURING THE OPERATIONAL PHASE

- 4.14.11 The ES chapter 19 [APP-196] predicted underwater noise levels for the operational turbines at a range of distances, from 25m to 1000m. At 25m turbine noise is predicted to be 103 dB ref1uPa, which reduces to 71dB ref1uPa at 1000m. Once operational, the turbines would not be expected to increase underwater sound levels apart from in very close proximity to the turbines.
- 4.14.12 The SoCG with CCSC [REP-959] identified that the parties agree that the conclusions of the ES are appropriate in relation to noise and that it is not considered the Project will have unacceptable impacts in respect of noise and vibration if the development is constructed in accordance with best practice and the CEMP.

NOISE FROM THE RECREATIONAL USE OF THE FACILITY

- 4.14.13 The applicant was proposing to use the lagoon for major sporting events including sailing and triathlon events, hosting up to 8,000 people per event. Such events would be planned on a case-by-case basis with approval for the events being required from the LPA. Traffic routing and parking would also be co-ordinated for each event and as such, are outside the scope of the DCO.
- 4.14.14 An overarching Major Events Strategy would have to be agreed with the LPAs prior to the first major event being held, and then each event would require a Major Event Plan to be agreed with the LPA, as required by requirement 23 of the DCO [REP-1002].
- 4.14.15 The OEMP [REP-1110] proposes that any permanent public address systems are designed in order to manage noise pollution. It also identifies that it would be important to establish, maintain and monitor quieter areas within the lagoon especially for the benefit of avian and other ecological receptors.

CONCLUSIONS ON OPERATIONAL IMPACTS IN RELATION TO COMMUNITY RECEPTORS

- 4.14.16 The Panel concludes that the mitigation proposed in the DCO and the OEMP in relation to operational impacts upon community receptors is proportionate and deliverable. During the operational phase of the development there will not be any significant impacts upon local communities. The Panel is not proposing any changes to the DCO in these matters.

4.15 OPERATIONAL IMPACTS UPON ECOLOGICAL RECEPTORS

MARINE MAMMALS

Impacts from the operational phase

- 4.15.1 In the ES [APP-187], noise impacts upon marine mammals during the operational phase were considered to be insignificant to minor adverse significant, but with low confidence in the assessment.
- 4.15.2 Behavioural responses that would be exhibited by marine mammals in relation to the operational turbines would include avoidance and evasion [APP-187]. Collision risk between marine mammals and the turbines would be a possibility; however, it was the degree of risk that was uncertain and remained not agreed during the Examination. The ES [APP-187] considered the probability of a collision occurring to be low as it is restricted to a relatively small area but it could happen at any time during the operational phase of the project (120 years). The magnitude of change was assessed as being medium, leading to a low risk of exposure. Sensitivity of marine mammals to collision is high, as any interaction between a marine mammal and a turbine blade is considered to result in death or serious injury. Vulnerability was scored as moderate, with the importance of the feature being scored high (due to the level of their protection at European level). In view of the mitigation proposed, the ES concluded that the residual collision impacts on marine mammals were considered to lead to an insignificant to minor adverse significant impact. However, confidence in the assessment was considered to be low as the understanding of the extent of potential behavioural avoidance around hydro turbines is limited due to a lack of empirical data.

Representations on operational impacts

- 4.15.3 NRW [REP-747] expressed concern over there being insufficient detail over the proposed design, use and monitoring of ADDs, which would be used to deter marine mammals from the turbines in order to prevent collision risk. The use of ADDs introduces noise into the marine environment and may therefore require licensing.
- 4.15.4 NRW expressed concerns about the operational noise of the turbines, [REP-831], as the applicant had not measured the noise of the turbines proposed to be used in the development itself. It had committed to monitoring operational noise post-construction (AEMP,

Table 9.4). Should it be discovered that operational noise is enough to cause disturbance to marine mammals, noise will need to be reduced to an acceptable level. However, the applicant had not provided details on proposed mitigation, should this occur. NRW considered that, should the applicant adhere to the JNCC piling protocol guidelines, as proposed, disturbance from piling operations should be adequately mitigated. They raised concerns that the draft DCO did not contain any specific requirements for marine mammal mitigation or monitoring, in contrast with other receptors where specific requirements are set out.

- 4.15.5 NRW were also concerned that should fatal collisions of marine mammals prove to be higher than predicted, there must be a requirement in the DCO to set acceptable thresholds of mortality on cetaceans and seals, and further provision made in the event that those thresholds are exceeded and have an impact upon conservation status. As the applicant is confident that the collision risk is low, NRW could see no good reason for not having a PBR threshold for marine mammals [REP-831].
- 4.15.6 IPs considered the risk of collision to be potentially greater than that which was anticipated by the applicant. The use of 'trash screens' on either side of the turbines was suggested [NRW REP-831] to reduce the risk of collision. However, the applicant's case for not using screens was that the operation of the turbines would be adversely affected by screens as they would reduce the generating capacity of the turbines. Therefore, trash screens were not proposed to be incorporated into the design of the generating facility. La Rance, as an example, does not use trash screens [REP-842].
- 4.15.7 At the end of the Examination there remained unresolved matters in relation to the degree of risk of impacts to marine mammals from the turbines and the mitigation that is required to minimise that risk.

Mitigation for operational impacts upon marine mammals

- 4.15.8 At the end of the Examination the OEMP [REP-997] included details on the following:-

A capture and release procedure which would be implemented where a marine mammal accesses the lagoon through a sluice gate or turbine; routine surveillance for marine mammal carcasses and liaison with the UK Cetacean Strandings Investigation Programme (CSIP) should take place.

Conclusions on operational impacts in relation to marine mammals

- 4.15.9 At the end of the Examination, the extent of potential impacts upon marine mammals from the operational phase remained unresolved. The Panel accepts that there could be some residual impacts upon marine mammals arising from the development. However, it is the potential extent of residual impact that was not agreed between the main parties. The Panel considers that its proposed requirement for

marine mammals identified in Section 4.13 above is proportionate and necessary to ensure that impacts upon marine mammals are minimised during both the construction and operational phase. The Panel concludes that with the implementation of the mitigation proposed in the new requirement 40, impacts upon marine mammals from the development would be minimised to an acceptable level.

COASTAL BIRDS

- 4.15.10 ES chapter 11 on Coastal Birds [APP-188] provides an assessment of the potential effects of the development upon the coastal bird assemblage.
- 4.15.11 Under Part 1 of the Wildlife and Countryside Act 1981, all birds, their nests and eggs are protected by law and it is an offence to intentionally kill, injure or take a wild bird; intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and intentionally take or destroy the egg of any wild bird.
- 4.15.12 The Conservation of Habitats and Species (Amendment) Regulations 2010 (the Habitats Regulations) transpose the European Directive into UK law and allow the designation of SPAs for birds and SACs for the protection of other species and habitats. These protected areas are collectively known as the Natura 2000 network of sites. Species listed under the Habitats Regulations are known as European Protected Species.
- 4.15.13 Bird interests and the likely impacts upon them at internationally and nationally designated sites in and near the application area are discussed in other sections of this report.
- 4.15.14 Table 11.10 of the ES [APP-188] summarised the designated sites and ecological species/feature valuation.

Impacts and proposed mitigation

- 4.15.15 Divers and grebe (including great crested grebe (*Podiceps cristatus*), red-throated diver (*Gavia stellata*), great northern diver and cormorant would be adversely impacted during foraging and loafing, because of the direct loss of subtidal habitat under the lagoon footprint and the impacts of using the lagoon once operational, for recreational purposes. This is considered to result in a minor adverse impact on this receptor, which is of national value. In addition, a minor adverse impact was concluded for the impacts of the project on the availability of the prey species for divers and grebe arising from the proposed dredging programme, although this would not commence until 10-15 years after the completion of construction. A potential minor adverse impact was considered to arise from collision between divers/ grebes and the operational turbines, as these species are reported to typically dive to depths of <10m.

4.15.16 Mitigation proposed for coastal birds includes:-

- Sections of the seawall to be subject to restricted access in order to minimise disturbance at potential roost sites;
- Artificial beaches which may provide additional roost facilities;
- The lagoon wall to provide an artificial reef attracting fish and increasing foraging potential for fish eating birds;
- Herring spawning media on the outer lagoon wall which would safeguard fish stocks and continue to provide food for Grebes within the area;
- Artificial light which may extend intertidal foraging periods, particularly in the winter (although lighting would not be designed to create light spill, because of other sensitive receptors such as bats);
- Recreational, operational and maricultural uses within the lagoon would be defined in order to separate users and ensure that an undisturbed area supports open water/intertidal habitat available for use by birds;
- Timing of construction of the lagoon wall which would be designed to avoid overwintering birds wherever possible;
- Construction works which would be phased around the lagoon wall, so that the size of the potential disturbance zone is minimised;
- Existing hard structures (including the eastern breakwater/seawall) which would be removed outside the bird breeding season, where possible, or areas would be checked for nests prior to demolition starting;
- An environmental liaison officer who would be employed during the construction phase, whose role would include overseeing environmental aspects such as minimising access to sensitive areas (eg the roost site at Crymlyn Burrows SSSI). A warden would be employed during the operational phase who would have similar duties; and
- A high tide roost (island) which would be provided within the lagoon quiet zone;

4.15.17 In addition, project enhancement measures for coastal birds would include:-

- Provision of kittiwake ledges for roosting on the NE facing wall of turbine house area;
- Provision of saltmarsh habitat which would provide habitat for some coastal bird species including little egret and redshank;
- Use of bio-reefs in the eastern intertidal zone which would encourage general levels of biodiversity including the prey species of some coastal bird species.

4.15.18 These mitigation and enhancement measures are included in DCO requirement 28 [REP-1002], the AEMP [REP-922], CEMP [REP-994], and the OEMP [REP-997].

Representations including issues raised by the Panel in questions

- 4.15.19 Representations on coastal bird matters were received from IPs including RSPB [REP-478, REP-479 and REP 757], Wildlife and Wetlands Trust (WWT) [REP-824], NRW [REP-747 and REP-831] and the Wildlife Trust of South and West Wales (WTSWW) [REP-490].
- 4.15.20 The WTSWW [REP-490] raised concerns about the loss of herring spawning areas and the impacts that this would have on the foraging opportunities of nationally important numbers of great crested grebe, should mitigation not prove successful. The RSPB [REP-757 and REP-478] raised concerns about turbine collision risks for herring (the food of diving birds and grebes). Great crested grebes are pursuit species and have the potential to chase fish into the turbine area; they therefore have the potential for collision with the turbine blades. Monitoring work for fish at the turbines may have the potential to record diving bird parameters. For example at Strangford Lough, the Scottish Marine Research Unit obtained bird images from their sonar study of the tidal turbine. WWT [REP-824] also raised concerns about piscivorous diving birds which may be vulnerable to collision risk with the turbine blades; in particular there are concerns about great crested grebes. WWT suggested that monitoring collisions with turbine blades is extended from fish species to include diving birds. They also suggested that impacts upon waders and other birds may be more subtle than direct mortality, and would welcome strengthening of monitoring protocols in the AEMP to include potential sub-lethal impacts on waders including changes in usage patterns and fitness of individual birds which may indicate significant sub-lethal impacts. NRW [REP-747] considered that the use of AFDs, if secured, would reduce entrainment of great crested grebe and therefore the grebe population may not be adversely affected to any significant degree. However, it was noted that AFDs may not be provided from the project outset.
- 4.15.21 In response to a question in the ISH of the 21 October 2014, NRW provided information on the diving depths of cormorants and great crested grebes [REP-831]. Cormorants have a mean diving depth of 12.07m and a maximum foraging depth of 35m, so there remains potential for collision with the turbines, which would be at 11m below water level. Great crested grebes prefer water depths of 0.5-5m but some grebes have been known to be caught up in nets in Switzerland at depths of 30m. Although there is less potential collision risk for great crested grebes than for cormorants, there is still a potential risk.

Further mitigation

- 4.15.22 Whilst discussion during the hearings identified that the applicant was not proposing to install trash screens around the turbines, as they would impact on the efficiency of the turbine operation, it was acknowledged that, depending on the screen size, they could provide mitigation preventing diving birds from colliding with the turbines, subject to mesh size.

Reasoning and conclusions

- 4.15.23 The Panel accepts that there remains a potential risk to diving birds in relation to collision with the turbines. Whilst this risk has not been quantified, if AFDs were to be incorporated into the turbine area, they may assist in reducing the likelihood of collision impacts upon the great crested grebe population.
- 4.15.24 The Panel concludes that the mitigation proposed in the AEMP and OEMP, in relation to mitigating the risks of impacting upon populations of coastal birds, would be proportionate and deliverable. The Panel considers that this mitigation, when secured and delivered through the environmental management plans would be sufficient to minimise the risks to coastal birds from the development.

BIODIVERSITY CONCLUSIONS

- 4.15.25 Biodiversity issues are discussed in various sections in this chapter and also in chapter 5. This section will note the issues that remained unresolved at the end of the Examination and provide summary conclusions in relation to biodiversity interests.
- 4.15.26 At the close of the Examination the applicant had not applied for an EPS Licence in relation to disturbance of harbour porpoise. EPS licensing matters are discussed in report section 4.16 below.
- 4.15.27 Migratory and Non Migratory fish interests are discussed in report section 4.4. Economic fishing interests that would be impacted by the Project are described in report section 4.25.
- 4.15.28 There are no known geological conservation sites that would be impacted by the development.
- 4.15.29 The Panel's conclusions regarding the various biodiversity issues that would be impacted by the development are given in the relevant sections of this report. The Panel considers that significant impacts are likely to occur in relation to Swansea Bay SINC, Sabellaria reef and other intertidal and sub tidal ecological interests. Blackpill SSSI may suffer from residual risks if the mitigation proposed for dealing with changing habitats (from sandy ones to muddier ones) is not effective. This could give rise to significant residual risks to the features of the SSSI as well as its integrity. Crymlyn Burrows SSSI may experience some long term changes due to the development, however the Panel concludes that mitigation measures in the AEMP would ensure that residual impacts upon the integrity of this SSSI would be minimised.
- 4.15.30 Marine mammals would also be likely to be impacted during the construction phase. Residual impacts remain after mitigation that could occur in relation to marine mammals, diving birds, migratory and non-migratory fish. The Panel is recommending additional requirements in relation to marine mammals, fish (in relation to turbines and AFDs) and additional parts of other requirements are also proposed by the Panel in relation to mitigation for Sabellaria reef

translocation and otters. The Panel notes that the applicant is proposing mitigation for all of the ecological receptors that are likely to be impacted by the development, including provision of a lobster hatchery and the re-introduction of oysters into Swansea Bay.

- 4.15.31 The Panel considers that the benefits from the facility outweigh any possible residual impact upon the marine mammal interests of Swansea Bay. The Panel also considers that the benefits of the development would over-ride any impacts that would occur on the intertidal and subtidal habitats.
- 4.15.32 The Panel concludes that if the proposed requirements are delivered, in conjunction with the mitigation within the CEMP, AEMP and OEMP, impacts upon ecological receptors will be minimised. The Panel considers that the balance between the impacts that would occur in relation to biodiversity interests compared with the benefits arising from the delivery of a source of reliable renewable energy is weighed in the favour of delivery of renewable energy, which is central to the government's definition of sustainable development.

4.16 EUROPEAN PROTECTED SPECIES LICENCE MATTERS

HARBOUR PORPOISE

- 4.16.1 The applicant was aware of the need to obtain a European Protected Species (EPS) Licence from NRW prior to undertaking any piling operations [REP-890], in order to ensure that any disturbances that occur to harbour porpoise have been permitted in the licensing process. At deadline VI, [REP-964] the applicant reconfirmed its position in the ISHs commencing 16 September 2014 [REP-768] and stated:-

"To clarify, a short term impact (10-15 days) has been identified as a result of the installation of the marine navigation (dolphin) piles. JNCC measures are secured under the CEMP and will be followed during these works, all works will be during daylight hours and in good sea conditions, and as such the residual impact is minor. Notwithstanding this, an EPS licence to disturb harbour porpoise will be sought for the construction phase of the Project and this will stipulate the mitigation measures to be implemented".

- 4.16.2 NRW at deadline II [REP-471] explained that an EPS licence will only be granted for development purposes if it can be demonstrated that: there are reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of the primary importance to the environment; that there is no satisfactory alternative; and that the action authorised would not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 4.16.3 NRW explained, in response to the Panel's written questions at deadline II [REP-509] that the Marine Licensing Team has not yet

received an application for a marine EPS licence and as such could not comment further on this.

- 4.16.4 The applicant confirmed [REP-768] that the EPS licence for piling activities will be made when it is required.
- 4.16.5 Paragraphs 4.2.186-4.2.187 of this report defines the protection afforded to all cetacean species under the EU Habitats Directive (1992).
- 4.16.6 Paragraphs 4.2.191-4.2.201 discusses the distribution of cetaceans in relation to the proposed project. The applicant concluded that whilst short beaked common dolphin has sometimes been recorded in Swansea Bay, the species has a large offshore distribution. The applicant considers that bottlenose dolphin, Risso's dolphin and minke whale are only likely to occur very rarely in Swansea Bay.
- 4.16.7 However, there is a relatively high density of sighting of harbour porpoise in Swansea Bay and off the Gower Peninsular, and the ES assumed, using a precautionary approach, that harbour porpoise occur in the application area at similar frequencies to other parts of Swansea Bay such as Port Talbot.
- 4.16.8 Sections 4.13 and 4.15 of this report describes the impacts that may result to harbour porpoise from the construction, operation and decommissioning of the proposed project.
- 4.16.9 These sections summarise the information presented, and the representations made, in respect of harbour porpoise, during the examination. It is noted that NRW confirmed [REP-748] that it is percussive piling that would cause the main impact on marine mammals, with a risk of auditory injury from percussive piling leading to hearing damage. It could cause behavioural disturbance and displacement.
- 4.16.10 The Panel's reasoning and conclusions in respect of marine mammals are provided in report sections 4.13, 4.15 and 4.16. The Panel conclude that whilst there may be some adverse residual impacts from the construction phase upon marine mammals, impacts from the piling operations would most likely result in behavioural responses, that is marine mammals would move away from the Bay area. In view of the mitigation proposed in the environmental management plans and with the additional DCO requirement for marine mammal mitigation that is proposed by the Panel within the DCO itself, the impacts upon marine mammals would be minimised.
- 4.16.11 The DCO provides that NRW would be consulted on the final wording of the CEMP, the OEMP and the AEMP (requirements 5 and 6 of the proposed DCO [REP-1002]).
- 4.16.12 The Panel has concluded that if the DCO is granted for the development, on the balance of evidence before them, the EPS Licence would most probably be forthcoming. Provided that the

proposed requirement on marine mammals is incorporated within the DCO, even if Article 12 of the Habitats Directive is likely to be infringed, the Panel finds no reason to take the view that a derogation under Article 16 of the Directive would not be granted. The Panel therefore recommends that the SoS may conclude that there is no reason why the Order should not be made in relation to harbour porpoise.

OTTER

- 4.16.13 Otters (*Lutra lutra*) are European Protected Species. Section 4.14 of this report includes a summary of the information presented, and the representations made, during the examination, in respect of otter.
- 4.16.14 NRW commented in their WR that there are no EPS licensing issues requiring attention in the terrestrial ecology ES Chapter, but they advised that survey checks for otter should be carried out in relation to operational activities covered by the River Neath cable crossing [REP-471]. NRW also advised that best practice working methods will be needed to ensure that otters can still move unobstructed from the river to the docks and that monitoring be undertaken of the use of the potential lying-up site identified in an area beneath the jetty [REP-471]. The applicant responded to NRW's comments in REP-592, stating that the otters were likely to pass the cable crossing point, but the works would not interfere with the watercourse or adjacent riparian habitat. The applicant also confirmed that pre-construction checks would be undertaken, which would be secured via the CEMP [REP-592].
- 4.16.15 Taking into account the representations made by NRW during the examination, and assuming that any DCO includes the additional mitigation proposed by the Panel to be included at requirement 10, with respect to the need for access routes for otters in the fencing schemes, the Panel is of the opinion that an infringement of Article 12 of the Habitats Directive as a result of the proposed project appears to be unlikely.

4.17 STATUTORY NUISANCE

- 4.17.1 EN-1 identifies that the decision maker can dis-apply the defence of statutory nuisance, in whole or in part, in any particular case, but in so doing should have regard to whether any particular nuisance is an inevitable consequence of the development.
- 4.17.2 Article 8 of the DCO of 4 December 2014 [REP-1002] addressed matters that are relevant to statutory nuisance, specifically defence to proceedings in respect of statutory nuisance. It provides that no-one shall be able to bring statutory nuisance proceedings under the Environmental Protection Act 1990 (EPA1990) in respect of noise and other types of nuisance if (a) the nuisance is created in the course of carrying out or maintenance of the development and for which notice has been given under S60 or consent obtained under S61 or 65 of the

Control of Pollution Act 1974 (COPA1974) or which is reasonably avoidable, or (b) the nuisance arises from premises being used in accordance with a scheme of monitoring and attenuation of noise which has been agreed with the LPA.

- 4.17.3 The applicant [REP-687c], explained that, in its view, given that the authority's statutory nuisance powers under s80 (2) of the EPA1990 are seldom used, it would not seem unduly onerous to remove the relevant power at Article 8. It considers that robust limits, continuous monitoring and controls together with the CEMP are considered sufficient to address the concerns raised by local authorities. Draft requirements 5, 18 and 19 of Schedule 1 of the DCO [REP-1002] are necessary provisions to secure the CEMP, monitor noise during construction noise and control piling (respectively).
- 4.17.4 The applicant's view is that it is not necessary to impose noise limits beyond those secured in these requirements given that no noise generating activities (eg piling or crushing concrete) are proposed anywhere near sensitive receptors. CCSC and NPTCBC in the DCO ISH on the 31 July 2014 raised no objection to the dis-application of the defence of statutory nuisance, subject to there being a satisfactory complaints reporting and recording procedure in the CEMP and other matters were 'firmed up'.
- 4.17.5 However, Swansea University raised concerns about the dis-application of the defence of statutory nuisance [REP-766] and considered that there should be a requirement in the DCO to require approval of a scheme for the implementation of noise nuisance mitigation during both construction and operation of the development. They also considered that the DCO should not provide the applicant with a defence against claims of statutory nuisance (under section 79(1) of the Environmental Protection Act 1990) and it is unacceptable to include such a defence in the DCO.
- 4.17.6 The Panel understands Swansea University's concerns about the dis-application of the defence of statutory nuisance, especially with regard to potential nuisance during the construction period. However, the Panel concurs with CCSC, NPTCBC and the applicant that the requirements in the DCO together with the CEMP [REP-924] details on monitoring and mitigation for any potential impacts upon human receptors, and the complaints procedure that is contained in the CEMP, will provide a suitable and deliverable response mechanism for minimising impacts from noise and emissions and for dealing with any complaints when they arise. The Panel concludes that the wording of 4 December 2014 DCO on this matter in Article 8 [REP-1002] is acceptable.

4.18 FLOOD RISK

- 4.18.1 EN-1 explains that applications for energy projects of 1ha or greater in Flood Zone A in Wales and all proposals for energy projects located in Flood Zones B and C in Wales should be accompanied by a Flood Risk

Assessment (FRA). Development Consent should not be granted for Zone B areas in Wales unless it is satisfied that the sequential test requirements have been met. In Zone C, consent should not be given unless the Sequential and Exception Test requirements have been met.

- 4.18.2 Exceptionally, where an increase in flood risk elsewhere cannot be avoided or wholly mitigated, consent may be granted if the determining body 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.
- 4.18.3 In Wales, developments must conform to the requirements of PPW7 and TAN15 in relation to flood risk. PPW7 requires development proposals in areas defined as being of high flood hazard only to be considered when the new development would not increase the potential adverse impacts of a flood event. TAN15 paragraph A1.5 requires any proposed development to provide a safe and secure living and/or working environment throughout its life. TAN15 paragraph A1.9 states that, "While assessing the dangers from flooding particular attention should be paid to the impact of the development on flood risk elsewhere on the flood plain...." and paragraph A1.12 requires that a site should only be considered for development if various criteria are met, one of which is "no flooding elsewhere".
- 4.18.4 CCSC and NPTCBC Unitary Development Plans contain policies regarding the need for developments to reduce the risk of flooding and in the case of CCSC there is policy support for the use sustainable drainage systems (SuDS) wherever they are effective and practicable.
- 4.18.5 The Case for the applicant in relation to flood risk is in ES chapter 5.2; The Flood Consequence Assessment [APP-166]; chapter 6.2.17 Hydrology and Flood Risk [APP-194]; the Updated Flood Consequence Assessment of June 2014 [REP-502] and the note to support the amendments to the DCO to address flood risk submitted for deadline IV on 7 October 2014 [REP-809].
- 4.18.6 ES chapter 17 on Hydrology and Flood Risk [APP-194] explained that the project lies within Development Advice Map (DAM) Zone C2 as delineated by the WG. This is described as "areas of the floodplain without significant flood defence infrastructure". This zone is based upon the outline of a flood with 0.1% chance of happening in any year (sometimes called a 1:1000 year or 0.1% annual probability event). In accordance with TAN15 requirements for this flood zone, the applicant has provided a Flood Consequence Assessment, which was updated in June 2014 [REP-502].
- 4.18.7 The Updated Flood Consequence Assessment (FCA) of June 2014 [REP-502, paragraph 2.7.4.17] identified in Figures 2.3 and 2.4 the present day 0.5% and 0.1% flood extent at Mumbles and that for

2033. Paragraph 2.7.4.17 summarised the risks and consequences of tidal flooding from the project, as follows:-

The lowest levels of flood defence are to the west of the Bay along the Mumbles Head to Black Pill frontage;

The FCA has shown that there is an existing risk of flooding from extreme sea levels for the present day (2013) 1 in 200 year and 1 in 1000 year events as well as the future scenario (2133) 1 in 200 and 1 in 1000 year events;

The consequences of this existing flooding is a relatively narrow, but potentially deep flood extent;

The lagoon is not shown to increase still water extreme sea levels around the Bay;

The risk and consequences of wave overtopping to the Mumbles frontage and wider Bay is not increased as a result of the development;

For the present day (2013) 200 and 1000 year combined events, there is almost no difference between the risk of overtopping before the lagoon is built and after, in fact there is a negligible decrease in risk;

For the future scenario (2133) 200 year events, the Joint Probability Analysis (JPA) has shown that the overtopping rate may increase by a very small amount (1.2%). For the 1000 year event in 2133, the JPA has shown that the overtopping rate may increase by 2.6%; and

During climate change events to 2133, flood risk is increased across the Bay and widespread overspilling/overtopping of the Mumbles frontage would occur. Any slight increase in wave overtopping rate as a result of the lagoon is considered to be insignificant when the total volume is taken into account.

- 4.18.8 The ES chapter 17 [APP-194] stated that a swale based drainage system that is lined (to stop infiltration into potentially contaminated land) would be incorporated into the design of the onshore works, where appropriate, in order to manage the surface water and to follow the principle of SuDS. Additional drainage measures would be put in place along the route of the existing access road, if they were necessary, including the use of SuDS features such as swales; such features would be designed to attenuate any excess surface water.
- 4.18.9 A SoCG was agreed with CCSC on this matter [REP-959]. It agreed that concern on flood issues is related to a localised increase in wave climate, due to waves being reflected off the lagoon wall, and how this affects the existing area at risk of coastal flooding at Mumbles.
- 4.18.10 In addition, a SoCG was agreed with NRW on this matter on the 28 October 2014 [REP-857].

Impacts and mitigation

- 4.18.11 The SoCG between the applicant and NRW agreed that the main source of flooding to the project is from tidal sources. It was also agreed that present day flood risk to the project from all sources of flooding is manageable in line with TAN15 subject to the implementation of a flood management plan secured by requirement. It was also agreed that the risk of flooding from surface water sources is manageable subject to the implementation of a surface water drainage strategy secured by a DCO requirement.
- 4.18.12 It was also agreed that the lagoon seawall could not be considered as a formal flood defence as it is not specifically designed as a flood defence. It was also agreed that the future risk of flooding to the buildings comprised within the project for their stated 75 year lifetime of development, including the Gateway building and onshore elements of the project, is likely to be manageable in line with the requirements of TAN15 due to the protection afforded by the seawall. It was further agreed that, based on the results of still water sea level predictions, the risk of flooding to the lagoon wall itself is likely to be management in line with TAN15 requirements until 2117. Thereafter, within the 120 year stated development lifetime, overtopping of the lagoon wall would be expected in tidal events that exceed the standard of protection afforded by the wall.
- 4.18.13 It was further agreed that the FCA had correctly identified the existing area at risk of flooding at Mumbles, and that there is a requirement for mitigation as a result of the projects impact upon wave climate under south westerly conditions, in order to comply with TAN15. It was agreed that on the basis of the preliminary analysis provided, in principle an engineering solution is technically feasible and that the calculations provided by the applicant demonstrated that in principle, subject to detailed design, the proposed mitigation would effectively manage the risk. The objective of the mitigation is to ensure that the increases to wave conditions are mitigated to maintain the status quo to ensure no increase in flood risk elsewhere, in line with TAN15.
- 4.18.14 The SoCG between the applicant and CCSC also agreed that to comply with TAN15 it is necessary to provide acceptable mitigation measures. It was also agreed that whilst not designed as a flood defence, the lagoon wall will provide a standard of protection of up to the 1 in 200 year (0.5%) event inclusive of climate change (2088 and 2133). It was also agreed that, despite the changes and difference of opinion on the increase to potential flood risk to Mumbles from the changes to the south-westerly wave climate, the south easterly wave conditions pose the biggest risk of flooding to Mumbles. It was also agreed that any increased risk of flooding is small and in principle an engineering solution is technically feasible, but detailed design would be required to ensure the effectiveness of the proposed mitigation. The objective of such mitigation would be to ensure that the increase to wave conditions would be mitigated to maintain the status quo to ensure no

increase to flood risk elsewhere in line with TAN15. It was further agreed that the generality, but not the detail of the proposed mitigation would be acceptable to CCSC in principle, subject to it being demonstrated that the mitigation is deliverable, and secured by way of a requirement in the DCO, with the final detail of the mitigation scheme requiring approval by CCSC. The draft requirement (requirement 26) regarding flood risk mitigation in the applicant's final draft DCO [REP-1002] was considered acceptable to CCSC.

Other representations including any unresolved matters

- 4.18.15 Geraint Davies MP [CORR-0018] raised concerns about the prospect of global warming causing changing weather patterns, which would increase the frequency of occasions that the lagoon would need to be closed to visitors due to overtopping of the wall by waves. Mr Probert [REP-733] expressed concerns about increased flooding episodes due to the presence of the lagoon. Cllr Colburn also raised concerns about possible flooding risk to Oystermouth, which he stated in his representation 'now seems to be accepted' [REP-916].

Further mitigation including changes to the DCO that the Panel recommends

- 4.18.16 At deadline IV, the applicant submitted a note on mitigating flood risk at Mumbles [REP-809]. This proposed two options for mitigating the long-term flood risk at Mumbles sea front by raising the height of a dwarf wall by up to 0.19m along the part of Mumbles seafront that would be impacted. The two options were either placing another layer of Pennant sandstone on top of the dwarf wall, or to place a capping beam on top of it. However, CCSC did not consider that the mitigation proposed was suitable as the dwarf wall had not been constructed for the purpose of sea defence and may not stand up to the wave regime changes and therefore alternatives must be considered including full replacement with a properly designed flood wall and flood gates. Measures to manage surface water flooding behind the gates would be required behind the wall as the area is subject to surface water flooding and any design solution must reduce the Authority's maintenance burden [REP-899].

Conclusions and Reasoning

- 4.18.17 In view of the following:-
- The application is supported by an appropriate Flood Consequence Assessment (FCA);
 - After mitigation, the proposal is in line with PPW7 and TAN15 requirements;
 - Priority has been given to using SuDs in the project design; and
 - The residual risk of a possible increase in long term flooding at Mumbles can be safely managed over the lifetime of the development through an agreed engineering solution.

- 4.18.18 The Panel concludes that the flood risk mitigation measures incorporated in the DCO at requirement 26 [REP-1002] are proportionate and deliverable. Therefore it is satisfied that the flood risk to the wider Swansea Bay area can be managed and mitigated such that no significant impacts in relation to increased risk of flooding to receptors at the sea front at Mumbles, including residential and commercial properties, or any other part of Swansea Bay is anticipated.

4.19 HEALTH

- 4.19.1 EN-1 (Overarching National Policy Statement for Energy (EN-1)) identifies that energy production has the potential to impact on the health and well-being of the population. Access to energy is clearly beneficial to society and to health as a whole. However, the production, distribution and use of energy may have negative impacts on some people's health.
- 4.19.2 EN-1 acknowledges that those aspects of energy infrastructure which are most likely to have a significant detrimental impact on health are subject to separate regulations (for example for air pollution) which will constitute effective mitigation of them, so that it is unlikely that health concerns will either constitute a reason to refuse consents or require specific mitigation under the PA2008. However, the determining body will want to take account of health concerns when setting requirements relating to a range of impacts such as noise.
- 4.19.3 The ES considers health impacts arising from the project in various sections.

WATER QUALITY

- 4.19.4 Water quality (in relation to recreational use of the lagoon) is described in chapter 7 of the ES [APP-184], risks from electro-magnetic fields are considered and assessed in a report prepared by consultants on behalf of the applicant in response to written question 10.2 [REP-10.2.1]. Safety impacts arising from navigation in the vicinity of the TLSB are described in chapter 14 [APP-191], air quality is described in chapter 16, [APP-193], contaminated land is described in chapter 18 [APP-195] and noise impacts are described in chapter 19 [APP-196]. Representations were received from various IPs on these matters, including Public Health England [REP-753], Public Health Wales [REP754 and 755]. At deadline VIII, the applicant provided a summary note on human health issues [REP-1032].

Water quality health issues

- 4.19.5 The matter of water quality was assessed in the ES in relation to the potential effects on designated bathing waters and shellfish waters outside the lagoon footprint. The protection of human health in relation to water quality and shellfish consumption is currently governed by the Bathing Water Directive (EC76/160/EEC).

- 4.19.6 In order to ensure that water quality in the lagoon does not deteriorate, as part of the project, the long sea outfall, which currently discharges UV disinfected final effluent and occasional storm water within the lagoon footprint would be extended by 1.5km to a location outside the lagoon wall. Work No.3 in the draft DCO [REP-1002] Schedule 1, Part 1B (Ancillary and Necessary Work) is for the burial of the extension of the long sea sewage outfall and replacement of diffuser apparatus. The statutory undertaker (DCWW) would also have the benefit of Protective Provisions within the DCO.
- 4.19.7 ES table 7.28 in [APP-184] identified that the lagoon would not compromise compliance with the designated bathing water standards nor shellfish waters around the Bay. The ES considered that within the lagoon footprint, the water quality within this area would improve from the recorded, 'sufficient' to 'excellent'.
- 4.19.8 Representations received during the Examination on this matter from Gig Cymru/NHS Wales (GCNHSW) [REP-754 and REP-755] and Public Health England [REP-753] expressed concerns about the possible deterioration of water quality in the Bay, as CCSC had worked hard to improve the quality of bathing water in the Swansea Bay area. However, it was recognised [REP-755] that the applicant had agreed to support the recalibration model currently in place and the extension of the outfall beyond the lagoon would reduce the complexity of the process required to assess bathing water quality risks within the lagoon. In addition, representations such as that from Professor of Medicine, Hugh Montgomery [REP-092] supported the project overall on public health grounds.
- 4.19.9 The potential impacts of the construction and dredging operations on the potential re-suspension of contaminants were considered in ES chapter 17 [APP-194]. All contaminants sampled during the site investigation programmes were below Cefas action level 2, no significant effects upon water quality as a result of these operations were predicted. The project would not result in the discharge of any pollutants into the marine environment. Further details on this matter are given in section 4.10 and 4.23.

ELECTROMAGNETIC FIELDS (EMFS)

- 4.19.10 WRs from GCNHSW and PHE [REP-753, REP-754 and REP-755] expressed concern that the possible impacts of EMFs from the project proposal on human health should be addressed in the ES. The impacts of electromagnetic fields arising from the grid connection cable were assessed in a report commissioned by the applicant by ERA Technology in response to an Examining Authority Question [REP-10.2.1]. The objective of the study was to ensure that the cable would be buried at a sufficient depth to be below the Radiation Protection Division (RPD) and International Commission on Non-Ionising Radiation Protection (ICNIRP) guideline limits for the general public, so that human receptors are not affected.

- 4.19.11 The assessment confirmed that increasing the proposed buried cable depth by 100mm in specified locations would increase the distance from the ground surface to the top of the cable trefoil group to approximately 331mm (or greater) which would reduce the magnetic field at ground level to below the maximum exposure limit of 100u T. In other locations, the cable is already at an acceptable or greater depth.
- 4.19.12 TLSB has proposed that this matter is addressed in the DCO (requirement 15 in the 4 December 2014 draft DCO [REP-1002]), so that the details of the grid connection cable depth would have to be submitted to, and approved in writing by the LPA in consultation with NRW prior to work commencing on the grid connection.

AIR QUALITY

- 4.19.13 Impacts of the development upon air quality were assessed in chapter 16 of the ES [APP-193] and are described in report section 4.12. The ES concluded that the impact of fugitive emissions of PM10 at these receptors with proposed mitigation would be negligible. Overall, the effect of fugitive emissions of particulate matter (dust and PM10) from the construction activities was considered to be not significant with respect to potential effects on health and amenity.
- 4.19.14 The ES also concluded that impacts arising from construction plant and traffic would be unlikely to result in a significant change in ambient air quality concentrations at the closest sensitive receptors. The construction phase would be short term and temporary, with a result that concluded that the overall impact would be negligible.
- 4.19.15 During operation, the nearby receptors would experience an imperceptible change in pollutant concentrations, thereby resulting in a negligible effect, which is not considered to be significant.
- 4.19.16 Representations from GCNHSW and PHE [REP-753, REP-754 and REP-755] confirmed that they were satisfied with the conclusions drawn on these matters.

NOISE

- 4.19.17 An assessment of the potential effects of construction and operation of the project on human receptors was included within chapter 19 of the ES [APP-196] and discussed in report section 4.12. The ES concluded that with standard mitigation, no significant impacts from noise and vibration would be anticipated to be created by the construction, operation and decommissioning phases of the development. It concludes that residual impacts would not be significant.

CONTAMINATED LAND

- 4.19.18 Chapter 18 of the ES [APP-195] provided an environmental assessment of the project in relation to the human health and potential receptors regarding possible contamination of land areas

within the development. Table 18.10 within this document identified pathways to human receptors and these impacts are assessed and mitigation measures were identified where appropriate. It is acknowledged that contamination within soils has the potential to impact adversely on the health of construction workers. Mitigation measures appropriate to the chemical composition of the ground (and the groundwater) would be evaluated and implemented to protect the health and safety of construction workers. As a result of these measures, any contamination within the land based development areas would have a low magnitude of impact and a negligible significance to construction workers.

- 4.19.19 Standard mitigation for the construction phase to protect construction workers are secured in requirement 12 of the draft DCO [REP-1002] and within the CEMP in sections A2 and A7 [REP-1107] so that there would be no risk to human health from contamination within soils.

Reasoning and conclusions

- 4.19.20 The Panel considers that the adoption of good practice in minimising noise, dust and other emissions during the construction phase, together with implementing the various mitigation requirements in the DCO, CEMP and AEMP will ensure that the impacts upon human health from the development will be minimal. The Panel concludes that there is no risk to human health arising from the development.

4.20 HISTORIC ENVIRONMENT

CULTURAL HERITAGE

- 4.20.1 ES chapter 21 provides an assessment of the potential effects of the Project on cultural heritage: terrestrial archaeology and historic landscape [APP-198]. The ES details the legislation and planning policy relevant to cultural heritage in the terrestrial environment, the methodology by which the assessment has been carried out, a description of the baseline conditions, an assessment of the potential effects that could arise from the construction, operation and decommissioning phases of the project, and any mitigation required.

Policy and legislation

- 4.20.2 Section 21.2 of the ES described the legislative and policy context for the assessment [APP-198]. The primary guidance/policy on archaeology in Wales is contained in Welsh Office Circular 60/96 Planning and the Historic Environment: Archaeology. Development proposals that potentially affect designated assets and their setting are protected through implementation of the Ancient Monuments and Archaeological Areas Act 1979, which sets out a presumption in favour of preservation in situ of scheduled sites.

Methodology

- 4.20.3 The applicant stated that an archaeological desk-based assessment was undertaken to inform the ES, which was supported by a site walkover assessment undertaken in January 2013 [APP-198]. The ES describes two study areas for the assessment: an inner study area of 1km radius around the site boundary, including the cable route, used to determine the archaeological and historical baseline; and a wider study area of 5km extending from the boundaries of the Project at the western end (Queens Dock) and on the landward side of the route of the cable trench to the east, used to assess all statutorily protected historical structures [APP-198]. This showed that there are no Scheduled Ancient Monuments or listed buildings within the land on which the Project will be constructed or its immediate surrounding area and it does not lie within or immediately adjacent to a Registered Historic Landscape Area.
- 4.20.4 Although Queens Dock is not a designated structure it is of historical significance especially those built elements that relate to military structures of WWII. All these defence structures are of high historic significance and a site visit undertaken by Jon Berry of Cadw (the WG historic environments service) confirmed that they are unique in their design and as such are likely to be of at least national significance.

Assessment of the significance on the impact of the development on historic landscape (ASIDOHL)

- 4.20.5 The applicant stated in the ES at paragraph 21.2.0.6 that 'developments which will have a significant effect on a registered historic landscape will require an ASIDOHL to be prepared for them. Following an initial assessment of the potential impacts of the Project, consultation was undertaken with Gwent and Glamorgan Archaeological Trust (GGAT), which has confirmed that there will be no impact from the Project on any historic landscapes. Accordingly, historic landscapes are not considered further..' [APP-198]. NRW expressed concerns in their WR that neither chapter 13 (Seascape and Landscape Visual Impact Assessment) nor chapter 21 (Cultural Heritage: Terrestrial Archaeology and Historic Environment) considered impacts on the registered landscapes of special/outstanding historic interest, and this could be viewed as a gap in the assessment (see Section K1.13 to K1.18 of [REP-471]).
- 4.20.6 The applicant responded to the comments made by NRW in [REP-592] at pages 536 to 537. The applicant stated that the need for an ASIDOHL was scoped out of the impact assessment at the scoping stage for the Project in January 2012, and this was stated to have been confirmed with GGAT, Cadw and the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) during telephone conversations [REP-592]. NRW subsequently agreed in a SoCG with the applicant [REP-856] that 'the need to provide ASIDHOL is a matter for agreement with Cadw' and that 'from the perspective of

NRW's remit, there are no further matters to be examined' (in respect of registered landscapes of special/outstanding historic interest).

- 4.20.7 CCSC and NPTCBC confirmed in their LIRs that they agreed with the assessment methodology [REP-563 and REP-565, respectively].

Impact assessment

- 4.20.8 The ES identified several undesignated features of historic interest within the study area that would be affected by the Project [APP-198]. These included three pill boxes, four tank cubes, a gun emplacement, and the East Pier harbour light [APP-198]. The ES states that Cadw are likely to schedule the pill boxes, tank cubes and gun emplacement in the near future and that the ES proposes to retain these features in situ [APP-198]. The ES states that the removal of the eastern breakwater would result in the loss of the harbour light located at the end of the east pier. Two options are discussed within the ES with regard to the East Pier harbour light; undertake a recording exercise prior to loss; or retain in situ (where possible and practical), with a view to relocating at a later date [APP-198].
- 4.20.9 Although no direct correspondence was received from Cadw during the examination, the applicant submitted email correspondence as an appendix to their note on s150 consents [REP-945]. In this correspondence Cadw agree to the inclusion of Article 47 subject to updated DCO arrangements for requirements 16 and 17 [REP-945]. The Panel notes that Cadw wished to see '...short stretches of the existing seawall projecting on either side (no less than 5m) of the defensive structures retained in order to preserve the immediate context of the defences'. Cadw also stated that 'The stated buffer zone should be a 5m radius beyond the external elevation or footprint of each structure. Cadw requires further information about what is intended in terms of 'the enhancement of features' and the plans for 'suitable landscape treatment''. The applicant proposed amended wording for these requirements, to include for a 'buffer zone of approximately 5m' [REP-945 and see draft DCO at REP-1002]. This has been amended to '5m' in the recommended draft DCO and is discussed in chapter 8.
- 4.20.10 The proposal to retain the artefacts in situ was welcomed by CCSC in their LIR along with the retention of 5m either side of the existing sea wall in order to protect the immediate context of the defences.
- 4.20.11 Although the ES did not identify adverse impacts on Scheduled Monuments, the various draft DCOs submitted by the applicant during the course of the examination included an article in respect of the Ancient Monuments and Archaeological Areas Act 1979 (for example, [REP-865]). This was assumed to have been included in the event that something was found that was considered to be of national or international importance and would subsequently be designated a Scheduled Monument.

- 4.20.12 The Panel advised the applicant in their consultation draft DCO [PD-020] that this would be a prescribed consent in Wales under Part 2 of the Schedule to the Infrastructure Planning (Miscellaneous Prescribed Provisions) Regulations 2010 and can only be included with the consent of Cadw [sic]. The Panel advised that the applicant would need to point to where that consent is given in the evidence provided to the examination if the article is to be re-instated [PD-020]. The applicant responded at Deadline VI (25 November 2014) [REP-952] that 'the relevant consent has been sought from Cadw and a revised version is proposed in the version of the Order accompanying this submission' (see draft DCO [REP-965]).
- 4.20.13 No representations were received during the course of the examination directly from Cadw; however, the WG did provide commentary in their representation in respect of Cadw and the article pertaining to the Ancient Monuments and Archaeological Areas Act 1979 [REP-918 and REP-976]. The WG stated [REP-976] that the wording of Article 46 in the application version of the DCO [APP-081] had been agreed between the applicant and Cadw, but this was not reflected in the applicant's draft DCO of 25 November 2014 [REP-965]. The WG provided wording for this article in their representation of 4 December 2014 [REP-976].
- 4.20.14 The applicant submitted a note in respect of s150 consents [REP-942] at Deadline VII of 25 November 2014, which contained in Appendix C [REP-945] email correspondence between the applicant and Cadw. Cadw confirmed in this email that "...Cadw is content for the revised clause (sic) 46 to be included within the Development Consent Order (DCO) subject to the updated DCO arrangements for 'archaeology' and the 'Retention of Historic Assets' as set out in your below email of 25 November 2014 sent at 13.05pm. For avoidance of doubt, Cadw is agreeing to the inclusion of the clause which says "this Order has effect as a consent under the Ancient Monuments and Archaeological Areas Act 1979 in respect of the authorised development in respect of the pillboxes shown on planning drawings ref. 2.4.42 and 2.4.43 and tank trap(s) located on the existing Swansea Port sea wall irrespective of the date upon which any such features are included in a schedule under that Act.""
- 4.20.15 The Panel has confirmed that the wording of the article concerning the Ancient Monuments and Archaeological Areas Act 1979, as agreed with Cadw in REP-945, has been included in the applicant's draft DCO of 4 December 2014 [REP-1002], with the exception of one amendment by the applicant, that is the inclusion of the text "...in respect of the authorised development..."prior to "...in respect of the pillboxes..."". This is now included in the recommended draft DCO (as Article 46) and noted in chapter 8.

Mitigation

- 4.20.16 Proposed mitigation measures were included at paragraphs 21.5.1.14 to 21.5.1.18 of the ES [APP-198]. Both CCSC and NPTCBC raised

concerns in their LIRs that the ES contained little information on appropriate mitigation measures to protect the terrestrial archaeological resource and also expected an appropriate watching brief to be maintained during construction works for the cable connection [REP-563 and REP-565]. CCSC and NPTCBC did, however, welcome the proposals to retain the WWII pill boxes and requested a condition to retain the navigation feature at the end of the eastern short pier at the mouth of the River Tawe (East Pier harbour light) [REP-563 and REP-565]. CCSC also confirmed in their LIR [REP-563] and SoCG with the applicant [REP-959] that with regard to the WWII pill boxes, 3m sections either side of the pill boxes as indicated in the ES should be secured.

- 4.20.17 Requirements have been included in the DCO in respect of the protection of marine and terrestrial cultural heritage and archaeological assets. These are included as requirement 16 (Archaeology) and 17 (Retention of historic assets) of the DCO [REP-1002]. As discussed for marine archaeology above, both LIRs for CCSC and NPTCBC identified a number of conditions that were recommended be attached to the DCO (see paragraphs 10.11 to 10.13 of CCSC's LIR, which are the same in NPTCBC's LIR) [REP-583 and REP-585]. The Panel notes that requirement 16 of the DCO was included to meet these recommended conditions [REP-1002]. CCSC agreed to the wording for a single requirement in respect of archaeology and heritage assets in their subsequent SoCGSoCG with the applicant (see Section 5 of [REP-959]); however, the Panel notes that a requirement in this form does not exist in the final DCO.
- 4.20.18 Requirement 17 of the DCO [REP-1002] provides for the retention of historic assets, including the pill boxes, tanks, gun emplacement, and east pier harbour light. The requirement refers to 'a buffer zone of approximately 5m' [REP-1002], which has been increased from 'a buffer zone of approximately 3m' from that was contained in previous draft DCOs (for example, the consultation draft [PD-020]).
- 4.20.19 Mitigation in the form of a watching brief during cable construction, as requested by CCSC and NPTCBC in their LIR [REP-583 and REP-585], is not specifically mentioned in the DCO; however, the DCO does include for a Written Scheme of Investigation [REP-1002] and for a CEMP at requirement 5 [REP-1002]. The latest version of the CEMP submitted at Deadline VII (4 December 2014) [REP-995] includes at section 15 the statement that 'A watching brief to be implemented during construction of the cable route running through previously undisturbed ground'.

Representations and findings

- 4.20.20 Relatively few representations were made during the examination in respect of terrestrial archaeology and the historic landscape. Representations on these matters were received from CCSC, NPTCBC, NRW and WG. Responses are discussed in detail above.

- 4.20.21 The Panel therefore recommends the inclusion of requirements 16 and 17 in the DCO [REP-1002] and Article 47 (as amended) concerning the Ancient Monuments and Archaeological Areas Act 1979.

MARINE ARCHAEOLOGY

- 4.20.22 Chapter 20 of the ES contains an assessment of the potential effects of the Project on cultural heritage: marine archaeology [APP-197]. The ES describes the relevant legislation and planning policy, the methodology applied to the assessment, baseline information, and an assessment of the potential impact of the construction, operation and decommissioning phases of the Project on marine archaeology. Where appropriate and relevant, mitigation measures have been suggested to reduce or eliminate any significant impacts and residual impacts are then presented.

Policy and legislation

- 4.20.23 The primary legislation relating to archaeology in Wales is contained in Welsh Office Circular 60/96 Planning and the Historic Environment Archaeology (1996).
- 4.20.24 In addition, the Protection of Wrecks Act 1973, Protection of Military Remains Act 1986, and Merchant Shipping Act 1995 relate specifically to maritime cultural heritage lying within the 12 nautical mile territorial limit along with relevant guidance documents, amongst which, the Historic Environment Guidance for Wave and Tidal Energy (Firth A 2013) is of particular relevance to this Project since it outlines the following key issues:-
- In satisfying environmental requirements to address the historic environment in the course of consent, developers create knowledge and understanding that can also be used to generate social and economic benefits for the wider public
 - Provision for managing archaeological data should be set up at the start of a project.
 - Site investigations for archaeological purposes are an integral element of overall site investigations and should be planned accordingly
 - Anomalies on the seabed can be difficult to characterise without direct observation; better field-based evidence of the forms and origin of anomalies will benefit individual schemes and the wave and tidal industry as a whole.
 - Public accessible research is intrinsic to historic environment practice and enables all parties to gain maximum benefit from the investigations that are undertaken.
- 4.20.25 This guidance forms the basis of the mitigation outlined in paragraphs 20.6.1.11 to 20.6.1.12 of the ES [APP-197] and also requirement 16 Archaeology of the DCO [REP-1002].

Methodology

- 4.20.26 The methodology applied to the assessment is described in section 20.3 of the ES [APP-197]. A desk-based assessment was undertaken to: identify known heritage assets within or in the vicinity of the Project in the area extending across the whole of Swansea Bay, to the north of a line drawn between Port Eynon and Sker Point, with a 500m buffer applied to the outer edge [APP-197]. The data collected was assessed in order to establish the general level of known maritime archaeology within the Bay [APP-197] and then filtered such that only sites lying within the area that would be occupied by the Offshore Works, plus a 500m buffer, were considered in detail.
- 4.20.27 The LIR produced by CCSC stated that Glamorgan Gwent Archaeological Trust (archaeological advisors to CCSC) confirmed that the 'information on the marine and terrestrial historic and archaeological resource in the development area contained within the ES was prepared to the Standards and Guidance of the Institute for Archaeologists Standard for Historic Environment Desk-based Assessment (2012) as agreed at the scoping stage for the work' [REP-563].

Impact assessment

- 4.20.28 The baseline conditions for marine archaeology were described in Section 20.4 of the ES [APP-197]. The ES identified that the known and potential marine cultural heritage resource within the Project area form two distinct types of archaeology: prehistoric archaeology, relating to the inhabitation of the area during periods of lower sea levels; and maritime and coastal archaeology, formed by seafaring and a wide range of inter-tidal activities [APP-197].
- 4.20.29 The ES concluded that although the evidence for significant prehistoric archaeology was not strong, the potential for prehistoric archaeology could not be discounted [APP-197]. The evidence of seafaring and inter-tidal activities was considerably stronger. Swansea Bay and its surrounding areas have a long history of human activity from its establishment as a trading centre with its attendant maritime activities. This history includes wrecks, aircraft losses, docks and fishing weirs.
- 4.20.30 A summary of potential impacts identified in the impact assessment prior to mitigation was provided in Table 20.11 to the ES [APP-197]. The ES concluded the following: moderate adverse impacts on known inter-tidal fish traps (see locations on Figure 20.3 to the ES [APP-324]); moderate to major impacts on potential buried maritime archaeology within dredged areas; minor to major impacts on potential buried prehistoric archaeology; and moderate to major impacts on potential buried inter-tidal archaeology in dredged areas [APP-197].

Mitigation

- 4.20.31 Due to the potential for adverse impacts on marine archaeology in its various forms during the construction of the Project, mitigation measures were recommended, as described in paragraph 20.6.1.11 of the ES [APP-197]. The ES stated at paragraph 20.6.1.12 that "All mitigation measures will be detailed in a written scheme of investigation (WSI) which will be agreed with Cadw and Glamorgan Gwent Archaeological Trust, prior to construction commencing"[APP-197].
- 4.20.32 The CEMP submitted at Deadline VI (25 November 2014) [REP-994 and REP-995] includes at paragraph 14.0.0.1:
- "A watching brief during dredging to be implemented following approval of the Written Scheme of Investigation, to allow for the identification of those sites for which a significance rating was not possible during the EIA and for the monitoring of activity in the vicinity of other identified sites. The watching brief will involve the implementation of a protocol for the reporting of material recovered from the dredge head, with provision for monitoring of dredging by a suitably qualified archaeologist where the discovery of material suggests the present of an archaeological site. The protocol will include provision for the recording and investigation of any recovery material and for the assessment of any sites that are discovered during dredging".

Representations and findings

- 4.20.33 Very few representations were received during the examination in respect of marine archaeology. Both CCSC and NPTCBC appointed Glamorgan Gwent Archaeological Trust as their advisors on archaeological matters and both Councils provided commentary on the marine archaeology impact assessment in their LIRs [REP-563 and REP-565, respectively]. It was stated at paragraph 10.9 of CCSC's LIR and paragraph 9.11.6 of NPTCBC's LIR that there was "a need for the identified fish traps to be fully investigated and recorded and that contingency arrangements are in place, including the provision of appropriate time and finance, to ensure that that any archaeological features that are revealed during the construction programme are fully investigated and recorded"[REP-563]. CCSC also stated that the 'developer will also need to ensure that any significant archaeological artefacts that are recovered are appropriately recorded and conserved' [REP-563 and REP-565]. Both LIRs identified a number of conditions that were recommended be attached to the DCO, these are listed at paragraphs 10.11 to 10.13 of CCSC's LIR and are the same in the LIR of NPTCBC.
- 4.20.34 NPTCBC also raised a concern at Deadline V (28 October 2014) and VI (25 November 2014) that the requirement in respect of archaeology included in the applicant's draft DCOs submitted for both 7 October and 28 October 2014 [REP-770 and REP-771,844 and REP-845,

respectively] only referred to onshore archaeology [REP-832 and REP-908]. The applicant amended the wording of the draft DCO at Deadline VII (4 December 2014) to remove the word 'onshore' from the authorised development [REP-1002] and CCSC's request for a Written Scheme of Investigation has been addressed in requirement 16 (1).

4.21 SEASCAPE, LANDSCAPE AND VISUAL IMPACT ASSESSMENT INCLUDING LIGHTING.

- 4.21.1 The Project is situated adjacent to the Port of Swansea, approximately 2.2km southeast of Swansea City centre. The majority of the development would be out to sea, taking the form of a linear seawall enclosing a lagoon. Most of the views of the structure would either be from low level viewpoints along the coast to the east and west or higher level viewpoints that afford wide views over Swansea Bay.
- 4.21.2 The Lagoon would enclose the bay between the mouths of the Rivers Tawe and Neath, with the exception of an intertidal area to the west of the Neath that is part of Crymlyn Burrows SSSI. It would extend southwards into Swansea Bay for a distance of about 3.4km. The eastern seawall would extend approximately 1.5km directly offshore from the edge of the new SUBC along the western boundary of Crymlyn Burrows SSSI, then in a south-westerly direction parallel to the western boundary of the training wall of the River Neath Channel. The western seawall would then extend parallel to the dredged channel for the River Tawe to the western end of the Port of Swansea. In total, this would form an approximately 9.5km long U-shaped seawall impounding approximately 11.5km of the seabed, foreshore and intertidal area of Swansea Bay. The final design of the project was based on optimising viability and generating capacity.
- 4.21.3 The seawall would have the sediment core taken from within the Lagoon footprint and held in place by a casing of Geotubes filled with the removed sediment. The outside of the structure will be covered in rock armour whose colour would vary according to weather and light. The visible height of the sea wall above the water level measured at the highest point would be approximately 4m at high tide and (MHWS) and 12.5m at low tide (MLWS) as outlined in the ES at 4.3.1.10 [APP-181].
- 4.21.4 The turbine and sluice gates housing structure would be located in the south west of the Lagoon and an offshore building containing operation and maintenance facilities with integral visitor centre, leisure facilities, public realm and emergency facilities.
- 4.21.5 The following features of the Project would have landscape and seascape impacts.
- The main physical elements required for exploitation of tidal range energy: the lagoon wall, the housing for turbines, sluices and cranes.
 - The offshore buildings.

- The landward side of the lagoon, including the onshore building at the western landfall and new elements of public realm.

4.21.6 In reporting on and assessing these impacts, the panel is conscious that some aspects of the Project that were part of the draft DCO as submitted (APP-081) and that have been taken into account in the ES, would not necessarily be part of a scheme emerging from a DCO that followed the form taken in the 4 December 2014 iteration [REP-1000]. In particular the offshore building and the extent to which facilities related to recreational use of the lagoon are provided with an onshore building are seen by the panel as suitably left for approval by LPAs.

EXISTING SEASCAPE AND LANDSCAPE CHARACTER

4.21.7 ES chapter 13: Seascape and Landscape Visual Impact Assessment [APP-190] provided an assessment of effects on seascape and landscape character, the assessment of visual effects, and the assessment of cumulative seascape, landscape and visual effects, taking account of other proposed developments within the study area, as a result of the Project. It considered the baseline conditions and the impacts that could arise during the construction, operation and decommissioning phase of the Project.

4.21.8 The current sweep of Swansea Bay covers an area from the cliffs of Mumbles Head at the western tip through the sandy beaches in front of Swansea itself, the estuary of the Tawe and Neath Rivers join the bay in front of the urban and industrial frontage of Swansea docks and then eastwards in to Port Talbot with its steelworks. At the eastern most extent of the Bay are the dunes of Margam and Kenfig Burrows [APP-310] which are designated as of Outstanding Historic interest. Hence the most outstanding landscapes are the extreme eastern and western points of the Bay.

4.21.9 The seascape is described in the ES by Unit 1, which can be viewed from within the bay and Unit 2, visible from up to 15km out in the bay and including the western edge from Mumbles the south facing cliffs up to Three Cliffs which form the southern edge of the Gower AONB which form part of a Heritage coast. The Wales Coast Path runs the whole length of the bay from Kenfig to Mumbles and then along the Heritage Coast as close as practical to the coast edge.

4.21.10 Whilst there are no significant subsea features within these sections the nature of the seascape differs between the enclosed bay with the large tidal reach and hence the extensive intertidal sandy beaches to the external seascape where the main feature is the cliff backdrop. Within the bay the open aspects of the beaches to the west of the Tawe are then met by the seawall of the access to Kings Dock against a backdrop of Swansea. Further east is the Neath estuary with a coast edge of alluvial deposits. The Port Talbot steelworks complex is clearly visible across most of the bay which then ends in the dunes of Margam and Kenfig. The seascape within the bay is dominated by the open sweep of the bay but with a developed backdrop and the

movement of vessels associated with the rivers and port. The existing lighting within the bay reflects the urban/industrial developed nature of the coast with the Port Talbot steelworks lights dominating the night-time view but with the dark backdrop of Kenfig sands at the eastern edge.

- 4.21.11 By contrast the Regional Seascape Unit 2 from Mumbles along the Heritage coast is characterised by natural exposed cliff faces and narrow rocky beaches with very limited man-made elements except for some buoys and the passage of vessels. With the exception of the Mumbles Head lighthouse there are no significant lights along the Heritage Coast section again except for passing or moored vessels.

METHODOLOGY

- 4.21.12 A Seascape and Landscape Visual Impact Assessment (SLVIA) for the Project is presented in chapter 13 of the ES [APP-190]. The methodology for the assessment was developed by the chapter author, with reference to a number of named industry standard publications and guidelines, including: The Landscape Institute and IEMA (2013) Guidelines for Landscape and Visual Impact Assessment (GLVIA), Third Edition; guidance on seascape assessment; guidance on using LANDMAP (the NRW approach to landscape classification), and guidance on the creation of photography and visualisations. The methodology follows the approach outlined in GLVIA (2013), which is to follow a methodology specific to the development under consideration. The ES stated that consultation was undertaken with NRW, CCSC, and NPTCBC with regard to the acceptability of proposed viewpoints [APP-190].
- 4.21.13 A study of baseline conditions was undertaken including a review of relevant statutory and non-statutory landscape classifications. An assessment of the Zone of Theoretical Visibility (ZTV) was made including a detailed description of the regional and local seascape units and landscape character areas. A study area of 15km was selected for the assessment [APP-190]. CCSC stated in their Local Impact Report (LIR) that the 15km radius study area selected for the assessment was considered to be reasonable [REP-563]. NRW confirmed that in respect of visibility of the Project from the Gower AONB, the ZTV assessed in the ES was considered appropriate [REP-856].
- 4.21.14 NRW confirmed in their RR that they were content with the assessment methodology, stating that '...the methodology follows good practice guidance as set out in GLVIA 3 and assessment of effects on landscape/seascape character is consistent with the method' [REP-141]. This agreement was further confirmed in the SoCG between the applicant and NRW submitted at Deadline V of 28 October 2014 (see paragraph 2.1) [REP-856].
- 4.21.15 The panel consider that the landscape designations follow the appropriate characterisation definitions and the use of the two seascape unit descriptors are a useful differentiation between the

internal bay and external view from the south. A number of accompanied and unaccompanied site visits were undertaken and these raised no significant points of difference with the baseline assessments.

IMPACT ASSESSMENT FOR LANDSCAPE/SEASCAPE

- 4.21.16 The potential effects of construction, operation and decommissioning were considered in the ES, along with mitigation and any residual effects [APP-190]. The ES concluded with an assessment of the effects on seascape and landscape character taking into account the industrial/maritime character of the area. The overall conclusion was that the effects of the phases of construction were identified as minor in terms of landscape within the bay as the activities of laying the tubes to construct the lagoon walls were seen as of limited impact within the industrial backdrop of the central area of the bay. ES 14.6.1.24-27 [APP-191] deals with the impact of increased light during construction.
- 4.21.17 The assessment in Table 13.19 of the ES [APP-190] overall assesses a neutral impact during construction. It does identify some activities such as the cofferdam construction as having a low impact but in a landscape/seascape of high value and high sensitivity but still concludes as a neutral outcome. The panel consider that this underestimates the landscape/seascape impact as the emerging rim of the lagoon will become a feature within the sweep of the bay during construction and that this will impact on the current open nature of the seascape. Whilst the effect may be moderate rather than neutral it does not change the fundamental nature of the seascape but does intrude in to it.
- 4.21.18 It is worth noting that the Panel's consideration here has not included the construction of the offshore building above the level of the lagoon walls as this has been scoped out of the DCO earlier in this report although the ES has considered it and it may be a material consideration in any other decision making process in relation to the offshore building. The highest point will therefore be the top of the turbine housing structure but this lies within the envelope of the ES and does not impact on any of these assessments.
- 4.21.19 The assessment for operation detailed in Table 13.20 [APP-190] concludes a moderate effect on landscape/seascape, akin to the Panel's assessment of the construction phase. The most significant difference here is that there will be permanently installed lighting on both the landward and seaward sections of the lagoon. Whilst the landward side is mostly against an industrial backdrop with an urban lit environment, the seaward elements are in the open bay area which does not have existing permanent lighting. Lighting of both elements will be necessary for safety reasons including navigational lighting for the seaward walls.

LIGHTING STRATEGY

- 4.21.20 The lighting strategy for the Project is explained in Design and Access Statement (DAS) Document 8.1 [APP-383]. Page 6 contains an overview of the strategy:

"The lighting strategy ensures a cohesive lit environment across the Lagoon after dark, adding character, improving way finding and safety, reducing energy consumption and supporting surrounding habitats and ecology. The strategy has been specifically developed to ensure that the environmental impact of artificial light is minimised.

Architectural and landscape lighting will be combined with amenity lighting to create the overall lit effect for the Lagoon and each of the Parks".

- 4.21.21 And again on page 29 of the DAS:

"The lighting has been sensitively designed with the existing illuminated backdrop of the Port and urban environment of Swansea forming a context for the lighting of the seawall in views across the Bay. An increase in intensity in lighting is proposed at the western landfall and along the port access road where these areas are closely associated with the Port and urban setting of Swansea. The proposed lighting has been designed as an elegant proposal with illuminated "pearls" or objects at wide spacing along the seawall and the route to the Offshore Building subtly lit. The access road to the Lagoon will be lit by column lighting appropriate to and not conflicting with the adjoining Port context".

- 4.21.22 Design and Access Statement [APP-383], Section 5 Design development (5.3G) provides further detail of the lighting strategy which would be based on; the avoidance of over-illumination; energy efficient sources; optical control through reflectors, shields and louvres and lighting control systems.

- 4.21.23 It states that "each component of the Project would have an appropriate lighting strategy; the landward urban park would have standard column lighting at approximately 40m intervals and would be dimmed or switched off when not in use. Architectural lighting may be used to highlight the Western Landfall Building with additional amenity lighting for quay edge and boat storage when in use.

Broad Seaward Park which includes the public realm around the Offshore Building would have low level amenity lighting along with the western Lagoon seawall".

- 4.21.24 The ES [APP-190] also claims that "an innovative lighting strategy would be used to illuminate the Offshore Building based on the height of the tide at any particular time of night, the phases of the moon and the generating pattern of the turbines".

- 4.21.25 The Landward Ecological Park and the Narrow Seaward Park would remain unlit after dark except for those sections that would be illuminated for safety reasons or to display the string of pearls concept.”
- 4.21.26 All of these of course subject to operations and maintenance requirements and navigational requirements.
- 4.21.27 NRW in their WRs in K1.20 [REP-471] considered that the project could be accommodated within the partly developed and urbanised setting of Swansea Bay but subject to (in K1.21), design, implementation and maintenance standards being secured through the DCO and commitments in the CEMP and OEMP. They went on to say, “This is particularly important in terms of landscape/townscape design and lighting.”
- 4.21.28 The applicant in their response to WRs [REP-592] stated that lighting design as detailed in Pages 195 and 196 of the Design and Access Statement will be secured in requirement 25 of the DCO [REP-1002].
- 4.21.29 During the examination and remembering that all parties were striving for the highest standards of implementation either through the DCO or s106, the one debated point revolved around the differential wording in requirements 24 and 25 of the draft DCO [REP-1002].
- 4.21.30 Requirement 24, Construction and security lighting scheme says, “No phase of the authorised development shall commence until a detailed written construction and security lighting scheme in accordance with the design and access statement has been submitted to and approved by the relevant planning authority” [REP-1002].
- 4.21.31 Whereas requirement 25 Permanent lighting inserts, “substantially in accordance with”. CCSC was concerned that this could be perceived as a watering down of the agreed objectives of the Design and Access Statement.
- 4.21.32 However, considering the potential longevity of this project; the Panel were wary of tying down a permanent lighting scheme submitted in say 2090, which is only slightly over the projected half-life of the scheme, to a Design and Access Statement based on the mind-set of the early 21st century. In addition, the applicant or whoever will be their successor body would still have the comfort of the, “and approved by the relevant planning authority”, section 25 (1) of the requirement.
- 4.21.33 In the Hazard Workshop held on the 30 April 2013, a total of 20 hazards were considered, two were to do with lighting; lagoon lights not visible against shore based lights and the effect of light pollution during construction and operation. Of the 20 hazards, 6 were identified as being capable of posing unacceptable levels of risk in the worst case scenario, except where specific mitigation measures were imposed as part of the Project. The two light issues were not included in the identified high risk 6 [APP-191, paras 14.5.0.2-0.4].

- 4.21.34 The ES [APP-191 paras 14.6.1.24-27] deals with impact of increased light during construction. It was accepted that increased lighting in the project had the potential to cause confusion for vessels coming into Swansea Bay but anticipated that vessels would adapt by using other navigational aids.
- 4.21.35 Apart from the standard mitigation measures set out in ES Section 14.8 [APP-191], two further specific measures were proposed; shielding spurious lights from approaching vessels and extensive information to receptors concerning construction activities. Following the implementation of these mitigation measures, the residual effect would be minor adverse.
- 4.21.36 A small section of the Design and Access Statement in Section 5.3.G [APP-383] deals with Navigation Lighting requirements namely navigational lights at the entrance channel to the River Tawe; a floating buoy light in the location of the former eastern breakwater at the River Tawe entrance and navigational lighting at the entrance of the River Neath and lighting to the 500m safety zone around the turbine house.
- 4.21.37 When construction lights and permanent lights on tidal works should be displayed has been an issue from the start of the examination. Trinity House in their WRs [REP-503] asked for lights to be displayed during the entire time of construction and to be exhibited to prevent danger to navigation.
- 4.21.38 The applicant, in their response to WRs made by Trinity House [REP-596, appeared to be sympathetic to the request but suggested that these articles may be excluded from the DCO at the request of WG and NRW. During the examination two substantive changes were made to Articles 21, Lights on tidal works etc during construction and Article 23 Permanent lights on tidal works when, "periods of restricted visibility" was added on to, "exhibit every night from sunset to sunrise" at the request of the MCA.
- 4.21.39 Also the preamble in articles 22 and 23 subjecting the matter to the marine licence regime were removed as suggested by WG given that Article 16, Application of Marine and Coastal Access Act 2009 already addressed this point. References to Trinity House and Neath Port Authority were included in both Articles as suggested by Trinity House [REP-891].
- 4.21.40 The above changes occurred on the Updated Draft DCO dated the 25 of November 2014 and submitted at Deadline VI (25 November 2014) [REP-927].

VISUAL IMPACT ASSESSMENT

- 4.21.41 The ES discusses the identification of viewpoints including those from particularly sensitive locations such as Mumbles Head and liaised with CCSC, NPTCBC and NRW in the selection. The Panel visited all the suggested viewpoints during either the accompanied or

unaccompanied site inspections. The technical construction of the Viewpoint Location Figures is outlined in the ES chapter 13 Table 13.7 [APP-315].

- 4.21.42 The applicant's assessments acknowledges at paragraph 13.11.0.6 [APP-190] that there would be significant effects on visual amenity from sites within close proximity to the project, including locations along Swansea promenade, The Knab, Crymlyn Burrows, SUBC and elevated locations within Swansea that overlook the Bay.
- 4.21.43 CCSC commented on the construction of the visualisations in their LIR [REP-563]. They were content with the technical construction but noted that the mist on the day obscured some of the most distant features such as the view to Exmoor. They also noted that the columns retaining the floating barrage to protect the turbines might be more visible than shown in the visualisation. Finally, they noted that at certain times of the day there would be a difference of up to 6m between the open sea level and the retained water in the lagoon and that this was not depicted.
- 4.21.44 In terms of the impact, the LIR Annex C reviewed each of the viewpoints and the assessments made by the applicant. Whilst there was much agreement on significance in most cases, they disputed the applicant's findings of neutral for most locations, instead concluding adverse. Much of the difference stems from the lack of clarity over the classification of the mid-range of moderate to major in the definitions. However, the contextual argument is that from the majority of viewpoints there is currently an uninterrupted view of the sweep of Swansea Bay. That will change with the top edge of the lagoon wall visible at all times and the difference in water levels different for many hours of each day.
- 4.21.45 The one exception to this is from the SUBC location where the lagoon will be enclosing the existing tidal frontage and through the mitigation landscaping may be considered to improve the immediate beachfront views.
- 4.21.46 The LIR from NPTCBC [REP-565] also expressed concern about the impact of the difference in water levels on the visual impact of the barrier. They also felt that, whilst the overall methodology of the SLVIA was appropriate, some of the assessments underplayed the impact of the lagoon when viewed from higher-level viewpoints such as Mynydd Brombil. Finally, they were also concerned that the assessment of the impact on Crymlyn Burrows did not recognise the quiet nature of this location and were particularly concerned about the potential variation of up to 3m (sic) in height of the barrier permitted in the vertical limits of deviation in the DCO and the impact of the highest potential levels on the views from lower level viewpoints in particular.
- 4.21.47 Both CCSC [REP-563] and NPTCBC's [REP-565] LIRs give detailed comments on ES chapter 13, and consider the visual impact of the

Lagoon against its tourist and recreational impact, CCSC also mention the softening effect of the landfall with the creation of new habitats.

- 4.21.48 White Consultants commissioned by CCSC to review ES chapter 13 [APP-181] come to a similar conclusion. Under paragraph 8.68 [REP-563] CCSC states that, "Swansea relies on the character of the bay, in particular west of the Tawe, as a major asset to its positive image and quality of life. In this respect, it is helpful that the character of the sandy beaches of north western part of the Bay will be retained." This was confirmed in the SoCG Sec 23, Deadline 6 Folder 4 between CCSC and the applicant [REP-959].
- 4.21.49 However, paragraph 6.4 goes on to describe the adverse effect of the Lagoon seawall extending a long distance into the bay before concluding with paragraph 6.21 "Overall the adverse effects will need to be considered in the planning balance with the positive benefits of the development in terms of renewable energy generation and leisure, sport and environmental improvement to the coastal edge within the Lagoon"
- 4.21.50 In the applicant's draft DCO [REP-1002] the seawall has a proposed limit of deviation of 2m. The applicant stated in ES chapter 4 paragraph 4.2.0.7 [APP-181] that this had been taken into account in the SLVIA. CCSC in their Deadline IV (7 October 2014) representation [REP-761] also noted that an increase in height of the seawall from a maximum 14m to 16m over CD would have to be approved in planning terms by both CCSC and NPTCBC. At present the limits of deviation of 2m for the seawall are in the applicant's DCO in Part 2, Dimensions of Structures [APP-081].
- 4.21.51 There is a lack of clarity in the text of the SLVIA with regards to the height of the seawall assumed. At paragraphs 13.8.1.5 and 13.8.1.32 reference is made to the extent of the seawall visible at low tide as 8.5m AOD, whereas at paragraphs 13.8.4.26 and 13.8.4.57 the ES [APP-190] refers to the seawall being 12.0m AOD at low tide. However, figure 13.05 in the ES [APP-313], the Zone of Theoretical Visibility, states that the ZTV assumes 8.5m AOD (13.5m CD) to the top of the lagoon wall. The Panel note that the potential maximum height of the seawall height of 16m CD is not stated as having been assessed in the chapter 13 of the ES.
- 4.21.52 Taking account of the criteria established in Section 13.6 of the ES [APP-190] for the assessment of seascape, landscape and visual effects, and the overall scale and nature of the project, the Panel considers that an increase in the height of the seawall to 16m CD would not make a significant difference to the findings of the seascape, landscape and visual assessment at the far view but may be significant at the near view from locations adjacent to the shore.

OTHER REPRESENTATIONS

- 4.21.53 There was a considerable range of view expressed by IPs in relation to the SLVIA. Philippa Powell thought the scheme would have very significant landscape and visual impacts [REP-158] and Anthony Colburn expressed concern in his RR about the negative visual impact and the effect this would have on the local tourism industry [REP-015]. Brian and Jill Burgess' [REP-027 and REP-133] expressed concern was for the loss of an iconic bay caused by the lagoon and the consequential impact on the tourist industry.
- 4.21.54 Some of the RRs also viewed the project as forming more than just a renewable energy scheme (for example, John Phillips [REP-102]). A number of IPs described in their RR that they considered that the project would enhance the landscape (for example, David Williams [REP-061]).
- 4.21.55 Mumbles Traders Association [REP-138] identified the potential for the lagoon to become a tourist attraction in its own right. Village Hotel [REP-243] and La Parilla [REP-110], two tourism businesses located in SA1, directly located alongside the proposed Lagoon were equally enthusiastic, as was Swansea Civic Society [REP-234]. Some took a more cautious approach. Louise James stated in her RR that she was prepared to accept a minimal visual impact for safe renewable energy generation [REP-114].
- 4.21.56 Whilst the application is for a Tidal Lagoon Renewable Energy scheme, CCSC in their WR (paragraph 1.1) places the application within a wider physical context stating 'The Council therefore seeks to achieve a balance between supporting renewable energy proposals whilst avoiding significant damage to the environment and its key assets'. It states that the character of the Bay is a major asset, which is essential to Swansea's positive image and quality of life (paragraph 1.6), whilst stating 'In strategic terms, the tidal lagoon has potential to create a significant visitor attraction as well as an important public realm resource' (paragraph 1.5) [REP-461].
- 4.21.57 Paragraph 1.8 describes the development itself as "a large structure protruding 3.5km into Swansea Bay and effectively dividing it into two. The lagoon seawall would form a strong dark horizontal structure extending a long distance into the Bay, closing down its apparent width, restricting views and disrupting the overall iconic sweep of the Bay".
- 4.21.58 The Panel has reservations about this statement since the visual impact of the lagoon wall would not be constant but vary considerably according to weather, light and tidal range.
- 4.21.59 In paragraph 1.9 CCSC's assessment of the design is generally critical as can be seen from "the seawall structure appears to be dictated almost entirely by engineering and cost considerations, with design finesse and intervention primarily having effect at a very local level

along the inside of the structure, in the associated buildings and on the coastal edge of the lagoon. These elements are generally positive, based on the indicative designs, but have limited mitigating effects on the overall character of the structure when viewed from outside the lagoon”.

4.21.60 They went on to say in paragraph 1.16 “Given the extent of the impacts and the sensitivities of the receptors, it is considered that significant weight should be afforded to these identified impacts in the decision making process”.

4.21.61 Paragraph 1.17 goes on to say “It is recognised however, that for a renewable energy scheme of the nature proposed, adverse seascape, landscape and visual impacts are somewhat inevitable”.

MITIGATION

4.21.62 The ES discusses at section 13.6 mitigation measures, with the primary mitigation embedded in the project design [APP-190]. The ES states at paragraph 13.6.0.2 “...other than the Masterplan, due to the scale and nature of the Project, mitigation measures to reduce the effects on seascape/landscape character and visual amenity is limited. Notwithstanding this, the lighting design along the Lagoon seawalls and also to the onshore and offshore buildings have been carefully considered and embedded into the design in order to minimise effects at night” [APP-190].

4.21.63 It is considered however that some landscaping where the lagoon walls meet the existing foreshore will limit the near view effect. Also that the treatment of the interface with Crymlyn Burrows is essential in preserving its local landscape and improving the foreshore below SUBC. The Table of Mitigation summary submitted with the application [APP-386] includes a number of elements of landscaping (including dunescaping) which are relevant to both the SLVIA and the biodiversity considerations discussed later in this chapter and the HRA assessment in chapter 5.

POLICY CONSIDERATIONS

4.21.64 In their WR CCSC at paragraph 1.18 [REP-461] state “It is also recognised that these impacts need to be considered in the planning balance with the positive benefits of the development in terms of renewable energy generation, leisure, sport and environmental improvements to the coastal edge within the lagoon. It is also evident that the project would have significant socio-economic impacts during the construction phase with wider, more modest impacts secured for the long term”.

4.21.65 Paragraph 1.19 reinforces that point “On the leisure related points, the proposal for public realm, public art and associated community provisions such as a sailing centre and education facilities, if delivered and sustainable, would make a significant contribution to improved recreational and tourism facilities within Swansea Bay which capitalise

on the seafront aspect and contribute towards the regeneration of the Bay as envisaged by UDP Policies HC31, EC15 and EC16”.

- 4.21.66 NPTCBC approached the project from a similar position. They noted in their written representation, “this would be the first tidal lagoon of its type and represents an opportunity to establish the first truly sustainable generation station. The Lagoon would impound a significant portion of the Bay with a walled construction, which would undoubtedly change its visual appearance. Therefore, it is essential that the development delivers as a whole to include an attractive public realm, onshore and offshore habitats, public art, recreational activities and visitor facilities that both educate and inspire” [REP-750].

OVERALL ASSESSMENT OF LANDSCAPE AND SEASCAPE EFFECTS

- 4.21.67 Table 13.20 [APP-190] assess the seascape effects with the most significant effect as being on the seascape of Swansea Bay itself where the local seascape unit impact is assessed as Major/Moderate significance adverse within the Regional Seascape Unit 1 of the whole Bay being in a range from neutral to adverse. By contrast, table 13.21 assesses all the landscape impacts to be neutral.
- 4.21.68 The Panel have looked from the agreed viewpoints and note the following. East of the River Tawe contains docks, developments like SA1 and the new Swansea University Bay Campus. It is a “busy” landscape. The Lagoon would be set within this landscape, however it would be a feature that would be constantly changing and whose appearance would be governed by tides, light and weather. The lagoon wall would create new vistas through a physical access into Swansea Bay and the opportunity to look landward towards Swansea itself.
- 4.21.69 Furthermore, with landscaping and management, the Panel concluded that the area adjacent to Swansea Docks could be more attractive than at present [APP-174]. The most significant terrestrial and historic environmental assets are the WWII artefacts that would be preserved in situ are referred to in the Non-Technical Summary (NTS) of the ES figure 15 [APP-174] with access to them from the Western Landfall area. With the regular rise and fall of water inside the Lagoon, it would retain an inter-tidal zone and the proposal for a Landward Ecological Park (or the landscaping elements of it) consisting of 5ha salt marsh, 3ha of coastal maritime grassland and 5.5ha of dunes, would enhance the landscape as well as adding to the ecological value of the area as identified in figure 12 of the NTS.
- 4.21.70 The Panel concludes that all aspects of Seascape, Landscape and Visual assessment have been assessed. The assessment of the seascape impact is more negative than the applicant’s assessment during construction and the overall impact is significant in relation to seascape for both construction and operational phases. This is inherent in any tidal lagoon project.

- 4.21.71 However, there is insufficient evidence that the limits of deviation applied for in relation to the crest of the lagoon wall have been fully assessed in the ES. This could potentially have a significant adverse impact on some near views. Hence it is proposed that these are deleted from the recommended DCO. This is discussed further in chapter 7.

4.22 POLLUTION CONTROL AND OTHER ENVIRONMENTAL REGULATORY REGIMES

- 4.22.1 The applicant's list of other licences and permissions that would be needed [REP-847] identified the need for a permit for the temporary concrete batching plant that would be required during the construction phase. In addition, DCWW would need to obtain a licence/permit from NRW for the discharge of water from the extended long sea outfall, under the Environmental Permitting Regulations 2010. No other discharge licences would be required for the development.
- 4.22.2 During the Examination, the relevance or application of the Bathing Water Directive to the development was not discussed. Any recreational uses of the lagoon for contact water sports would be subject to separate permissions through the S106 agreement and/or TCPA.

4.23 SAFETY AND SECURITY

- 4.23.1 In considering safety and security, the Panel considers that in relation to NSIPs there are three general types of safety and security considerations. These are energy security, personal safety and wider safety issues and security threats such as those arising from terrorism. In relation to the tidal lagoon, the Examination focussed on safety matters relating to staff and visitors during the construction and operational phases.
- 4.23.2 The Overarching National Policy Statement for Energy (EN-1) states in paragraph 4.11.1, "HSE is responsible for enforcing a range of occupational health and safety legislation some of which is relevant to the construction, operation and decommissioning of energy infrastructure. applicants should consult with the Health and Safety Executive (HSE) on matters relating to safety."
- 4.23.3 HSE provided a late submission for Deadline 4 [REP-824a], which confirmed that they had no comments about the development.
- 4.23.4 EN-1 discusses the security of energy infrastructure projects in terms of security of delivery of the renewable energy generated. It does not provide policy in respect of the security of the development in relation to public access.
- 4.23.5 Concerns about safety were raised by Swansea University on these matters in its WR [REP-488 and REP-489]. It explained that the University has always had excellent relationships with industry and as a consequence, BP donated and remediated its site on Fabian Way

which is to become the University Bay Campus (SUBC). At the time of the Examination, construction was well underway and it was expected that it would be open for its first intake of students in September 2015.

- 4.23.6 Swansea University maintained its concerns in the ISHs commencing on the 16 September 2014 and in their summary of case and further WR of the 25 November 2015 [REP-914] particularly in respect of security for students and visitors to SUBC in relation to the proximity of the tidal lagoon.

- 4.23.7 These concerns were expanded in the University's further representation regarding the DCO on the 4 December 2014 [REP-975] when they stated, "...we note that article 46/49/(2)(a) expressly permits the applicant to make a byelaw regulating the admission and access to the seawalls particularly in the vicinity of the Bay Campus. The University very much hopes and expects that the applicant would consult it upon any such proposed byelaw rather than to rely upon the University to respond to public consultation, in order that a consistent approach can be taken to ensuring the safety of students and visitors to the Bay Campus and the project."

- 4.23.8 The Panel notes that the applicant's final draft DCO [REP-1002] included Article 49 on Byelaws, which would enable the undertaker to make and enforce byelaws regulating the use and operation of the proposed development. Article 49 (2) (a) enables byelaws to be made to provide for regulating the admission and access to the seawall(s) forming part of the authorised development in particular in the vicinity of SUBC.

- 4.23.9 The Panel notes that the final s106 agreement [REP-1010] included the following details in relation to public access onto the public realm areas, which would enable the applicant to restrict access for safety purposes.

"keep the Public Realm open to the public for access on foot or by bicycle for recreational purposes during the hours of daylight every day of the week free of charge during the Operation Period PROVIDED THAT this obligation shall not be deemed to be breached in the case of:....

(d) closure for operational or safety purposes including but not limited to for reasons associated with weather conditions or to allow the use of the Development to host any event for which an entrance fee is payable;"

- 4.23.10 The Panel understands Swansea University's concerns about safety and security matters in relation to public access onto the lagoon wall. It considers that the risk is manageable but can never be completely eliminated. However, the Panel considers that personal responsibility and personal behaviour have very strong roles to play in mitigating

that risk and that the lagoon poses no greater specific risk that the surrounding coastline.

- 4.23.11 Now turning to matters of safety that arise during the construction phase, the ES chapter 4 (Project Description) [APP-181] explains that there will be a relatively small amount of waste created by the development. A site waste management plan will be required as part of the CEMP requirements. The CEMP [REP-874] provides details in relation to site security in paragraph 7.0.0.13 and explains how safety will be addressed in the construction phase, in relation to applying Health and Safety legislation and dealing with contaminated materials.
- 4.23.12 The Panel concludes that controlling public access onto the lagoon wall would be sufficiently managed through the provisions within the s106 agreement, which enables the operator to restrict public access for safety reasons. The Panel does not consider a need to make special provisions for securing the development in any way other than restricting public access when necessary due to inclement weather or other reasons of safety. The Panel is satisfied that safety matters during the construction phase will be adequately addressed through the requirements within the CEMP.

4.24 SOCIO-ECONOMIC IMPACTS

- 4.24.1 The DCO if made would consent the development of sea walls creating a new water body and a number of onshore generating station buildings and facilities. The socio economic impacts would therefore include, in the construction and operational phases, impacts on employment, commercial and recreational fishing, education and research training, tourism, leisure industry and commercial fishing. These are considered in turn in the remainder of this section.
- 4.24.2 In the decommissioning phase, the ES [APP-199] concludes that “no significant adverse effects are anticipated for the ...decommissioning phases of the project in terms of economy tourism and recreation”. Given that no evidence was advanced to counter this conclusion, the Panel finds that there would indeed be no significant decommissioning impacts arising from the development in socio-economic terms. This is on the basis that decommissioning (after an expected 120 year life) would probably involve removing the turbines, but leave the wall in place as established features.

EMPLOYMENT GENERATION

Impacts and mitigation

- 4.24.3 The ES [APP-199] assessed that in the construction phase 1,850 construction jobs would be generated. This would be comprised of 1,150 new net construction jobs plus 697 “wider direct and indirect jobs in the context of a relatively small labour pool of construction workers in Swansea Bay area (approximately 4,300)”. These were in the ES and are by the Panel considered a “major beneficial” impact of the project as applied for. [APP-199 p22].

4.24.4 The chapter was also clear, at Figure 22.3 that such employment would be linked to construction of the following:

“i Area A – offices, stores, car parking, site access and plant yard - ii Area B (two possible locations) – concrete batching plant, stockpiling area and pre-casting yard;

- iii Area C (two possible locations) – steelwork fabrication yard; and iv Area D (two possible locations) – storage yard”

4.24.5 The Panel, however, was cognisant of the clarification from the applicant that the concrete batching plant/pre-casting yard and the steelwork fabrication yard would not be secured by the DCO as applied for and thus did not form part of the application [HE-21]. Despite these facilities potentially falling outside the proposed Order Limits the case was made at the Hearing [HE-21] that these construction jobs would nonetheless be needed and generated by the project and thus the employment figures remained relevant.

4.24.6 In relation to jobs that would be generated in the operational phase, the Panel requested updated figures due to an apparent arithmetical inconsistency in operational jobs in the, figures in paragraph 22.5.2.14 of APP-199. Updated figures were provided in REP-1044 and these state that 81 jobs would be likely to be generated in the operational phase of the project as applied for. The ES considers this a “minor beneficial” impact given the total pool of jobs in the area [APP-199].

Other representations

4.24.7 The LIRs of both the local authorities [REP-563 and REP-565] supported the employment generating aspects of the proposed project and a number of local businesses, such as The Dragon and The Village Hotels [REP-224 and REP-243], Café TwoCann [REP-032], Mumbles Traders Association [REP-138] and Salento Ristorante [REP-185] made relevant representations in a similar vein. The project also had support from the Mumbles [REP-134], Neath Port Talbot [REP-143], Gower, Wales and UK [REP-232] and Swansea [REP-106] Active Supporters Groups which cited employment generation as an important reason to support the proposed project. At the Open Floor Hearing (OFH) [HE-05 to HE07] a number of such IPs spoke of the proposed employment generation as a reason why the project’s economic benefits needed to be seen in combination with environmental/energy generating benefits. In the ISHs [HE-021], the authorities raised no objection to the proposed DCO development on the grounds of reduced employment potential due to some elements of the scheme as a whole, falling outside the development that the recommended Order would consent.

Conclusions and reasoning

4.24.8 Given the diminution of the project as applied for to a smaller scale (omitting those elements, which are not a generating station under the PA2008) it should be noted that estimated jobs generated by the

works proposed to be consented by the recommended Order would also reduce as a consequence. It can be seen by Table 22.13 in the ES [APP-199] that approximately 33 of these jobs would be café/bar/sports related roles not directly arising from the generating station revised project. Nonetheless, a Development Consent Obligation [REP-986] submitted to the Panel at the end of the examination makes provision for the construction of, inter alia, "buildings for recreational boating facilities (including changing facilities), a sailing/boating centre, a hatchery, laboratory facilities, education facilities, exhibition facilities and bar/café as shown on the Western Landfall Drawings...".

- 4.24.9 Even without the generation of jobs arising from the additional facilities, those arising from the generating station alone, the Panel conclude, would in their own right represent a beneficial impact of the development in employment in the construction, operational and decommissioning phases in socio-economic terms.

COMMERCIAL FISHING

- 4.24.10 The proposed development that would be consented by the recommended Order would include the creation of new sea walls enclosing an area of the Bay and placing it out of reach of commercial fishing.
- 4.24.11 The ES chapter 9 on Fish including Recreational and Commercial Fisheries [APP-186] provided an assessment of the impacts upon commercial fisheries interests arising from the development. It stated that the evidence indicated that the International Council for the Exploration of the Sea (ICES) rectangle in which the project would be located was of low importance when compared to the wider area, with total landings from this rectangle over the seven year period that was used for monitoring, representing <1% of the total value for the three adjacent rectangles. Appendix 9.1 of the ES [APP-343] gives details of the ICES rectangles and MMO landing data. The TLSB development would lie entirely within ICES rectangle 32E6. Over the five year period from 2008-2012 which was used in the ES, whelks represented the most prevalent catch in terms of tonnes of fish and shellfish caught from the three ICES rectangles in the wider zone of the development. Cockles were the second most prevalent species in the wider landing area; with mussels the third most commonly caught species in the wider Swansea Bay area. Crab was fourth and Raja species (skates) were the fifth most common species from the Swansea Bay area. There were no reported landings of crabs from 32E6.
- 4.24.12 The fish communities of Swansea Bay were characterised by a broad range of demersal, pelagic and benthopelagic species. The sub-tidal and intertidal surveys undertaken for the ES recorded a total of 55 species. The fish assemblage was dominated by pelagic species (sprat 42.6%), herring (12.2%) and sand smelt (4%). Herring are a

potential sensitive receptor due to the fact that there may be spawning locations in Swansea Bay.

Impacts and mitigation

- 4.24.13 The potential impacts from the development upon commercial fishing interests are listed in Table 9.44 of ES chapter 9 [APP-186]. A short summary is given here. They range from exclusion from the fishing grounds within the development site in the construction, operational and decommissioning phases including displacement to other fishing grounds; short term and long term navigational issues, increases in steaming times to fishing grounds and long term habitat modification. The ES assessment of impacts upon the commercial fishing interests ranged from insignificant to minor negative significance with some aspects resulting in minor positive impacts after mitigation and enhancement was considered.
- 4.24.14 The ES described the mitigation/enhancement measures including proposed mariculture opportunities (including the re-establishment of an oyster fishery in the area and the creation of a lobster hatchery with placement of lobsters on the sea walls).
- 4.24.15 The draft DCO of the 4 December 2014 [REP-1002] included a requirement for fish and shellfish mitigation (requirement 27) to be submitted to and approved in writing by the LPA in consultation with NRW and the relevant Port Health Authority prior to any of the development commencing. The strategy must provide for the establishment of fish spawning media at locations including the western face of Work No.1a and targeted oyster dredge trawls to be undertaken prior to the commencement on construction and the translocation of native oysters.
- 4.24.16 The AEMP of 28 November 2014 [REP-922] included provisions for undertaking monitoring surveys to monitor fish fauna assemblage change; also undertaking monitoring to establish the effectiveness of herring mitigation measures that are being implemented. The CEMP of 28 November 2014 [REP-924] included provisions for minimising the risk of disturbance to recreational and commercial fisheries. The measures proposed included the use of fish friendly pumps when dewatering the cofferdam, introducing spawning material (recycled from the development area wherever possible) at the base of the sea-wall, timing of works on the western seawall to avoid disturbance to the herring spawning season, limiting disturbance to the seafloor to the project boundary, minimising the creation of dredging plumes when undertaking dredging activities and adhering to best practice guidance during dredging.

Representations

- 4.24.17 During the OFH of the 29 July 2014, Mr Wisby made representations on behalf of the commercial fishermen of Swansea. He explained that trawlers work in Swansea Bay; in the TLSB area trawling, potting and

netting takes place and the project would create the loss of a major part of the fishing ground. His view was that the data sets in the ES regarding commercial fish landed from the relevant ICES rectangles were under-reported. This was later confirmed in writing [REP-643], which explained that the under-reporting of catches was because it is not mandatory for small commercial fishing boats (which are the types used by the Swansea commercial fishermen), to report their catches to the MMO. The group provided details of their recent fish and shellfish catches within their representation.

- 4.24.18 Later during the Examination, on behalf of the commercial fishermen of Swansea, Mr Wisby withdrew his objection to the development, as did other fishermen associated with this group [REP-764 and REP-765]. No reasons were given for the withdrawal of objections.

Reasoning and conclusions

- 4.24.19 In view of the withdrawal of objections from the commercial fishermen of Swansea, the Panel concludes that the mitigation/enhancement measures proposed in relation to commercial fishing interests proposed in the DCO and in the AEMP/CEMP are deliverable and proportionate to the impacts that would result from the development on local commercial fishing interests. The Panel concludes that, after mitigation, the development would not result in any significant adverse impacts upon local commercial fishing interests.

TOURISM AND RECREATION

- 4.24.20 The recommended Order would consent the proposed lagoon including, as shown on the demolition plan [APP-065 and 066] demolition of the existing port means of enclosure (sea/harbour wall) whilst retaining the pillboxes along it. This would have the effect of considerably opened up views out to sea from nearby roads, new residential buildings and development sites around the former docks.

Impacts and mitigation

- 4.24.21 In the construction phase the ES [APP-199] assessed impacts of disruption of local traffic as minor adverse on the highway network having a negligible impact and a minor adverse impact on tourism and recreation respectively during construction, similar assumptions can be made in relation to any decommissioning phase. In the operational phase impacts on tourism are considered to be minor beneficial due to the views opened up/improved etc. On recreation, the impacts in operation were considered moderate beneficial due to the opportunities that would be opened up for water sports.

Other Representations

- 4.24.22 In its LIR the CCSC [REP-563] pointed to its development plan policy EC16 and stated:

Policy EC16 states that new or improved recreational and tourism facilities at specific destinations around Swansea Bay are proposed which capitalise on the seafront aspect and contribute towards the regeneration of the Bay. Between these areas of appropriate development, the emphasis is on safeguarding and enhancing the environment of the Bay and other waterfront areas.

- 4.24.23 A small number of IPs considered that the impact on tourism and recreation would be negative, such as Brian Jenkins [REP-027]. However, the majority of interested parties supported the scheme in terms of its tourism and recreational benefits alongside its environmental performance including the British Sub-aqua Club [REP-029], Canoe Wales [REP-035], Gareth Howells [REP-080], Bethan Jenkins AM [REP-025], Cathryn Allen [REP-039], David Nussbaum [REP-058], Jonathon Porritt [REP-105], Kirsty Williams AM [REP-109], Martin Horwood MP [REP-123], Suzy Davies AM (with caveats) [REP-203], Tourism Swansea bay [REP-234], Welsh Liberal Democrats [REP-253] and Wales Green Party [REP-246].

Reasoning and conclusions

- 4.24.24 The evidence of minor and positive impacts on tourism and recreation during construction and operation respectively being fully set out in the ES and supported by IPs, the Panel received no evidence to the contrary. The Panel concludes therefore that the tourism and recreation impacts of the revised project as would be consented by the recommended Order would be acceptable and generally positive.

EDUCATION/RESEARCH

- 4.24.25 The DCO project as applied for included, as shown on the drawings of the onshore building [APP-069] a hatchery, laboratories, two classrooms and in an offshore building [APP-073] galleries. There would also be a range of outdoor and indoor opportunities for education and research including information points etc. In the course of the examination, the applicant has provided alternative DCO drafting which would omit the classrooms and the galleries as not forming a necessary part of a generating station. However, the hatchery and laboratories remain as part of the revised project.

Impacts and mitigation

- 4.24.26 The ES concludes that education/research impacts would be minor beneficial in the operational phase. Impacts during construction and decommissioning would be negligible.

Other representations

- 4.24.27 The CCSC LIR [REP-563] identified that the applicant has created an education programme 'TLSB Education Programme and Resource' to help young people develop their skills, knowledge and understanding of global climate change and renewable energy.

- 4.24.28 NPTCBC made clear at the Hearings [HE-021] that the wider benefits of the proposal, such as galleries and educational facilities, were an important part of the proposed development as a whole and it was important that the project should be delivered "as advertised".
- 4.24.29 One of the significant representations made at the OFHs on the topic of research and education was by Jane Davidson on behalf of University of Wales Trinity St David [HE-07]. This stressed the importance that the widest benefits of the project should be delivered especially its educational and research promise.

Reasoning and conclusions

- 4.24.30 The educational and research benefits of the proposed project were seen as important to a number of interested parties even though these were assessed in the ES as only minor beneficial. Given the recommended Order would not consent the classrooms and galleries this could be considered to reduce those impacts further. However, the principal educational and research benefits of the project would, in the Panel's view, be the hatchery, the laboratories and the outdoor access to the first tidal range power station in the UK. These features would all remain as part of the development set out in the recommended Order and thus the educational and research impacts, the Panel concludes, would continue to be beneficial.
- 4.24.31 In addition, on the subject of the wider educational or social and economic benefits of the development the applicant provided, at the Panel's request, reference to the range of Government policy which calls upon development to fulfil not just economic but also social and environmental objectives [REP-687a]. In particular the Government's "Mainstreaming Sustainable Development" (February 2011 DEFRA) states:
- "This refreshed vision and our commitments build on the principles that underpinned the UK's 2005 SD strategy, by recognising the needs of the economy, society and the natural environment, alongside the use of good governance and sound science".
- 4.24.32 The Panel therefore finds that development which addresses the needs not only of the economy but also of society and or the environment is particularly supported by Government policy. In the case of the recommended Order therefore the above policy gives support to the inclusion of facilities such as viewing areas, hatcheries and laboratories, to the extent that these may be included as is consistent with the PA2008. It is therefore a matter for the Panel to determine the justification of the works in line with PA2008 and the devolution settlement.

4.25 FINANCIAL VIABILITY

- 4.25.1 The recommended Order would consent a privately funded project where the applicant outlined their financial strategy; the development phase by private individuals and a public share offer; the construction

phase by major institutional investors and a further share offer as set out in the ES Non-Technical Summary [APP-174].

- 4.25.2 The applicant submitted a capital cost estimate for the project. This comprised of construction cost of £790m, connection costs of £15m, public realm works of £30m and professional costs and other fees of £15m to give an estimated capital cost including contingency of £850m to which a developer fee of £60m was added to give a total project cost of £910M [APP-084].
- 4.25.3 Of this total cost, £10.5million is estimated for compulsory acquisition of land secured under the DCO; this matter is considered in the CA chapter of this report.
- 4.25.4 The proportions of funding would be 20% equity, 15% mezzanine funding and 65% senior debt. Equity would be derived from two international infrastructure specialist funders and mezzanine and senior debt from various banking sources with the interest and debt servicing costs met from revenues generated from the project [APP-174]. IPs having been consulted upon the relevance of NPS EN-1 did not demur from the Panel's proposition that it was both important and relevant to this application, as set out in chapter 3. The Panels finds therefore that its policy in relation to financial viability of applications is an important and relevant test that the SoS should apply and which the Panel has applied in the examination.
- 4.25.5 Paragraph 4.1.9 of EN-1 states:
- "In deciding to bring forward a proposal for infrastructure development, the applicant will have made a judgement on the financial and technical viability of the proposed development, within the market framework and taking account of Government interventions. Where the IPC considers, on information provided in an application, that the financial viability and technical feasibility of the proposal has been properly assessed by the applicant it is unlikely to be of relevance in IPC decision making (any exceptions to this principle are dealt with where they arise in this or other energy NPSs and the reasons why financial viability or technical feasibility is likely to be of relevance explained)".

REPRESENTATIONS

- 4.25.6 ABP made the case in its evidence that a fund should be established and guaranteed that showed that sufficient funding was in place to complete the project before development consent was granted. In its WR [REP-458], ABP stated:
- "ABP is seriously concerned that no information has been provided by the applicant as to whether it has sufficient financial standing -not only to acquire the land identified for compulsory acquisition -but also actually to construct, complete, maintain and decommission the project".

- 4.25.7 Further, in its summary of oral evidence given at the ISH ABP [REP-669] stated:

"In ABP's view there needs to be specific provision for financial security to be in place for those liabilities throughout the life of the project before the commencement of the project....This provision needs to be made over and above the specific provision that has to be made in the context of the applicant's proposed compulsory acquisition" [REP-669] (para 2.2)

- 4.25.8 Whilst other IPs queried whether all aspects of the scheme would be delivered and/or could be decommissioned, none advanced the point as explicitly as ABP

CONCLUSIONS AND REASONING

- 4.25.9 The Panel, having considered the evidence above, and having examined the matter through questioning at the ISH [HE-012] finds no reason to set aside the practice and policy as set out in the NPS EN-1 above as the relevant test. Under the PA2008, consent is granted to a specific undertaker which effectively owns the consent but provision is made in all Orders for transfer of that undertaking, usually with the consent of the SoS. Consent Orders also apply however in relation to specific land as contained within defined Order Limits. Whilst different tests apply in relation to decommissioning and particularly to compulsory acquisition these are addressed in relation to those proposed powers in the Order only. On the issue of development consent the NPS EN-1 policy at paragraph 4.1.9 is clear that "where the financial viability and technical feasibility of the proposal has been properly assessed by the applicant it is unlikely to be of relevance" to decision making.

- 4.25.10 The applicant has proposed a structured financial case for a large project to access a range of finance. All projects carry an element of risk; the viability of any Project is dependent on how that risk is managed. An investment in a project would be based on how much it would cost to construct, the capital cost, and how much will it cost to operate and maintain, the running cost. The applicant forecasts that the project may be debt free in year 35.

- 4.25.11 This modelling was based on an annual contribution to a Community Trust Fund from year 35 and an annual contribution to the Decommissioning Fund from year 50, this is discussed further in the next section. After covering all of these costs, any further income would be a return on capital. From the experience of similar schemes in La Rance which the Panel visited in November 2014, there are few reasons to question these timescales. Indeed, the longer the lifespan of the project, the greater the return on capital. The project would be attractive for financial institutions looking for an even and long-term return. However, the modelling would be impacted by any change in the commencement of the Community Trust Fund and the

Decommissioning Fund. This would affect the initial cash flows but would not necessarily undermine the longterm basis of the project.

- 4.25.12 In view of the evidence presented by the applicant setting out the costs of the elements of the project [APP-084] and for all the above reasons the Panel concludes that financial viability has been properly assessed and that this is as much as is necessary for any development consent application in relation to general financial viability. In particular, the Panel concludes it should not be necessary to prove the existence of all necessary funds for the project before any work may commence as this would be an unusual and unreasonable hurdle.

4.26 DECOMMISSIONING

- 4.26.1 The recommended Order would consent the development of lagoon walls and turbine housing structure as well as onshore buildings. The DCO would make provision for a maintenance fund, details of which would be submitted to the SoS as part of a decommissioning scheme. The Panel examined the need for provision for decommissioning of the offshore works as and when they became abandoned or electricity generation ceased.

IMPACTS AND MITIGATION

- 4.26.2 Following questioning by the Panel the applicant accepted [HE-021] that in addition to the Government Guidance, "Decommissioning of Offshore Energy Installations under the Energy Act 2004: Guidance Notes to Industry," (Decommissioning Guidance) the consultation document "Tidal Lagoons attached to land – addendum to guidance under the Energy Act 2004" (published during the examination on 10 October 2014) applies to this project.
- 4.26.3 Given the publication of the consultation document during the examination, the Panel placed it on the agenda [HE-039] of the ISH commencing 21 October 2014, which was published and available to all IPs.
- 4.26.4 Paragraph 7.6 of the guidance contains the general requirements to remove the structures but exceptions to this requirement are stated in paragraph 7.8 and following paragraphs. The exceptions are based on the structure serving a new use; the structure becoming a living resource; prohibitive cost of the removal of the structure; the structure becoming a leisure resource and finally if the structure weighs more than 4,000 air tonnes.
- 4.26.5 The applicant stated that the project would fit all the above criteria that were relevant. The applicant argued that renewing the turbines would create a new use after the proposed lifetime of the project albeit an identical use. After 120 years in situ, the structure would have created its own environment and would have become a living resource. The structure as a leisure resource has been factored into the overall project from the start and it is highly likely that the leisure resource would have evolved over the lifetime of the project. Because

all three of these exceptions are based on the retention and maintenance of the Lagoon walls, then the prohibitive cost of removal and the 4,000 tonnes exceptions would not apply.

- 4.26.6 The applicant also maintained that a decommissioning scheme should be submitted prior to the operation of the project and not, “before any offshore construction works commence” as required in paragraph 2.6.54 of the NPS EN-3, because the construction operation itself would provide information concerning a decommissioning strategy. In addition, given the predicted 120 year lifetime of the project, any decommissioning scheme would need to consider using technologies that exist at that time, the future use of the lagoon and the environment in and around the lagoon.
- 4.26.7 The applicant justified their proposal to provide a decommissioning fund from year 50 of the 120 year lifetime of the scheme. They expected the project to be debt free from year 35, therefore to consider a decommissioning scheme at year 45 before the mid-life of the project and taking into account, technologies as they exist at that time and to establish a fund from year 50 is both practical and reasonable.
- 4.26.8 Addressing the concerns of ABP, SUBC and others [REP-842] that the project would not be completed or would not operate for the 120 year period or that sufficient funds would not be in place to maintain the project or to fulfil the mitigation process in the AEMP, the applicant stated that all these measures had been considered during the pre-Application phase of the project.
- 4.26.9 The applicant stated that no global financial investors invest in a project without doing an appropriate due diligence, such investors have expert financial advisers. The project comprises of known reliable technologies in terms of construction of the sea walls and the installation of hydro turbines, in a far more benign environment than offshore wind. Part of the due diligence assessment would take into account an appropriate maintenance and mitigation budget. Under article 7 of the DCO, CCSC would verify, with appropriate third party guidance, that the applicant has sufficient funds in place to fund the project, and that the applicant was prepared to meet CCSC’s reasonable costs in this process [REP-842].
- 4.26.10 The applicant considered two decommissioning scenarios. Replace and upgrade and extend the life of the generating station by installing a more technologically advanced and efficient turbine system within a well-maintained Lagoon structure. Alternatively, remove the turbines, sluice gates and mechanical and electrical equipment to allow tidal flow through the resultant gaps so continuing the leisure use of the Lagoon.
- 4.26.11 Though only the second option is “decommissioning” in planning terms, both options are assessed as “decommissioning” in the ES.

OTHER REPRESENTATIONS

- 4.26.12 ABP [REP-669] presented at the ISH a proposed additional requirement to the DCO that "The authorised development must not be commenced unless either a bond or other form of security, approved in a form by the WG is in place in respect of—(a) the cost of completing, maintaining and decommissioning the authorised development;"
- 4.26.13 Both the CCSC and NPTCBC raised concerns about decommissioning proposals in their LIRs. CCSC in its LIR noted statements from the applicant that only partial decommissioning might be provided and stated [REP-563] that "it is strongly advised that this is fully resolved before approval is given to the project."
- 4.26.14 NPTCBC's LIR [REP-565] was similarly concerned to see an "adequate decommissioning strategy" (paragraph 9.8.3). Of concern to NPTCBC was also the issue of funding being available for decommissioning as and when that became necessary. Its LIR requested:
- "A requirement to secure the provision of a suitably detailed Decommissioning Strategy, which should be submitted within a suitable time-period following the cessation of energy generation from the site." However, the issue of the decommissioning of the lagoon to whatever extent is considered necessary at that point in time does again raise the issue of necessary funding of such works should the operating company(ies) no longer be available to fund these works.
- 4.26.15 Though the necessity for a decommissioning fund was accepted by all, differences remained as to when the fund would start to accrue. The applicant has constantly maintained that year 50 of the operation of the project would be the appropriate time. However, following questioning at the ISH it was noted that any Contract for Difference was likely to guarantee the subsidy for electricity generation only until around year 35 [REP-687]. NPTCBC favoured an early outline decommissioning strategy to assess the potential cost of decommissioning or maintenance with a corresponding early start of the fund as a way of mitigating some of the risks attached to the project [REP-832].
- 4.26.16 As above, ABP throughout the examination maintained that the project should not be constructed until the applicant has demonstrated that funds are in place to construct and maintain the project.
- 4.26.17 Though the merits of the necessity for a decommissioning Bond had been discussed at the ISH held on the 21 and 22 of October 2014; Swansea University requested the inclusion of a "Bond" at the CA Hearing on the 23 October 2014 and in their WRs.
- 4.26.18 The applicant maintained that funding would be available at each appropriate stage and that DCO Consent and the establishment of a strike price/Contract for Difference would secure additional funding. Potential investors were familiar with the project and would carry out

their own due diligence [APP-174]. They also stated that it would be inconceivable that investors would commit funds to a project that did not contain adequate maintenance provisions [REP-980].

- 4.26.19 ABP's concerns are addressed in the recommended Order, Schedule 5 Part 1 Protective Provisions, specifically 4 (1) and 4 (2) requires the undertaker to furnish ABP with construction plans before commencement for approval, and before decommissioning, retention or removal plans also for ABP approval. Paragraph 10 of the schedule (Abandoned or decayed works) would similarly protect ABP against any effect that an abandoned or decayed work would have upon the operations of the harbours or navigation to the harbours. Similar Protective Provisions would also apply to NPA (DCO Schedule 5 Part 2).
- 4.26.20 The recommended DCO in article 7(3) also includes provision to safeguard against the risk of a stranded asset during construction i.e. a partially constructed structure, which the undertaker was financially unable to complete. The applicant would have to provide written evidence to CCSC that construction contracts were in place to build Works No. 1a, 1b and 2a, which include the Lagoon Walls and the turbines and sluice gate housing structures.

CONCLUSIONS AND REASONING

- 4.26.21 The Panel whilst recognising the exceptions to decommissioning of offshore structures referred to in the Decommissioning Guidance, also notes that reference to such exceptions in the Guidance is followed by the statement:
- "However, even in these situations, items will not necessarily be allowed to remain on the seabed. Decisions will be made on a case by case basis."
- 4.26.22 In addition the "Tidal lagoons attached to land – addendum to guidance" consultation document dated the 10 October 2014 as referred to above is considered by the Panel to be of particular relevance to the project. This document states (paragraph 3.1) that "The Secretary of State would expect any decommissioning programme submitted by virtue of the inclusion of energy lagoons into the Energy Act 2004 regime to cover the whole of the installation."
- 4.26.23 The Panel therefore pursued questioning which proposed the removal of wording in the application DCO which would pre-empt the decommissioning programme decision by restricting any requirement for removal only to certain elements of the development. Despite this, the applicant retained a version of this wording in its final submitted DCO [REP-1000] in article 44(3).
- 4.26.24 However, given evolving decommissioning technologies, greater certainty for future use and the adaptation of the natural environment to the project; the Panel would expect the decommissioning strategy to be an evolving strategy and therefore it would be inappropriate at

the DCO stage to rule out the removal of any element of the project. Because the elements which should be removed and those which should be maintained in the event of cessation of operation are decisions that need to be considered as part of a submitted decommissioning scheme as a whole, the Panel concludes that these decisions should not be pre-empted by the DCO. The recommended Order therefore deletes the following applicant's sub-paragraph (3) from article 44:

"(3) The programme for decommissioning the authorised development under the 2004 Act shall provide for the management and maintenance of remaining elements of the authorised development following cessation of operation but in respect of removal of works shall be limited to removal or alteration of Work No 2a of the scheduled works or to measures for removal of sluices and/or turbines within that work."

4.26.25 The recommended Order as amended therefore would provide for a decommissioning scheme to be submitted in the normal way (without exceptions as to its extent and scale) to the SoS.

4.26.26 In addition, the consultation document also requires the inclusion of an implementation clause in relation to decommissioning on the face of DCOs where it states:

"It should therefore be made clear on the face of the DCO that a person must: decommission the project in accordance with the approved decommissioning programme or agreement of the SoS (see section 109(2) of the Energy Act 2004); comply with any remedial notice given (section 110 of that Act); and comply with any duty to inform, or provide information or documents to, the SoS (sections 112 and 112A of that Act)".

4.26.27 This proposition was before the applicant and IPs inasmuch as it was within the consultation document placed on the Hearing agenda [HE-039]. The Panel on this matter concludes that this wording would do no more than place beyond doubt the application of the relevant sections of the Energy Act 2004 and the decommissioning scheme approved under it. The Panel further concludes that this additional wording would place no additional burdens on the undertaker than apply in any case under the Energy Act 2004 and that this wording should therefore be included. The recommended Order therefore includes the addition of an appropriately drafted implementation clause based on the wording in the above consultation document.

4.26.28 With regard to the time period over which the maintenance fund (details of which would be submitted to the SoS as part of the decommissioning programme) would begin to accrue only from the fiftieth year of operation, this also attracted significant examination by the Panel in the light of the concerns raised in the LIRs above.

- 4.26.29 The Decommissioning Guidance, under the heading “Early/Mid Life and Continuous Accrual Decommissioning Funds” states (paragraph 8.7):
- “A secure, segregated decommissioning fund that accrues, early in, during the middle of, or over the life of the installation would normally be acceptable, as would a fund that starts accruing in the mid-life of the installation. The earlier payments are made and completed, the better the Government is insulated from risk, since payments would occur when expected revenues are high and the installation would be able to accommodate larger payment if necessary (for example to cover anticipated increases in decommissioning costs earlier than expected decommissioning)”.
- 4.26.30 The Panel asked questions and placed queries on the agendas of Hearings given that accrual from the fiftieth year would not appear to address the risk of early decommissioning. The applicant’s response was that the Guidance envisages funds that begin to accrue mid-life and that the expected life of the project was 120 years.
- 4.26.31 The Panel finds however that as stated by the applicant the replacement of turbines is expected in around 50-years of life with arrangements for the replacement of cathodic protection every 10 years. These facts alongside the longevity of the Contract for Difference being expected at around 35 years together place question marks over the stated 120 year life of the project. In this context and given the proximity of the structures to two ports, to the mouths of the rivers Neath and Tawe and the City of Swansea, the Panel concludes that the SoS is likely to wish to consider an earlier commencement of payments into the maintenance fund than year 50 as and when the decommissioning scheme is considered for approval.
- 4.26.32 The Panel also notes that the clear preference in the Decommissioning Guidance is for early accrual of such a fund. It further notes that the Guidance was originally prepared for developments which were “not connected with dry land” (paragraph 4.2) and thus was more applicable to offshore wind farms whose life expectancy is usually closer to twenty years within which mid-life accrual would be a much earlier date than in the life of a 120 year life project.
- 4.26.33 For all these reasons, the Panel concludes that the timing of the establishment of the maintenance fund is a matter for the decommissioning programme to decide and should not be pre-empted by the DCO. The Panel therefore deleted the words “and payment into that fund from the fiftieth year of operation” from the recommended Order. This, the Panel concludes, would ensure that the SoS can consider the appropriate timescale for the fund under the Application of the Energy Act 2004 in relation to the decommissioning Article 44 (3) and (4).

4.27 CONCLUSION ON THE CASE FOR DEVELOPMENT

- 4.27.1 The Panel has set out in chapter 3 of the report, the relevant planning matters which the application is to be examined against. Having had regard to the application documents, the matters raised in LIRs, and representations, the Panel concluded that the project is in line with UK National Policy including EN-1 and EN-3, Welsh National Policy and Guidance and the project would be consistent with Development Plan policy for the LPAs affected by it.
- 4.27.2 In setting out the matters to be taken into account in the planning balance, the Panel have considered the following evaluations of the project impacts. The Panel have considered all matters set out in this chapter.
- 4.27.3 In relation to construction and direct operational impacts, taking account of the control and mitigation through the DCO, CEMP and the OEMP, there would not be any significant impacts on community receptors during the construction or operational phases.
- 4.27.4 Some impacts that would occur within the wider Swansea Bay have been noted throughout the examination as being unknown to greater or lesser degree. This was agreed as being inherent as a result of making a change to the coastline on the scale envisaged by the proposed tidal lagoon. As such the applicant has sought to implement an AEMP to manage those uncertainties in line with European Guidance.
- 4.27.5 The Panel has had regard to impact on biodiversity including impacts on coastal and breeding birds, marine mammals, fish, benthic ecology, bats, otters and reptiles. Further requirements have been proposed by the Panel to secure adequate mitigation where these were not previously adequately addressed.
- 4.27.6 The Panel recognises that there would be an element of benthic ecology lost as a direct result of the construction on the scheme and some impact on fish through entrainment and injury during periods that the turbines are operating. In addition, the Panel also recognise that there would be potential for a negative impact on migratory fish and marine mammals seeking to find their way to the River Tawe. The impact on commercial fishing is however deemed to be limited. Furthermore, the Panel note that an EPS license application in relation to harbour porpoise had not been submitted to NRW at the close of the Examination.
- 4.27.7 The Panel considers that, accompanied by suitable mitigation and management secured by proposed requirements in the DCO including the proposed CEMP, OEMP and AEMP, the risk of negative impact on biodiversity would be mitigated to a certain extent but not eliminated.
- 4.27.8 The scale of the project in a dynamic environment is such that there are risks in relation to coastal processes particularly in Swansea Bay. The effects on the SSSI at Crymlyn Burrows and Blackpill have been

considered within the draft AEMP; however, there remains a risk of negative impact on Blackpill SSSI.

- 4.27.9 Kenfig SAC is subject to a specific DCO requirement that would prevent any potential adverse effects on the integrity of the European site from long-term disposal materials dredged. It is likely that Swansea Bay SINC would incur habitat loss in some locations. The Panel note that such impacts are inevitable with a scheme of this nature as they inherently involve impacts on coastal processes, however the proposed mitigation would minimise the residual changes.
- 4.27.10 The Panel note the additional measures incorporated in the DCO and is satisfied that after mitigation there is no additional risk of flooding at Mumbles. It is satisfied that the flood risk to the wider Swansea Bay area can be managed and mitigated such that no significant impacts in relation to increased risk of flooding to receptors at the sea front at Mumbles, including residential and commercial properties, or any other part of Swansea Bay is anticipated.
- 4.27.11 Controls on construction processes through the CEMP would minimise the risk in relation to contaminants at sea and on land and no residual risks are identified in relation to human health, safety or civil defence, military or commercial aviation safety. In accordance with guidance under PA2008, regulatory regimes will be operating and there is considered to be no residual risk.
- 4.27.12 The creation of a lagoon would be a significant structure within Swansea Bay and the lagoon walls would be constructed adjacent to the navigation channels leading to the estuary of the River Neath and to Swansea Dock and Marine at the mouth of the River Tawe. The Panel is satisfied that appropriate control of the navigation shipping and port arrangements has been provided through incorporating additional requirements in the DCO and protective provisions with ABP. This has minimised the risks of users to the bay whilst acknowledging the minor negative impact on Monkstone Sailing Club. Issues relating to the dredging of the access routes have been secured through requirements.
- 4.27.13 Additional requirements have been inserted in to the recommended DCO to secure the protection of historic environment and marine archaeology and there are no residual impacts of concern. In relation to seascape, landscape and visual impact the nature of the tidal lagoon is such that there is a negative impact particularly on the seascape in Swansea Bay. Landscape and distant visual impacts are more limited and near visual impacts would be of some significance.
- 4.27.14 The DCO has been amended in relation to decommissioning, to take account of the guidance published that the SoS published during the examination. A decommissioning scheme would have to be submitted for the Secretary of State's approval before construction could be

commenced under the amended articles in the recommended DCO and this is discussed further in chapter 7.

- 4.27.15 In relation to other relevant matters, the Panel consider that in the planning balance the SoS should take account of the Project's contribution to reliable renewable energy generation, the effect on the local economy from construction and over the longer term on local employment associated with the generating plant. There would be benefits to the local area. Over the 3 year construction period there could be an investment in the hundreds of million pounds which would provide a stimulus to the local economy. As a direct benefit the proposal would generate electricity for an estimated 120 year operational life. This would support the objectives of the Overarching Energy NPS (EN-1) and the Renewable Energy Infrastructure NPS (EN-3) and would contribute to Welsh national policy objectives in relation to securing a low carbon future and delivering reliable renewable energy from a marine source.
- 4.27.16 The Panel considers that, accompanied by suitable mitigation and management, secured by proposed requirements including the proposed CEMP, OEMP and AEMP, the proposal can properly be regarded sustainable development. In coming to this assessment, however, the Panel acknowledges that, if there were to be a significant adverse impact on the features of interest of Blackpill SSSI, the Project's aspiration to be a fully sustainable scheme would not have been achieved.
- 4.27.17 The Panel judges that, having considered the planning balance, the direct benefits of the scheme as a source of reliable renewable energy outweigh the direct adverse consequences and the potential indirect impacts of the proposal in terms of effects on biodiversity, seascape and visual impacts and Monkstone Sailing Club.
- 4.27.18 Having regard to all of the matters referred to in in chapters 3 and 4, our conclusion is that, on balance, the matters weighing in favour of the development outweigh the matters weighing against. The Panel therefore finds that the case for development is made out and we recommend accordingly.
- 4.27.19 The Panel has put forward an HRA under the Habitat regulations, which has concluded no likely significant effects and a WFD assessment which has identified the requirement for derogation under 4.7 of the WFD. There are important relevant matters for the SoS to consider and are addressed in chapter 5.

5 FINDINGS AND CONCLUSIONS IN RELATION TO HABITATS REGULATIONS AND WATER FRAMEWORK DIRECTIVE

5.0 HABITAT REGULATIONS

INTRODUCTION

- 5.0.1 Regulation 61 of the Habitats Regulations 2010 (as amended) states that if a proposed development is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans and projects), and is not directly connected with or necessary to the management of the site, then the Competent Authority must make an Appropriate Assessment (AA) of the implications for that site in view of its conservation objectives. Unless the Competent Authority's AA concludes that the integrity of the European site will not be adversely affected, the Competent Authority must not agree to the proposal, subject to Regulation 62 (considerations of overriding public interest). The Secretary of State for Energy and Climate Change is the Competent Authority for the purposes of the Habitats Directive and the Habitats Regulations 2010 (as amended) for energy applications submitted under PA2008.
- 5.0.2 In response to the requirements of Regulation 5(2)(g) of the Infrastructure Planning (Applications: Prescribed Forms and Procedures (APFP)) Regulations 2009 (as amended), the applicant provided a Report to Inform Habitats Regulations Assessment (HRA) [APP-169, APP-170 and APP-171]. The information in this report was determined to be sufficient to accept the application for Examination. At Deadline II of 9 July 2014, the applicant submitted an Updated Report to Inform HRA [REP-584] and supporting appendices [REP-585 to REP-590]. The applicant stated in their Updated Report to Inform HRA [REP-584] that the submission was in response to NRW's Relevant Representation [REP-141].
- 5.0.3 This section of the recommendation report discusses the evidence presented concerning likely significant effects on European sites potentially affected by the proposed development, both alone and in combination with other projects or plans. To assist the Secretary of State in performing his duties under the Habitats Regulations 2010 (as amended) we draw our conclusions and make recommendations regarding likely significant effects on European sites and the available mitigation options, where they are considered to be necessary to inform his decision.

REPORT ON THE IMPLICATIONS FOR EUROPEAN SITES (RIES)

- 5.0.4 The Environmental Services Team of the Planning Inspectorate worked with the Panel to produce a Report on the Implications for European Sites (RIES) [RIES-001] for the Project in the form it was submitted with the original application. This was published for consultation on 11 November 2014 [PD-019]. The extent of the Project has varied from

the project submitted, to that set out in the recommended DCO. However, all such variations lie within the scope of the application version of the Project and thus the impacts of the Project will be no greater than those referred to in the RIES as published. Any mitigation considered necessary will also be incorporated in the recommendation DCO and its supporting documents.

- 5.0.5 The RIES compiles, documents and signposts information provided within the application documents, and relevant material and information received during the Examination up to Deadline V, 28 October 2014. When completed the RIES was made available to interested parties for comment. Responses to the RIES were submitted by the applicant [REP-957 and REP-958], NRW [REP-907], and also CCSC [REP-899], NPTCBC [REP-908], Rhossili Working Group [REP-912], and WG [REP-918]. The majority of responses were either to confirm no comments or to defer to NRW. The RIES is not amended and reissued following receipt of comments; however, comments received are taken on board in the writing of this report. The process can be relied on by the Secretary of State for the purposes of Regulation 61(3) of the Habitats Regulations 2010 (as amended).

Background

- 5.0.6 European sites include Sites of Community Interest (SCI), Special Areas of Conservation (SACs), candidate Special Areas of Conservation (cSACs), and Special Protection Areas (SPAs) protected under the Habitat Regulations 2010 (as amended). As a matter of policy the Government also applies the Habitat Regulations 2010 (as amended) to potential SPAs (pSPAs), proposed SACs (pSACs), and Ramsar sites.
- 5.0.7 The Project is not located within any European sites. During the course of the Examination, the applicant carried out a Screening exercise for potential likely significant effects on 20 European sites, due to effect pathways between the Project and these sites [APP-169, APP-170, REP-584, and REP-586]. The locations of the European sites considered in relation to the Project, with the exception of Pen Llyn a'r Sarnau SAC, are shown on 'Figure 1: European sites considered in HRA report' [APP-171]. The Project is not connected with, or necessary to the management for nature conservation of, any of the European sites considered within the assessment.

HRA Screening Assessment

- 5.0.8 The applicant initially considered the potential for likely significant effects on 19 European sites in their HRA screening assessments submitted with the DCO application [see Appendices 1 and 2 of APP-170]. Of these 19 European sites, the applicant concluded no likely significant effects as a result of the Project on all qualifying features of ten European sites [APP-169 and APP-170] (see also Sections 2 and 3 of the RIES). Screening matrices, as recommended in the Planning Inspectorate's Advice Note 10 Habitat Regulations Assessment relevant to nationally significant infrastructure projects, were provided

for these sites in APP-170 and also updated versions were provided in the updated HRA screening matrices [REP-589].

- 5.0.9 In response to NRW's Relevant Representation, the applicant submitted an Updated Report to Inform HRA [REP-584] and supporting appendices [REP-585 to REP-590]. This updated report included the additional European site requested by NRW, Pen Llyn a'r Sarnau SAC, and also considered Crymlyn Bog SAC, Crymlyn Bog Ramsar, and Kenfig SAC within their 'shadow appropriate assessment'. Thus a total of 20 European sites were screened for potential likely significant effects during the course of the Examination (see RIES Sections 2 and 3 [RIES-001]). Appendix 2 of the RIES presents a summary of the applicant's screening assessment for all 20 European sites, together with reference to any agreements on the conclusions from Interested Parties.
- 5.0.10 Following submission of the Updated Report to Inform HRA [REP-584], the applicant screened 13 European sites positive for likely significant effects (see Sections 2 and 3 of the RIES). The 13 European sites screened positive for likely significant effects [REP-584] are: Cardigan Bay SAC; Lundy Island SAC; Pembrokeshire Marine SAC; Pen Llyn a'r Sarnau SAC; River Severn SAC; River Severn Ramsar; River Wye SAC; River Usk SAC; Burry Inlet SPA; Burry Inlet Ramsar; Crymlyn Bog SAC and Ramsar, and Kenfig SAC.
- 5.0.11 The Severn Estuary SAC, SPA and Ramsar and River Wye SAC straddle the England and Wales border. Natural England has not commented on these cross-boundary European sites that fall under the remit of both NRW and Natural England. Lundy SAC is within English territorial waters, Natural England [HE-41] did provide comments on this SAC during the Examination in relation to the grey seal qualifying feature. During the Examination, no representations were made by interested parties (including the Statutory Nature Conservation Bodies (SNCBs), NRW and Natural England) that disputed the conclusion of the applicant's screening assessment conclusions for all 20 European sites, as presented in the Updated Report to Inform HRA [REP-584] and Appendices [REP-585 and REP-586].

Integrity Assessment

- 5.0.12 The applicant's Updated Report to Inform HRA [REP-584] and Updated screening assessments and matrices [REP-585 to REP-590] carried forward 13 European sites to a shadow AA and assessment of adverse effects on site integrity. These sites are identified at paragraph 2.12 of the RIES.
- 5.0.13 The 13 European sites comprised nine SACs, one SPA, and three Ramsar sites. In four of the SAC sites; Cardigan Bay, Lundy Island, Pembrokeshire Marine, and Pen Llyn a'r Sarnau, the qualifying feature of interest that has been screened in is the population of grey seals. Four SAC sites were screened in for their migratory fish qualifying features, the River Severn SAC and Ramsar, River Usk SAC, and River

Wye SAC. The applicant's Updated Report to Inform HRA [REP-584] assessed the Project in terms of effects on these eight sites in two groups related to the qualifying feature of interest potentially affected (i.e grey seals and migratory fish). The other five sites, Burry Inlet SPA and Ramsar, Crymlyn Bog SAC and Ramsar and Kenfig SAC, are assessed separately. Burry Inlet SPA and Ramsar is an estuary with bird populations that include teal, dunlin, redshank, curlew, shelduck and oystercatcher. Crymlyn Bog SAC (not to be confused with Crymlyn Burrows) is a rare survival of inland mire and fen and Kenfig SAC is an extensive area of coastal dunes.

- 5.0.14 The European sites screened-in to second stage assessment by the applicant are included in a table presented at Appendix 3 to the RIES. This table adopts the applicant's grouping of European sites in relation to grey seals and migratory fish, and includes reference to any mitigation relied upon by the applicant within the Updated Report to Inform HRA [REP-584 and REP-590]. Appendix 3 also includes reference to where the mitigation measures described in the applicant's Updated Report to Inform HRA have, or have not, been included as requirements in the applicant's 4 November 2014 draft DCO [REP-865].
- 5.0.15 The applicant concluded no adverse effects on the integrity of all 13 European sites in their Updated Report to Inform HRA [REP-584], and as presented in their 'Planning Inspectorate Integrity Matrices' submitted for Deadline II [REP-590]. This conclusion is underpinned by the mitigations secured in the DCO reasons for which are summarised in the Table of Mitigation and Where Secured [APP-386].
- 5.0.16 NRW confirmed in their representation at Deadline III of 5 August 2014 [REP-645] that having reviewed the updated HRA-related documents provided by the applicant at Deadline II, they agreed that there would be no adverse effects on any European site, alone or in-combination, with the exception of Kenfig SAC. This European site has therefore been the focus of the Examination in relation to HRA matters and is discussed in further detail below (see also Section 4 of the RIES).

Kenfig SAC

- 5.0.17 The potential for an adverse effect on Kenfig SAC arises from the proposal for long term maintenance dredge disposal at the Outer Swansea disposal ground. This was reported in paragraphs 4.35-37 of the RIES [RIES-001] in the following terms:
- 5.0.18 NRW stated during the examination that the only European site of concern with regard to adverse effects on site integrity was Kenfig SAC, due to the uncertainty surrounding potential changes that could occur to the dune features, and species dependent on the dune features, as result of the long-term maintenance dredge disposal at the Outer Swansea disposal ground (LU130) [REP-645, REP-831, and REP-860].

- 5.0.19 NRW concluded that it would be possible for the applicant to implement an early warning monitoring mitigation plan to monitor for adverse changes, before adverse effects on integrity would occur, and then put in effective mitigation [REP-747 and REP-831].
- 5.0.20 The applicant agreed to include a requirement in the draft DCO to include for such a scheme. At extended Deadline V of 4 November 2014, NRW stated that they were close to agreement with the applicant on a specific DCO requirement for surveillance monitoring and trigger levels for action [REP-860]; however, at the point of writing the RIES, NRW had not yet confirmed they were content with the revised wording of the requirement in the applicant's DCO.
- 5.0.21 After publication of the RIES, there was an important development in the position taken by NRW in relation to potential impacts on Kenfig SAC. In comments on the RIES, in Annex 1 to representations made on 25 November 2014 [REP-907], NRW wrote:
- "Sections 4.20, 4.37, 5.3a and 5.3b state that the ExA are still unclear as to whether we accept the DCO requirement relating to maintenance dredge disposal, which is designed to be used as mitigation in relation to impacts on Kenfig SAC. We have now agreed an amended wording with the applicant".
- 5.0.22 NRW also made comments on Kenfig SAC in section 3.2 of their response. These comments repeat the statement that matters have been agreed in relation to a requirement relating to disposal of dredged arisings and protection of Kenfig SAC. This has been incorporated as requirement 35 in the 4 December 2014 DCO draft [REP-1002].
- 5.0.23 The applicant responded to the RIES on 25 November 2014 [REP-958], with a clarification of the applicant's position on the potential for an adverse impact of dredge disposal on Kenfig SAC, pointing out that the applicant's shadow HRA [REP-584] had not predicted likely significant effects at Kenfig and had concluded that there would be no adverse effects on site integrity. The proposed requirement had been included in the draft DCO to remove entirely the possibility of such adverse effects.
- 5.0.24 The proposed requirement, relating to disposal of dredged arisings and protection of Kenfig SAC, provides for monitoring and identifies triggers on action. In the panel's view it would put in place adequate and appropriate controls to preclude any harm to Kenfig SAC as a result of there being a need for long term maintenance dredge disposal from the proposed lagoon. The panel are therefore confident that the one outstanding matter between the applicant and NRW in relation to potential adverse impact on European sites has been fully resolved. The SoS as Competent Authority for AA of the proposed tidal lagoon can be assured that the representations from NRW, the statutory advisor on conservation matters in Wales, are that there would be no adverse effects for European designated sites from

consenting the proposal in the manner put forward in the 4 December draft DCO [REP-1002].

Other European Sites

- 5.0.25 There is material presented within section 4 of the RIES in relation to Burry Inlet SPA and Ramsar, Usk SAC, Wye SAC and Severn SAC and Ramsar, and Crymlyn Bog SAC. No additional matters relating specifically to these European sites were raised during the examination. There are mitigation measures that have been put forward in connection within the 4 December 2014 draft DCO [REP-1002] in relation to birds and migratory fish. Particular species of bird and migratory fish are special features associated with Burry Inlet SPA and the Usk, Wye and Severn SACs respectively. These mitigation measures are not put forward specifically in relation to the Habitats Regulations 2010 (as amended). No mitigation measures are put forward in relation to Crymlyn Bog. NRW have not disputed the applicant's conclusion of no adverse effects on the integrity of these European sites.
- 5.0.26 It is the Panel's view that appropriate and secure mechanisms would be in place to ensure no adverse effects on the integrity of any European site from consenting the proposal in the manner put forward in the panel's proposed DCO.

Other matters raised

- 5.0.27 The potential future designation of the Outer Bristol Channel as a European site for harbour porpoise, potentially including the area of Swansea Bay in which the proposed development is located, was brought to the attention of the Examination. This was a result of Relevant and Written Representations provided by Porthcawl Environment Trust [REP-160 and REP-476] and Rhossili Working Group [REP-172 and REP-477] and answers provided to Examining Authority's Question 5.10 [PD-010] provided by Rhossili Working Group [REP-512 and REP-513]. These representations identified the possibility of legal action by the Infringement Unit of the Directorate-General Environment of the European Commission against the UK Government in respect of the Government's failure to nominate Special Areas of Conservation (SACs) in UK waters for harbour porpoise.
- 5.0.28 There is currently one European site designated in the UK for harbour porpoise, the Skerries and Causeway SAC [REP-661]. Porthcawl Environment Trust [REP-834] provided an update on the latest stage of legal action for Deadline IV of 25 October 2014, informing the Examination that the European Commission had decided to continue the infringement action under Article 258 of the Treaty on the Functioning of the European Union by sending a 'Reasoned Opinion' to the UK Government on 25 October 2014. Rhossili Working Group informed the panel at the Issue-Specific Hearing of 21 October 2014 [HE-45] that that was the second stage of legal action and the UK

would have two months to respond before any action might be taken to the European Court of Justice.

- 5.0.29 NRW [REP-748] confirmed, prior to the update on the legal proceedings, that there are no European sites for harbour porpoise in the relevant marine mammal management unit in which the Project is located and that a HRA in respect of harbour porpoise as a qualifying feature is not required. NRW [REP-748] stated that they were (at that point) awaiting the conclusion of research commissioned by the Joint Nature Conservation Committee (JNCC) on harbour porpoise distribution and abundance. This would determine whether it is possible to identify areas of persistent high density for harbour porpoise in UK waters that could assist in the identification of SACs for this species. NRW stated that Swansea Bay and the wider area may form an 'area of search' in this process. Once the JNCC research is completed, NRW would be in a position to discuss with WG how to analyse the suitability of Welsh waters for harbour porpoise. No further comments were received from NRW on this matter during the Examination, but the panel understands that there is currently no European site within Swansea Bay, which is at a sufficient stage of designation, that could be considered for HRA by the Secretary of State in relation to this Project.
- 5.0.30 The protection afforded to harbour porpoise under the Habitats Regulations 2010 (as amended), as a species not forming a qualifying feature of any European site that could be affected by the Project, has been considered by the Panel and is discussed separately in chapter 4 of this report.

CONCLUSIONS ON HRA

- 5.0.31 The Secretary of State can have regard to the applicant's Updated Report to Inform HRA [REP-584] and accompanying appendices [REP-585 to REP-590], the information and representations signposted by the RIES [RIES-001], and the consultation comments on the RIES from NRW [REP-907], to provide the evidence required by the Secretary of State when undertaking an AA in accordance with the Habitat Regulations 2010 (as amended).
- 5.0.32 During the examination the only European site of concern with regard to adverse effects on site integrity was Kenfig SAC, due to the uncertainty surrounding potential changes that could occur to the dune features, and species dependent on the dune features, as a result of long-term maintenance dredge disposal at the Outer Swansea disposal ground (LU130) [REP-645, REP-831, and REP-860].
- 5.0.33 NRW concluded that it would be possible for the applicant to implement monitoring to provide early warning of adverse changes, before adverse effects on integrity would start to occur, and then put in effective mitigation [REP-747 and REP-831]. The applicant agreed to include a requirement in the draft DCO to include for such monitoring.

- 5.0.34 NRW [REP-907] has agreed the wording of the DCO requirement in relation to Kenfig SAC (requirement 35) and will also be consulted on the AEMP for the Project (as per requirement 6 of the recommended DCO). The Panel is therefore satisfied that the one HRA matter of concern to NRW, in relation to adverse effects on the integrity of Kenfig SAC can be addressed by the inclusion of arrangements secured by the DCO. This is discussed further in chapter 7 in terms of the detailed requirements.
- 5.0.35 In the Panel's view, the mitigation measures that have been secured by the DCO are such that it would be possible to conclude no adverse effect on the integrity of any European site.

5.1 WATER FRAMEWORK DIRECTIVE

- 5.1.1 The Water Framework Directive (WFD) has important implications for planning works that affect waterbodies. The construction and operation of a tidal energy lagoon is of its essence a type of development that has effects on the waterbody within which it is created. The WFD recognises that its objective of achieving good water status may be impacted by other societal needs, including human health, human safety and sustainable development. To comply with the WFD, in order to approve a project that would cause deterioration in status or prevent actions required to raise the water quality status of the waterbody, the conditions for derogation under Article 4.7 must be satisfied. An assessment must also be carried out under Articles 4.8 and 4.9 of the WFD.
- 5.1.2 In an application for a DCO under the PA2008, the decision as to the application of Article 4.7, and Articles 4.8 and 4.9, of the WFD rests with the Secretary of State as the determining authority for the DCO application. The potential need for derogation from the WFD made under Article 4.7 has been one of the most significant novel features of this case. In exercising the decision making function so far as affecting a river basin district, the SoS must have regard to the River Basin Management Plan (RBMP) for that district, in this case the Western Wales RBMP and any supplementary plan prepared under it. Before turning to the detailed representations made in respect of Articles 4.7, 4.8 and 4.9, the context provided by the Western Wales RBMP and the documents associated with the applicant's assessment under the WFD are reviewed.

THE WESTERN WALES RIVER BASIN MANAGEMENT PLAN (WRBMP)

- 5.1.3 The Western Wales RBMP, prepared by the Environment Agency in 2009, covers the entire western half of Wales and is currently being updated by NRW as part of the six yearly review process for RBMPs. Page 29 of the Western Wales RBMP contains a section on "Managing new physical modifications" which refers to derogation under Article 4.7 when, "as a result of a new physical modification, good ecological status or potential cannot be achieved or where deterioration in status occurs". The RBMP acknowledges that "Although protecting the water environment is a priority, some new modifications may provide important benefits to human health, human safety and/or sustainable development" and includes hydropower generation as one example of such benefits. The RBMP continues:
- 5.1.4 It is often impossible to undertake such activities without causing deterioration of status to the water body. The benefits that such developments can bring need to be balanced against the social and economic benefits gained by maintaining the status of the water environment in England and Wales.

- 5.1.5 The Project is located within the Swansea Bay Coastal waterbody which is defined in the Western Wales RBMP as a Heavily Modified Water Body (HMWB). An HMWB is a surface water body that does not achieve good ecological status because of substantial changes to its physical character resulting from physical alterations caused by human use, and which has been designated as such in accordance with criteria specified in the WFD. In Table 3.4 of the applicant's Updated WFD Assessment [REP-777], modifications of the Swansea Bay Coastal waterbody are described as being for flood defence and navigation purposes, and due to the presence of extensive artificial structures and the occurrence of dredging related activities within the waterbody. Figures showing the location of the boundaries of the Swansea Bay Coastal waterbody and the adjoining estuaries of the Tawe and Neath are provided in Appendix 1 of the Updated WFD Assessment [REP-777].
- 5.1.6 Article 4.1(a)(iii) of the Directive sets out "specific objectives" for HMWBs which are required to achieve 'good ecological potential' (GEP). When assessing GEP, consideration is given to the possible mitigation measures identified for the waterbody.
- 5.1.7 Annex B of the Western Wales RBMP presents 13 mitigation measures for the Swansea Bay Coastal waterbody to reduce the hydromorphological impacts of its use and achieve GEP. Of the mitigation measures, five relate to dredging (including preparation of a dredging/disposal strategy) and six relate to the management of the margins of the bay (including removal of hard bank reinforcement and replacement with soft engineering). The other two are offsetting measures and changes to locks, sluices, weirs and beach control. Table 3.4 of the Updated WFD Assessment [REP-777] records the current status of the Swansea Bay Coastal waterbody as at 2013 as "moderate or worse (mitigation measures not in place)", with the specific status objective as Good Ecological Potential (GEP) by 2027 and Good Chemical Status by 2015.
- 5.1.8 None of the Interested Parties referred to any document as being a supplementary plan prepared under the RBMP. A Salmon Action Plan for the Tawe, produced in 2001-2, predates the Western Wales RBMP. An Eel Management Plan for the Western Wales River Basin District was prepared in 2010 as one of a set of Eel Management Plans for the United Kingdom and does not appear to the Panel to be a supplementary plan prepared under the RBMP.

ASSESSMENT UNDER THE WFD

- 5.1.9 A WFD assessment [APP-385] was submitted with the DCO application but its analysis and conclusions were not accepted by NRW [REP-471]. Comments were also received in relation to the adequacy of the WFD assessment submitted with the DCO application from CCSC, as recorded in their LIR [REP-563], and PASAS [REP-159, REP-427, REP-475, and REP-647]. Revised assessments [REP-660 and REP-777]

submitted during the examination replaced the applicant's initial WFD assessment.

- 5.1.10 The Updated WFD Assessment submitted on 5 August 2014 [REP-660] identified that for the Swansea Bay Coastal waterbody there would be a potential risk of deterioration of the benthic invertebrate quality element and of hydromorphological conditions supporting the biological quality elements. The assessment identified that the Project could also have a potential effect on the mitigation measures proposed for the Swansea Bay Coastal HMWB that might affect the potential of the waterbody to achieve GEP by 2027. On a precautionary basis, due to a degree of uncertainty in relation to the potential effects of the Project on dissolved inorganic nitrogen levels in the estuaries of the Neath and Tawe, the assessment also identified potential to compromise the future achievement of the objectives for the 'dissolved inorganic nitrogen' quality element within the Neath and Tawe waterbodies. The applicant agreed to present a case for derogation under the provisions Article 4.7 of the WFD in relation to Swansea Bay Coastal waterbody, Neath Estuary waterbody and Tawe Estuary waterbody and to consider certain other waterbodies.
- 5.1.11 The WFD assessment [REP-660] produced in August concluded that, with the exception of the Swansea Bay Coastal waterbody, the Tawe Estuary and the Neath Estuary, the Project would not cause deterioration in the status of any waterbody within the Western Wales RBMP, nor compromise future achievement of "Good" chemical status or good ecological potential in those waterbodies.
- 5.1.12 NRW viewed the Updated WFD Assessment of August 2014 as confirmation that derogation under Article 4.7 would be necessary in order for the Project to be WFD compliant [REP-746]. NRW commented that the WFD assessment needed further revision and identified further work that would be needed, as well as further information that would be required in relation to the Article 4.7 derogation tests. NRW's view was that the assessment should not consider the Neath Estuary water body under the provisions of Article 4.7 as it would be an adjacent waterbody rather than one in which development would occur. Consequently Article 4.8 would be relevant to that water body.
- 5.1.13 NRW also expressed misgivings in relation to the assessment of potential impacts on migratory fish. PASAS [REP-728] also made representations that the WFD Assessment was defective in this and in other respects. A particular concern for PASAS was that different waterbodies should be correctly defined and that errors in the RBMP had been repeated in the applicant's assessment.
- 5.1.14 The applicant submitted a further Updated WFD assessment on 7 October 2014 [REP-777] which reached the same conclusions on potential effects on the Swansea Coastal waterbody and the consequential need for derogation under the provisions of Article 4.7 of the WFD. However, further modelling of impacts on dissolved

inorganic nitrogen in the Neath and Tawe estuarial waterbodies had led the applicant to conclusions that the Project would not cause deterioration in the status of the physico-chemical quality elements of the Tawe Estuary waterbody, nor compromise the future achievement of the hydromorphological quality element of the Neath Estuary waterbody. These and other waterbodies listed in Table 6.1 of the assessment would be considered under the provisions of Article 4.8 and the view expressed by the applicant was that the Project would be in compliance with community legislation with respect to these waterbodies [REP-777].

- 5.1.15 Creation of the lagoon would involve an addition to artificial structures within Swansea Bay by the construction of 9.5 km of rock armoured sea wall. It would, mostly as a result of the footprint of the enclosing structure, lead to the loss of benthic ecology from some 23ha of intertidal area and, on a net basis, some 70 ha of sub-tidal zone (ca 0.9% of the coastal waterbody) [REP-777]. There would be capital dredging over an area of 415 hectares (worst-case), much of which would be available for recolonization, but with 380 hectares (worst-case) subject to maintenance dredging. The effect of dredging on benthic ecology is assessed in 'Clearing the Waters' guidance (Environment Agency, 2012) as 1.5 times the area dredged and on this basis the areas affected by the capital and maintenance dredging would represent 5.6% and 5.2% of the Swansea Bay Coastal waterbody, respectively [REP-777].
- 5.1.16 Particular elements identified in the applicant's Updated WFD Assessment [REP-777] as being at risk of not meeting the WFD objectives in Swansea Bay waterbody as a result of the Project were:
- i. Composition and abundance of benthic invertebrate fauna
 - ii. Hydro-morphological elements supporting the biological elements
 - iii. Conflict with some of the mitigation measures set out for Swansea Bay Coastal waterbody in the Western Wales RBMP 2009.
- 5.1.17 Paragraph 3.5.0.10 of the October version of the Updated WFD Assessment [REP-777] accepted that an Article 4.7 assessment would be required "As the Project is considered to be potentially incompatible/partially incompatible with a number of the WFD mitigation measures, it can be concluded at this stage that an Article 4.7 assessment will be required for Swansea Bay coastal waterbody." Further on at paragraph 3.6.2.146 it is acknowledged that "in the case of Swansea Bay Coastal waterbody it has been identified that there is a potential risk of deterioration of the benthic invertebrate quality element and hydromorphological conditions supporting the biological quality elements".
- 5.1.18 NRW reported to the ISH on 21 October 2014 [REP-831] that following their broad initial review, the applicant's second Updated WFD

assessment of October 2014 was a significant improvement on the earlier draft.

- 5.1.19 The applicant followed up on the October WFD Assessment [REP-777] with an appraisal of the Project in accordance with Articles 4.7 and 4.8 of the WFD which was produced on 28 October 2014 [REP-850]. This took account of guidance on exemptions in the EC Common Implementation Strategy (CIS) for the Water Framework Directive (2000/60/EC) Guidance Document No 20 (GD20) and in the applicant's view demonstrated that the Project would meet the conditions for derogation under Article 4.7 for the Swansea Bay coastal waterbody.
- 5.1.20 On 4 November, in light of the applicant's submission of the October WFD assessment [REP-777] and of the material for an Article 4.7 derogation [REP-850], NRW confirmed that derogation under Article 4.7 would be required [REP-860].

CONSIDERATION OF DEROGATION UNDER ARTICLE 4.7 AND FURTHER ASSESSMENT UNDER ARTICLES 4.8 AND 4.9

- 5.1.21 There is limited experience of applications for derogation under Article 4.7 of the WFD. NRW advised that derogation under Article 4.7 of the WFD is unprecedented in a coastal or estuarine waterbody in the UK [REP-749]. A recent example of Article 4.7 being engaged in the UK is in relation to the Maidenhead Waterways Restoration Scheme, a small navigational improvement to channels alongside the River Thames. The panel was provided with Scottish examples relating to small scale hydro-power schemes authorised by SEPA [REP-812]. Articles 4.8 and 4.9 of the WFD are to be applied if and when Article 4.7 is invoked. Article 4.8 applies to other bodies of water within the same river basin district.
- 5.1.22 Articles 4.7, 4.8 and 4.9 of the WFD are as follows:
7. Member States will not be in breach of this Directive when:
- failure to achieve good groundwater status, good ecological status or, where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or groundwater is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, or
 - failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities
- and all the following conditions are met:
- (a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water;

(b) the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;

(c) the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development, and

(d) the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.

8. When applying paragraphs 3, 4, 5, 6 and 7, a Member State shall ensure that the application does not permanently exclude or compromise the achievement of the objectives of this Directive in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation.

9. Steps must be taken to ensure that the application of the new provisions, including the application of paragraphs 3, 4, 5, 6 and 7, guarantees at least the same level of protection as the existing Community legislation.

- 5.1.23 NRW has the position of statutory nature conservation advisor to WG and to the UK Government in relation to development in Wales and on the closing day of the inquiry provided an advice note to the panel [REP-1041] on the application of Article 4.7 of the WFD, taking account of information supplied by the applicant.

Article 4.7 submissions

- 5.1.24 NRW's letter of 10 December [REP-1039] sent with an accompanying advice note 'Swansea Bay Tidal Lagoon: Article 4(7), Water Framework Directive dated 9 December 2014 [REP-1041], confirmed their belief that, in respect of the Swansea Bay waterbody, a derogation under Article 4.7 of the WFD needs to be actively considered by the Secretary of State in reaching a final decision on the Project. The panel has highlighted certain matters from NRW's "Advice Note by Natural Resources Wales",; however, the SoS will want to have regard to the whole of NRW's advice. The standing of the note and the advice in it is explained within the report [REP-1041] in the following terms:
- 5.1.25 In the note, provided by NRW to advise the Examination Panel in making its recommendation to the Secretary of State, NRW has provided advice on the implications of the Project on Water Framework Directive compliance. At the same time NRW advise that it will be for

the Panel, and ultimately the Secretary of State, in coming to their final judgment to decide how much weight to give to the note.

- 5.1.26 NRW's note [REP-1041] considered matters under Article 4.7 falling within NRW's remit and as had been presaged in a letter of 19 November 2014 [REP-906] this excluded the 'human health' and 'human safety' aspects of Article 4.7(c). The matters covered were:

1) Under Article 4.7(a), an assessment of mitigation measures in the specific context of the Water Framework Directive as distinct from the Planning Act 2008

2) Consideration of Article 4.7(b) (sic)* relating to 'overriding public interest' and Article 4.7(c) relating to 'the benefits to the environment and to society...'. *The Panel notes that 'overriding public interest' is part of Article 4.7(c).

3) Under Article 4.7(c), the consideration of 'Environment benefits' within the scope of sustainable development and an economic assessment within the scope of WFD.

4) Under Article 4.7(d) consideration of the Significantly Better Environmental Options condition, but limited to those options within Welsh territorial limits and those locations that have the hydro-geographical characteristics capable of supporting the proposed activity.

- 5.1.27 The applicant's 28 October 2014 Article 4.7 submission [REP-850] contained a summary of the information presented in relation to each of the Article 4.7 conditions. Selective quotations from the summary are set out below:

Condition a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water

"Mitigation measures that are technically feasible and not disproportionately costly, have been implemented throughout the design process and any that are relevant for the construction, operation and decommissioning phases have been identified and will be secured within the CEMP, OEMP and AEMP."

Condition b) the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years

".... it is the responsibility of NRW to revise the RBMP required under Article 13 and the objectives every six years. The information set out in the WFD Assessment Report (v2) in relation to the Project can be used to inform this review process and future planning to assist in achieving the objectives of the Directive in relation to Swansea Bay coastal waterbody, i.e. Good Ecological Potential.

Condition c) "the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development"

".... given the urgent need for renewable energy generating capacity, the further benefits of the proposal in delivering public realm and facility for the local area, and the acceptable level of environmental impacts within the provisions of the EIA Directive, TLSB considers that the Project is in the public interest to the extent that justifies derogation under Article 4.7(c) of the WFD."

Condition d) "the beneficial objectives served by those modifications or alterations of the waterbody cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option."

"TLSB consider that based on the thorough evaluation of the siting of the Project in Swansea Bay, the type of technology and the design process, that the beneficial objectives served by those modifications or alterations of the waterbody cannot for reasons of technical feasibility or disproportionate cost, be achieved by other means which are a significantly better environmental option."

Article 4.8 submissions

- 5.1.28 In relation to Article 4.8 of the WFD, the 28 October Article 4.7 submission [REP-850] did not provide further detailed assessment but repeated the position set out in the October Updated WFD Assessment [REP-777] and relied on material produced earlier in the examination. The conclusion at paragraph 6.0.0.4 was that "The Project will not cause deterioration in the status of any other waterbody covered by the Western Wales RBMP, nor will it compromise the future achievement of "Good" chemical or ecological status" [REP-850].
- 5.1.29 The document [REP-850] identified other community environmental legislation with which the Project must be consistent as including the Habitats, Birds, and Environmental Impact Assessment Directives. Reference was made in the applicant's Article 4.7 submission [REP-850] to detailed technical studies in the October Updated WFD Assessment [REP-777] and the Updated Report to Inform a Habitats Regulations Assessment [REP-584] and also to studies of water quality reported in chapter 7 of the ES (Marine Water Quality) [APP-184] that were held to have demonstrated that the Project would be compliant with Community Legislation in all waterbodies other than Swansea Bay Coastal waterbody. The applicant concluded [REP-850] that the Project would not prevent other waterbodies within the same river basin district from achieving environmental objectives or compromise

Community legislation and it was considered that the provisions of Article 4.8 were satisfied.

NRWs Initial View on Article 4.7

- 5.1.30 Additional information was provided by the applicant directly to NRW over a period of time up to 3 December 2014 [REP-1041]. This included information submitted by the applicant, in response to NRW queries [REP-1045], which the applicant also provided to the Examination for 4 December 2014 [REP-984]. The applicant stated [REP-984] that the approach used to assess technical feasibility and disproportionate cost for the mitigation measures and significantly better environmental options had been based on the definitions and guidance referred to in EC guidance documents that form the Common Implementation Strategy for the WFD. It described the approach taken to “softening” the impact of the engineering design within the footprint of the lagoon and why it had not been considered technically feasible to use soft engineering techniques for the outside of the lagoon wall. It also explained the tidal regime that would pertain within the lagoon and how with the use of variable speed turbines and pumping at the end of the sequence a full tidal range of high and low tide conditions would be experienced within the lagoon. In addition to maximising electricity generation, this would restrict loss of intertidal area to that affected by the footprint of the lagoon wall.
- 5.1.31 Two of NRW’s questions related to condition (d) of Article 4.7. NRW Question 6 sought further information on how alternative options of location and arrangement of turbines and sluices had been discounted. NRW Question 7 had as a preamble that “Whilst a case has been made for why Swansea Bay was chosen, your submission does not provide the level of evidence we had expected to demonstrate why other locations were discounted”. NRW then asked for more evidence on whether other locations would not provide significantly better environmental options and whether “other locations which are significantly better environmental options are not technically feasible and/or are disproportionately costly”.
- 5.1.32 NRW Question 6 produced a detailed answer explaining why the turbines and sluice gates could and should be co-located and why, on the basis that it would require less dredging and involve less interference with navigation channels, the south western section of the lagoon wall had been selected. Within this micro-siting on the south western section of the lagoon seawall, two options had emerged from detailed siting studies that had been reported in the Project Description, chapter 4 of the ES [APP-181] and shown as Options A and B on updated Figure 4.13 of the ES [REP-283]. Both options, Option A nearer to the Tawe navigation channel and the more southerly Option B, have been considered technically and financially feasible by the applicant. Option A has been the preferred option promoted by the applicant [REP-984]. NRW Question 7 produced a wide ranging answer [REP-984]. The applicant explained that the “vision” had been to build the first tidal range power station, a First of

a Kind (FOAK) scheme, with the prospect that it would be the precursor of further lagoon projects, Next of a Kind (NOAK) schemes, with significant generating capacity. The material presented related to the practical realities of bringing forward a FOAK scheme, as well as indicating the basis for selecting the Swansea Bay site from a range of alternative locations that might be suitable for development of tidal range energy.

- 5.1.33 The applicant's answer on Condition d), in response to NRW on 3 December 2014 [REP-984] has the following paragraphs in conclusion:

"..... Swansea Bay was chosen as the preferred site by TLSB for a FOAK project on the basis that it fits the requirements identified as key parameters. In addition, siting of a lagoon in Swansea Bay has been the subject of historical studies and consultation starting around 2003. This has meant that there was already extensive information about the site and a positive response from the local community for a lagoon development."

".... all suitable sites in Wales and England were examined in relation to a number of key parameters and Swansea Bay was chosen as the most appropriate location for a FOAK project. As emphasised previously, a FOAK major infrastructure demonstration project for a concept such as a tidal lagoon has to be built on a smaller scale than successive NOAK projects, such that the capital expenditure funding requirements remain credible. TLP [Tidal Lagoon Power] is currently investigating siting future, larger, tidal lagoons as NOAK projects at the other areas identified in Figure 1 and as such, no site has yet been fully discounted on environmental, technical feasibility or disproportionate costs. Therefore further assessment on these grounds above what has been undertaken is not considered applicable at this time for a FOAK project."

- 5.1.34 It is worth noting at this point that NRW's Questions 6 and 7 had not asked about the choice of the lagoon's location within Swansea Bay. Material on that point had been contained in ES chapter 3, Site Selection and Option Appraisal [APP-180]. The conclusion in paragraph 3.3.0.7 was:

"Taking all the factors above into consideration, the selected area for the Project is located off Swansea Port. Here, the seabed is gently-sloping offshore, up to the outer reaches of this area which achieve the required water depth for the turbines. The use of western landfall point in an area of existing industrial/port uses provides significant benefits in terms of: minimising impacts during construction; assisting with transport logistics (i.e. supporting delivery of materials by sea); and providing space for supporting facilities during construction and operation. The site also provides a relatively simple electrical grid connection. During operation there would be potential for onshore facilities with opportunities to enhance the local area. In terms of minimising disruption to navigation, this can be achieved by siting the

Project between, but not affecting, the dredged approach channels of the ports of Swansea and Neath.”

NRW’s final response to the applicant’s submissions on Article 4.7

- 5.1.35 The volume of information submitted by the applicant at a late stage of the examination and the limited time to secure further detail on that information was a cause of concern to NRW, since in their view they were being prevented from presenting advice on Article 4.7 at the level of detail that they would normally consider appropriate [REP-1041]. NRW drew attention to limitations in the applicant’s analysis of the Project’s consequences for coastal processes, as a result of which NRW’s confidence in the conclusion in the WFD assessment that the Project would not result in deterioration to the Neath and Tawe estuarial waterbodies was limited. In addition, in paragraph 2.7 of the note [REP-1041], NRW observed that the impacts on fish receptors “cannot be quantified with a high degree of certainty” and there is a risk that the impact would be higher than predicted.
- 5.1.36 Nevertheless, NRW met the commitment given to the panel on 19 November that they would provide advice on the applicant’s submissions relating to Article 4.7 to the best of their ability before the close of the examination [REP-906]. A summary of NRW’s final advice on Article 4.7, as submitted on 10 December 2014 [REP-1041], is as follows:

Condition (a): A reasonable case has been made that all practicable steps would be taken to mitigate the adverse impact on the status of the body of water.

Condition (b): Should development consent be granted, the reasons for the modifications will be reported in the next publication of the Western Wales River Basin Management Plan.

Condition (c): A reasonable case has been made for the Project being of overriding public interest and, in both a local (Swansea Bay) and wider environmental context, the benefits to the environment and to society of achieving the objectives set out in the Water Framework Directive would be outweighed by the benefits of the new modifications to sustainable development. NRW has not given consideration to the benefits in terms of human health and human safety, but advises the decision maker to refer to them before reaching a conclusion on Article 4(7)(c).

Condition (d): other locations that could be considered as being better environmental options are geographically limited in Wales. In the absence of a national strategic plan for tidal range developments and on the evidence made available, it has not been possible to be confident that the limited range of other locations that could provide a better environmental option are significant, are technically feasible and not of disproportionate cost.

- 5.1.37 NRW' consideration of Article 4.8 and Article 4.9 is expressed in the following terms: "NRW considers that on the basis of the evidence available, the application of Article 4.7, subject to appropriate regulatory control, would not permanently exclude or compromise the achievement of the objectives of this Directive in other bodies of water within the same river basin district. In particular, with regard to migratory fish, on the balance of the evidence provided by TLSB and with an appropriate mitigation/compensation strategy in place, it would be reasonable to conclude that any impacts on fish would be unlikely to result in the objectives of the WFD being compromised."
- 5.1.38 NRW's advice continues: "Having considered NRW's advice the decision maker must be satisfied that the application of a derogation under Article 4.7 is consistent with the implementation of other Community environmental legislation and guarantees the same level of protection as under existing EU legislation as per Article 4.8 and 4.9."

Other representations made in respect of WFD and article 4.7 derogation

- 5.1.39 PASAS maintained throughout the Examination their opinion that the applicant's WFD assessments had been based on incorrectly defined waterbodies concerning the River Tawe/Tawe Estuary, and included various inaccuracies and omissions within the initial and detailed assessments [REP-159, REP-475, REP-728, REP-833, REP-861, and REP-974]. PASAS [REP-833] were of the opinion that there would be potential effects on the upstream river waterbody of the Tawe ('Tawe – confluence with Twrch to tidal limit') and that Article 4.8 appeared to be relevant to this waterbody. The final submission from PASAS [REP-974] in relation to WFD was that the applicant had continued to avoid their challenge regarding the misidentification of waterbodies and failure to assess properly the effects on the main waterbody. PASAS [REP-974] stated that this would have possible Article 4.8 implications.
- 5.1.40 CCSC's Pollution Control and Public Health Division, in the LIR [REP-563], also raised a point that the map presented in the applicant's original WFD assessment (section 3.2.0.4) [APP-385] showing the boundaries of the transitional water body for the Tawe Estuary did not appear to include the correct upper limit. CCSC [REP-563] went on to say that "The Tawe is tidally influenced as far upstream as Beaufort Weir at least. Also the impoundment itself is made up of 70% direct from Swansea Bay. Hence consequences of any dredging activity downstream could have implications within the impoundment and a significant distance up the Tawe." This was the only representation made by CCSC on this matter.

Panel's Conclusions on Article 4.7

- 5.1.41 The Panel concludes that the proposed tidal lagoon is a major engineering structure brought forward to meet pressing needs for

reliable renewable energy. It has particular design requirements such that it would inevitably constitute an addition to artificial structures within Swansea Bay with hydromorphological consequences. The use of material from the bay to create the lagoon walls would affect a large area through its capital dredge requirements and there would be long term maintenance dredge requirements with consequences for benthic invertebrates. The proposal for a tidal lagoon is therefore potentially in conflict with underlying aims for Swansea Bay Coastal Waterbody under the WFD and in the panel's view it is appropriate that it has to be assessed against Article 4.7.

- 5.1.42 Article 4.7 may permit derogation from the WFD in relation to either new modifications or new sustainable human development activities. The whole basis for proceeding with the proposed lagoon is predicated on an argument that it would be sustainable development. Hydropower plants are specifically identified in CIS GD20 as one of the types of modifications to physical characteristics of water bodies that are covered by Article 4.7. Hydropower is also mentioned in the Western Wales RBMP as a type of development which it is often impossible to undertake without causing deterioration of status to a waterbody and where "The benefits that such developments can bring need to be balanced against the social and economic benefits gained by maintaining the status of the water environment."
- 5.1.43 NRW's Advice Note [REP-1041], submitted on the closing day of the examination, is a detailed document which in the panel's judgement provides a thorough investigation of matters that have to be considered in relation to derogation under Article 4.7 and in particular of the four conditions that are included within that article.
- 5.1.44 In taking account of the views expressed by NRW, the SoS should be aware that outstanding differences between the NRW and the applicant, particularly over the reliability of modelled forecasts, remained unresolved at the close of the examination. As a result the two parties were not always of one view in assessing the extent of potential adverse consequences of the scheme. The unresolved areas are particularly the consequences for the intertidal zone within west Swansea Bay, particularly the Blackpill SSSI, and the scale of turbine impact on fish and the extent of disruption of olfactory trails and consequences on migratory fish. Differences on these points were all discussed in some detail at the examination (see chapter 4 of this report) and are "known unknowns" of the Project.
- 5.1.45 Having established that one or more aspect of the scheme requires an Article 4.7 assessment, the necessity of making a case for derogation exists. Whether or not assessment of the Project fails in relation to other waterbodies or other aspects of the assessment is in the panel's view not material to the question of the need for an Article 4.7 assessment.
- 5.1.46 The Panel have taken note of the views of NRW on the material brought forward by the applicant to demonstrate that approval of the

Project would be compatible with the conditions for derogation under Article 4.7. The Panel's opinion in respect of each condition for Article 4.7 is set out below:

Article 4.7(a): all practicable steps are taken to mitigate the adverse impact on the status of the body of water

In relation to condition (a), the panel concur with NRW's assessment that the scheme brought forward has included all practicable steps to mitigate the adverse impact on the status of the body of water.

Article 4.7(b): the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years

In respect of condition (b), the Panel has had regard to EC Guidance and understands that the condition does not mean that a development proposal has to be contained within a River Basin Management Plan prior to its approval. Paragraph 29 of CIS GD20 states that "If a modification or alteration goes ahead in the middle of a river basin planning cycle, the reason for that modification or alteration must be set out in the subsequent (update of the) RBMPs." Should the SoS determine to approve a DCO relating to the proposed tidal lagoon, the Panel sees no reason why that decision and the reasons behind it should not be included in the next version of the Western Wales RBMP. NRW confirmed in their Advice Note [REP-1041] that "should development consent be granted, the reasons for the modifications will be reported in the next publication of the Western Wales River Basin Management Plan."

- 5.1.47 Article 4.7(c): the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development
- 5.1.48 In respect of condition (c), NRW has not commented on human health matters, but they have been covered by the applicant [REP-1032]. In this instance, where the major benefits of the Project relate to sustainable development the panel does not consider benefits to human health to be directly relevant. The panel agrees with NRW that the benefits to the environment and to society of achieving the objectives set out in the Water Framework Directive would be outweighed by the benefits of the new modifications as sustainable development. In the panel's view, based on the evidence presented, the balance of the argument in relation to benefits to the environment and to society is very heavily on the side of development of the lagoon for the generation of tidal range energy.

- 5.1.49 In relation to condition (d), the Panel note that NRW has taken a more guarded position, expressing a caveat about limitations on the evidence made available. The summary from NRW's Advice Note [REP-1041] is quoted in above. It was not possible to explore this matter before the close of the examination. However, the Panel has had regard to all of the submitted information, including information provided by the applicant in the ES and supporting and supplementary WFD documents [REP-660, REP-777, REP-850, REP-984, REP-1032], together with further evidence from NRW such as REP-1041. The Panel considers that the position taken by NRW in seeking evidence relating to a wide range of other locations is possibly a misapplication of what may be considered sufficient to satisfy condition (d). The actual wording of condition (d) is: "the beneficial objectives served by those modifications or alterations of the waterbody cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option."
- 5.1.50 The panel consider that it is important to give some consideration to what the "beneficial objectives" served by the proposed lagoon would be. The panel has identified three overlapping potential beneficial objectives:
- provision of reliable renewable energy,
 - exploitation of the latent energy resource available from tidal range energy in Swansea Bay,
 - and the bringing forward of a realisable pilot project for tidal range energy.
- 5.1.51 This is a different approach to that taken by NRW. NRW's Question 7 was phrased in terms of asking for evidence on whether "other locations would not provide significantly better environmental options" and a demonstration if such locations exist that "they are either not technically feasible or disproportionately costly". In putting that question, NRW had accepted that, in relation to the present proposal, schemes to be considered were those that related to the delivery of tidal range energy but they do not seem to have considered that a case might be made for there being a beneficial objective of developing tidal range energy in Swansea Bay because of its inherent qualities as a latent resource of reliable renewable energy.
- 5.1.52 The panel had, in Q2.4 of the Panel's First Round of Questions, sought to open up discussion with NRW in this area by drawing attention to the organisation's guiding principle that "Our purpose is to ensure that the natural resources of Wales are sustainably maintained, enhanced and used, now and in the future" and specifically asking NRW:
- a) How does the current application for the Project fit with this overall statement of purpose? And
- b) In particular how does the broad design and scale of the Project relate to sustainable use and exploitation of the natural resource of tidal range power latent within Swansea Bay?

- 5.1.53 Neither of these questions received an answer from NRW. An answer that "Natural Resources Wales will come to a judgment on the merits of the Project and its fit with the overall statement of purpose, within the context of our Written Representations and future engagement with the Examination process" was initially given [REP-509] but this offer to put forward a "Corporate View" was not fulfilled [REP-831].
- 5.1.54 The applicant's reply on part b) of the question had been that: "The design and scale of the Project is such that it achieves a balance between optimum tidal energy output, and appropriate scale, minimising environmental impact and maximising opportunities for additional benefits to the local area" [REP-518]. Reasons behind the siting of the proposed lagoon within Swansea Bay and the choice of lagoon design had been given in chapter 3 of the ES, Site Selection and Option Appraisal [APP-1890] and in the Panel's view this can be relied on by the SoS as a suitable general response to the question as to whether the beneficial objective of harnessing the latent resource of tidal energy in Swansea Bay "cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option."
- 5.1.55 In addition to arguments related to the choice of a site within Swansea Bay, the applicant has in the response given to NRW's questions on 3 December [REP-984] provided an answer relating the beneficial objective of the Project as a realisable pilot project for tidal range energy with Swansea Bay Tidal Lagoon having been deliberately promoted as a First of a Kind (FOAK) project. An important aspect of such a pilot scheme is that it means that, while being on a sufficient scale to be a realistic demonstration of the technology, it should not be so large as to require a level of funding as to be unrealistic in relation to untested technology. The panel recognises that an essential characteristic of a pilot project is that it must be feasible and as far as the panel are aware there is no other pilot tidal range energy project ready for early delivery. Evidence has been presented that the TLSB Project is deliverable. In the panel's view, that this scheme has a realistic prospect of being a pilot project for tidal range energy is therefore something that could of itself be seen as a beneficial objective to go into the planning balance and weighed against potential disadvantages.
- 5.1.56 If it were to be held that the applicant should have carried out a wider investigation of alternative sites then the SoS should have regard to the study of alternative locations for development of tidal range energy in REP-984, reported above. In the context of this wider range of sites, the advantages of the Swansea Bay project are evident. The lagoon would not create a barrage across any river estuary and the Habitat Regulations assessment carried out has shown that it can be built and operated in a manner that, with appropriate dredge disposal strategy in place, would not affect any site, on land or water, with a European designation. The impact identified in the WFD assessment carried out by the applicant has been "a potential risk of deterioration of the benthic invertebrate quality element and hydromorphological

conditions supporting the biological quality elements” for the highly modified Swansea Bay Coastal waterbody [REP-777]. In the panel’s view, the SoS can be confident that none of the other sites that have been investigated as part of the alternative locations study would be likely to be a significantly better environmental option.

- 5.1.57 NRW have pointed out that Swansea Bay Coastal waterbody, which is of moderate status, is the most common coastal waterbody type in Wales [REP-1041]. NRW have advised that other coastal waterbodies in Wales are of the same type and at good or moderate status, and thus other coastal waterbodies in Wales would not offer significantly better environmental locations, as they are of the same or higher status and of less common typologies [REP-1041].
- 5.1.58 NRW [REP-1041] advised that 31% of Welsh Seas are designated as a Special Area of Conservation (SAC) and 8% a Special Protection Area (SPA) of which a significant proportion is in the coastal zone. The area between Gower and Barry, in which the Project would be located, is the only coastal area in the north or south Wales coast that does not host any marine European sites, though there are the coastal SACs and SSSIs that have been reported on [REP-1041]. The Updated Report to Inform HRA [REP-584] carried out has shown that the proposed lagoon can be built and operated in a manner that, with an appropriate maintenance dredge strategy and early warning monitoring in respect of Kenfig SAC (as secured by the recommended DCO), would not adversely affect the integrity of any terrestrial or marine European site (see chapter 5 of this report).
- 5.1.59 The impact identified in the Updated WFD Assessment [REP-777] carried out by the applicant has been “a potential risk of deterioration of the benthic invertebrate quality element and hydromorphological conditions supports the biological quality elements” for the highly modified Swansea Bay Coastal waterbody [REP-777]. In the Panel’s view, none of the other sites that have been discussed as part of the alternative locations study would be likely to be a significantly better environmental option.
- 5.1.60 There is one further matter to consider in relation to Article 4.7 (d) and that arises from the applicant’s response [REP-984] to NRW’s question 6 asking for information on the detailed selection of locations for the turbines and sluices. The applicant has acknowledged that Option A, would be less attractive than Option B and that it may have greater effects on subtidal benthic ecology, fish and navigation and greater dredge requirements. The question for the SoS in relation to Article 4(d) is whether Option B which is a technically feasible scheme would be a significantly better environmental option. The panel’s view is that while Option B would seem to some degree to be better in environmental terms the differences are likely to be marginal rather than significant. This is a matter on which the SoS may wish to satisfy himself in reaching his decision.

Summary of Article 4.7 Derogation

- 5.1.61 The proposal for a tidal lagoon in Swansea Bay has come forward following previous explorations of ways of harnessing the large tidal range of the Severn Estuary, such as a Severn Barrage. Those studies have not to date resulted in formulation of an implementable scheme, but a number of the proposals that have been suggested have been found to have substantial environmental impacts. In this context, it is worth taking note of the representation made by RSPB [REP-478] that:
- 5.1.62 Previous tidal energy proposals, in particular proposals for large barrages across the Severn, would have caused unacceptable damage to habitat, wildlife and heritage, and the tourism, recreational and commercial activity that this supports. We believe that a tidal lagoon in Swansea Bay may, however, represent part of the answer to getting sustainable power from our tides, if the correct approach is taken. The lagoon would be a far smaller structure than a barrage, would not block the whole estuary, and its impacts on nature should be far less damaging due to its location away from the sites of European and international nature conservation importance.
- 5.1.63 There is no experience of applying Article 4.7 for schemes in coastal waters. CIS GD20 provides overall generic guidance produced at Community level. In the opening paragraph of a section headed "Key Issues in the Process of Justifying Exemptions" it is stated that "exemptions are an integral part of the environmental objectives set out in Article 4 and the planning process". Guidance on "alternative means" is provided at section 3.2.6 with the advice that "Alternatives should be assessed in the early stages of development and at an appropriate geographical scale ... against a clear view of the beneficial objectives provided by the modification". However, there is no further explicit guidance on how condition (d) should be applied and of how high the bar should be placed if a scheme is to pass the "alternative means" test. The panel's view is that the strictness with which this test should be applied should not be disproportionate in respect of a scheme that harnesses a latent resource of tidal range energy in a particular body of water.
- 5.1.64 In the Panel's judgement, on the basis of the applicant's WFD assessment [REP-777], the evidence on alternatives considered [REP-984] and the information contained in NRW's advice note [REP-1041], this project is a well-designed scheme for harnessing the latent resource of tidal energy in Swansea Bay and there is no other readily identifiable site within Swansea Bay that would be technically and financially feasible now or in the near future and that would be a significantly better environmental option than the present application.
- 5.1.65 The purpose of Article 4.7 is to allow for derogation from the WFD in appropriate circumstances. The Panel find the applicant's arguments in favour of selecting Swansea Bay as an appropriate site sufficiently reliable and persuasive. The Panel's view is that arguments have been

sufficiently made and evidenced to meet all of the conditions of Article 4.7 and that derogation under that Article of the WFD would be appropriate in the circumstances of this case. In coming to this view, the Panel is conscious that NRW, the statutory nature conservation advisor, has come to a similar conclusion on the suitability of derogation under Article 4.7, albeit expressing caution over the limits of the current available information.

- 5.1.66 In coming to this opinion, the Panel is satisfied that the Project has had regard to the River Basin Management Plan and meets the requirements of the WFD in respect of Article 4.7 and other associated EC directives, in accordance with EN-1.

Article 4.8 other waterbodies and community environmental legislation

- 5.1.67 The WFD requires that where Article 4.7 is to be applied, the Secretary of State shall ensure that the Project does not permanently exclude or compromise the achievement of the objectives of the WFD in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation.
- 5.1.68 In considering Article 4.8, the Panel has taken account of the view from PASAS that the applicant's Updated WFD Assessment remains defective in respect of the River Tawe/Tawe estuary [REP-728 and REP-833] in that it has not approached the potential effects on inland riverine waterbodies with sufficient attention. This is in part because of the effects that the lagoon might have on numbers of fish managing to enter the Tawe and in part because of conditions that they would encounter in the lower reaches of the river, particularly in relation to water quality problems that have affected the tidal Tawe upstream of the barrage raising the water level in Swansea Marina [REP-728, REP-833].
- 5.1.69 By way of explanation, the WWRBMP was originally produced about five years ago with the Tawe estuary as defined by the upper tidal limit that they had identified. PASAS objected to the definition of the estuary on the basis that the tide reaches further up than the WWRBMP shows. Upper tidal limit is a matter of judgement given that the high tide varies between neap and spring ranges and with surges in addition, or during a seasonal low flow in the river the tidal influence rises higher. There will therefore in practice be no single cut off point but RBMPs define waterbodies by having cut off points to the extent of each plan. The RBMP is under review and any changes proposed to the extent of the plan and the estuary definitions within it will be considered then. The WFD assessment is on the basis of the current plan.
- 5.1.70 In the Panel's view, the concerns that PASAS express in relation to defects in the applicant's Updated WFD Assessment in respect of the upper tidal limits are not of such significance as to make it an

unsuitable basis for a WFD assessment. The Panel regard the Updated WFD Assessment produced in October 2014 [REP-777] as having carried out an appropriately thorough assessment of effects on waterbodies within the same river basin district for the purposes necessary under WFD. The Panel recognises that there are matters unresolved with PASAS and NRW on the scale of disruption to migration up the River Tawe by salmon and sea trout. The concern that PASAS and NRW share that impacts on migratory fish have been underestimated is an important issue in its own right, examined by the Panel and reflected in the recommended DCO and the AEMP.

- 5.1.71 As discussed in chapter 4 to this report, and as recorded by NRW [REP-1041], the applicant has predicted an adverse impact on certain fish receptors, based on modelling, but the level of impact is very difficult to predict and there remains a risk that the impact level would be higher than the applicant has predicted [REP-1041]. To address the uncertainty remaining, to negate the need for consideration of Article 4.7 in relation to the fish elements of river waterbodies, and to ensure the Project complies with Article 4.8, the recommended DCO has included for mitigation, including the installation of AFDs on the turbines in advance of the operation of the scheme, together with a robust monitoring programme of fish impacts, with commitment to further mitigation/compensation if required, as included in the AEMP secured by the DCO. The Panel notes NRW's opinion [REP-1041] that, on the balance of the evidence provided by the applicant and with an appropriate mitigation/compensation strategy in place, it is reasonable to conclude that any impacts are unlikely to result in the objectives of the WFD, in respect of river waterbodies, being compromised.
- 5.1.72 As discussed above, the Updated Report to Inform HRA and agreement with NRW to an early warning monitoring mitigation strategy in respect of Kenfig SAC, the Project would not result in adverse effects on any European sites, and is therefore consistent with the Habitats and Birds Directive. Chapter 4 of this report discusses the Project in relation to EC legislation pertaining to health, including the Bathing Water Directive. Chapter 4 concludes that the Project is also consistent with this EC legislation.
- 5.1.73 On the basis of the material submitted and having had regard to the advice from NRW, it would be reasonable for the Secretary of State to conclude in relation to Article 4.8, that the application does not permanently exclude or compromise the achievement of the objectives of the WFD in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation.

Article 4.9: guaranteeing the same level of protection as existing community legislation

- 5.1.74 Article 4.9 requires that the new provisions, including the application of Article 4.7, guarantee at least the same level of protection as the existing Community legislation. The examination has provided an

opportunity for a thorough evaluation of matters covered by the full range of Community legislation and there has been through examination of directly relevant legislation, most notably the Habitats Directive. Nothing was raised during the examination directly in respect of Article 4.9. The Panel's view is that if the SoS were to make a derogation under Article 4.7, there would have been no relaxation of the level of protection provided by existing Community legislation and that therefore the terms of Article 4.9 of the WFD have been met.

6 COMPULSORY ACQUISITION AND RELATED MATTERS

6.0 INTRODUCTION

6.0.1 The application DCO and all subsequent versions submitted by the applicant include provisions intended to authorise compulsory acquisition. This chapter of the report discusses whether the evidence before the examination justifies the grant of the compulsory powers sought, having regard to the statutory and other requirements, and the representations made by affected persons.

6.1 STATUTORY AND OTHER REQUIREMENTS FOR COMPULSORY ACQUISITION

6.1.1 As noted in chapter 3, compulsory acquisition powers can only be granted if the conditions set out in sections 122 and 123 of the PA2008 are met, and other more general requirements satisfied. In summary these are:

- the application for the order must have included a request for compulsory acquisition (or one of the other conditions in s123 must have been met);
- there must be a need for the project to be carried out;
- the land must be required for the development to which the development consent relates or must be required to facilitate or is incidental to the development;
- the applicant must have a clear idea of how it intends to use the land;
- the land take must be no more than is reasonably required and be proportionate;
- all reasonable alternatives to compulsory acquisition must have been explored;
- the applicant must demonstrate that adequate funds are 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 decision-maker must be satisfied that the purposes stated for the acquisition are legitimate and sufficient to justify the inevitable interference with the human rights of those affected; and
- there must be a compelling case in the public interest for the land to be acquired compulsorily - the public benefit derived from the compulsory acquisition must outweigh the private loss that would be suffered by those whose land is affected.

6.1.2 The application draft DCO sought compulsory acquisition powers to acquire all of the land described in the Book of Reference and shown on the land plans (excluding temporary rights), and accordingly the requirements of sections 122 and 123 are considered below in relation to all these plots.

- 6.1.3 Further in relation to statutory undertakers land, in addition to the consideration of sections 122 and 123 the requirements of sections 127 and 138 have to be met and in relation to open space land special parliamentary procedure will apply unless the relevant requirements of sections 131 and 132 are met. As the tests under these sections are different from those under sections 122 and 123 they are considered separately in this chapter.
- 6.1.4 The applicant's funding statement [APP-084] stated that it is not anticipated that claims for statutory blight would arise as a result of the promotion of the DCO. The applicant had concluded that no small business premises or owner occupiers of dwelling houses would be affected by the powers of compulsory acquisition requested in the DCO.
- 6.1.5 There was no information before the Examination that indicated to the Panel that any claims for statutory blight would arise from the development.
- 6.1.6 Compulsory acquisition does not apply to Crown land and the provisions of section 135 must be complied with and again these are considered separately in this chapter.
- 6.1.7 Powers to use land temporarily both for carrying out the authorised development and for maintaining it are also included in the Order. These are not compulsory acquisition powers and accordingly the tests under sections 122 and 123 do not apply. They are however dealt with in this chapter because they interfere with ownership and other rights in land.

6.2 APPLICATION DOCUMENTS RELATING TO COMPULSORY ACQUISITION

- 6.2.1 The Order land included in the Development Consent Order is described in Section 6 of the Statement of Reasons (SoR) [APP-083]. The Book of Reference (BoR) [APP-085] was submitted with the application documents and updated during the Examination with the final version submitted for deadline VI [REP-923]. The land in respect of which CA powers are sought is shown on the Land Plans [APP-006]. Updated versions of the Land Plans for Crown Land and Special Category Land were submitted to the Examination for deadline VI on the 25 November 2014 [REP-930]. The application also included a Funding Statement [APP-084].

6.3 WAS THERE A REQUEST FOR COMPULSORY ACQUISITION POWERS?

- 6.3.1 The application form [APP-002] confirmed that compulsory acquisition powers were sought. The Statement of Reasons [APP-083] confirmed that:

“TLSB has no interest in the land within the Order limits as at the date of the Application, but is negotiating to acquire the interests in land necessary for the Project. The Application seeks powers of compulsory acquisition over land and interests required for the construction and operation of the Project and other related powers”.

- 6.3.2 The Panel is satisfied that the condition in s.123 (2) PA2008 is met.

6.4 THE ORDER LAND

- 6.4.1 The land included within the Order limits is described in this chapter as the Order land. The Order land covers approximately 1,900ha, mostly seabed located within Welsh territorial waters.

- 6.4.2 The application sought compulsory acquisition (CA) powers in respect of all of the Order land (except Crown land and land over which only temporary possession was required).

- 6.4.3 The Order land includes Crown land, statutory undertaker’s land and open space, as to which, as noted above, special considerations apply. These matters are discussed further below.

6.5 IS THERE A NEED FOR THE PROJECT TO BE CARRIED OUT?

- 6.5.1 The Panel has shown in the conclusion to the preceding sections of this report that it has reached the view that development consent should be granted for the NSIP.

- 6.5.2 The question that the Panel addresses in the remainder of this chapter is the extent to which, in the light of the factors set out above, the case is made that compulsory acquisition powers are necessary to enable the NSIP development to proceed.

6.6 HOW THE PANEL EXAMINED THE CASE FOR COMPULSORY ACQUISITION

- 6.6.1 The Panel included questions concerning compulsory acquisition and rights over land in its Written Questions [PD-010]. They included questions on matters regarding Crown land, alternatives to compulsory acquisition and progress on negotiations with affected landowners as well as a range of other matters. The majority of the questions on these matters were addressed to the applicant.

- 6.6.2 The applicant responded to the questions from the Panel on these matters at deadline II [REP-529]. In response to the Panel's Q13.26, the applicant provided a table identifying which of the open space land would be subject to new rights to be acquired permanently and which would be required for temporary possession.

- 6.6.3 The Panel requested during the Examination further details of the financial arrangements being proposed by the applicant for the payment of compulsory acquisition compensation; a summary of these matters are set out below.

- 6.6.4 At the Issue Specific Hearing (ISH) on CA on the 30 September 2014, the Panel asked the applicant to provide the Examination with details on the derivation of the proposed total contingent CA liability of £10.5 Million together with an update on securing that level of funding to meet the stated CA liabilities. In addition, the Panel asked for updates from Affected Persons (APs) on matters related to Crown land, statutory undertakers land and apparatus and open space. A full written summary of oral representation relating to funding was received from the applicant at deadline IV [REP-769]. Written summaries of the Oral Representations from the CA Hearing were also received from APs including ABP [REP-738], Baglan Operations Limited, Baglan Pipeline Limited and Baglan Generating Limited (Baglan) [REP-741] and National Grid Electricity Transmission Plc [REP-745].
- 6.6.5 A second ISH on CA was held on the 23 October 2014. The Panel asked for updates in relation to Crown land, open space, land of unknown ownership, statutory undertakers, representations from Affected Persons/Other Persons, whether all of the plots were required /incidental/replacement land (PA2008 s122(2) and procedures followed (PA2008 s122(3): whether the extent of plots is no more than reasonably necessary, whether there is a compelling case in the public interest, whether the Human Rights Act tests are met, the Funding Statement and any modification of any Compensation Provision (PA2008 s126).
- 6.6.6 Written summaries of cases at the second CA ISH were received at deadline V (28 October 2014) from ABP [REP-825]; Baglan Operations [REP-827], Dan Morrissey (UK) Limited (Dan Morrissey)[REP-829]; St Modwen Development Limited [REP-836]; St Modwen Properties plc [REP-837]; St Modwen Properties VIII Sarl [REP-838]; Swansea University [REP-839] and the applicant [REP-843].

**6.7 IS THE LAND TO BE TAKEN REQUIRED FOR THE DEVELOPMENT?
DOES THE APPLICANT HAVE A CLEAR IDEA AS TO HOW IT
WOULD BE USED?**

- 6.7.1 The Statement of Reasons [APP-083] includes the following:

6.7 The Order land covers approximately 1,900 ha. and is, for the most part, located in Welsh territorial waters, in Swansea Bay between the dredged channels of the Rivers Tawe and Neath. The land is required for the main groups of works, which comprise:

6.7.1 A. Offshore Works - seawalls, turbine and sluice gate housing structure and offshore O&M building;

6.7.2 B. Onshore Works - onshore O&M buildings and public realm and access improvements, including temporary construction compounds; and

6.7.3 C. Grid Connection Works - construction of a cable route to export electricity from the Project to the NETS.

- 6.7.2 The final version of the Book of Reference [REP-923] includes the purpose of acquisition and/or the corresponding article of the applicant's 25 November 2014 draft DCO [REP-927]. For example, Plot 02005A is described as "All rights and interests in 4682.82 square metres of scrub, bunds and hardstanding to the north of King's Dock (see Article 25)."
- 6.7.3 As the examination progressed iterative changes to the description of the works in Schedule 1 of the draft DCO were proposed by the applicant and other IPs including WG (see report section 4.1). These continued to be explored throughout the examination and in an attempt to finalise the nature of these amendments the Panel issued a consultation draft DCO for comment [PD-020]. Comments were received from IPs for Deadline VI of the 25 November 2014 and the applicant submitted two further draft DCOs [REP-928 and REP-1002] in response. These draft DCOs included changes to the authorised development which continued to be explored and discussed by the Panel and IPs until the end of the examination. As these iterative changes were continually evolving there was no fixed position prior to the end of the examination which would have made it possible to revisit the case for compulsory acquisition in respect of the specific plots where the works had changed or no longer formed part of the authorised development.

Panel conclusion

- 6.7.4 For certain plots it is clear that the land and/or rights to be compulsorily acquired are required for the development, such as where the BoR sets out the nature of the compulsory acquisition power and its purpose in relation to specific works e.g. a right to install electricity transmission cables; or the need has been explained in the applicant's SoR [APP-083] or explored during the examination.
- 6.7.5 In relation to these plots, the Panel is satisfied that the land identified in the BoR [REF-923] as being subject to compulsory acquisition powers is required in order to carry out the development, and the applicant has given clear indications regarding why the land is required.
- 6.7.6 In respect of other plots it is not as clear that the land is still required for the development such that it should be subject to powers of compulsory acquisition.
- 6.7.7 Plot 02055 is listed in the updated BoR [REP-923] and shown on the Updated Land Plans [REP- 930] as land subject to the acquisition of new rights. Table 1 of the SoR [APP-083] states that the proposed use for this plot is for work no. 5i and work no. 8. However, these works are no longer necessary and have now been removed from the recommended draft DCO, so it is not clear to the Panel why this plot is required for the development. The Panel is of the view that there is no compelling case in the public interest for the compulsory acquisition of rights over this plot.

- 6.7.8 Plot 05035 is listed in the updated BoR [REP-923] and shown on the Updated Land Plans [REP -930] as land to be acquired. Updated Table 1 from the SoR [REP-529] states that its proposed use is for work nos 6a and 6b. The original Table 1 in the SoR [APP-083] also refers to work no. 7a on this plot. However, the Updated Land and Work Plan Overlay Sheets [REP-814] do not identify any numbered work on this plot. The description of work nos 6a and 6b have changed in the recommended draft DCO to reflect what is necessary for the construction and operation of a generating station and are contained within plots 05030 and 05005. Work no.7a appears to be located on other plots, so it is not clear to the Panel why this plot is required for the development. The Panel is of the view that there is no compelling case in the public interest for the compulsory acquisition of this plot.
- 6.7.9 Plot 01135, although described in the BoR as being subject to compulsory acquisition powers and shown on the updated Land Plans [REP-930] as land to be acquired, it is not referred to in Table 1 in the SoR and no numbered works are identified on this plot on the Updated Land and Works Overlay Plan [REP-814]. It is not clear what this plot is intended to be used for. The Panel asked the applicant at the CAH on 23 October [REP-843] if the full extent of plot 01135 would still be needed if visitor parking was to be provided only to the extent necessary for the generating station. The applicant confirmed that visitor facilities must be provided and to the extent which was appropriate to meet CCSC parking standards. Any reduction in the volume of the offshore or onshore buildings would not reduce the visitor numbers. The offshore building was later removed from the draft DCO with only the provision to enable construction of an offshore building remaining. The Panel's recommended DCO further clarifies and reduces the size of the onshore building and removes any visitor parking which it considers does not form part of the NSIP (see chapter 7). With the removal of such matters, the Panel takes the view that plot 01135 is no longer required. The Panel considers that there is no evidence as to why this plot is required and that the compelling case in the public interest for its compulsory acquisition has not been made out.
- 6.7.10 The Panel concludes that plots 02055, 05035 and 01135 are no longer required for the works in Schedule 1 and therefore do not need to be subject to compulsory acquisition. The Panel considers that the test in section 122(3), that there is a compelling case in the public interest for the grant of compulsory acquisition powers in respect of these plots, has not been met. The Panel notes however that the plots may still be needed to carry out the development, for surveys or temporary possession, for example. The Panel recommends that these plots are excluded from the ambit of compulsory acquisition. Article 25 has been amended to reflect this.
- 6.7.11 The Panel did not have an opportunity before the end of the examination to request the applicant's view on the exclusion of these plots. The Panel therefore recommends to the SoS that he satisfies himself as to whether or not any of these plots are required for the

works in Schedule 1 and as to whether there are sufficient details and evidence that demonstrate a compelling case in the public interest for these plots to be subject to compulsory acquisition.

6.8 IS THE LAND TAKE NO MORE THAN IS REASONABLY REQUIRED?

- 6.8.1 With the exception of Associated British Ports (ABP), none of the affected persons has claimed that any land subject to compulsory acquisition is more than is reasonably required for the development. There is no evidence before the Panel that suggests that in relation to other landowners, the land take is more than is reasonably required. The ABP objection to compulsory acquisition is considered later in this chapter.

PANEL CONCLUSION

- 6.8.2 The Panel concludes that the land take proposed is no more than is reasonably required, subject to the comments above regarding plots 02055, 05035 and 01135 and the ABP land discussed in section 6.13.

WERE ALL REASONABLE ALTERNATIVES TO COMPULSORY ACQUISITION EXPLORED?

- 6.8.3 The DCLG 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...’ 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 alternatives to the proposed acquisition of the land and rights over land.

THE SITE SELECTED

- 6.8.4 The ES chapter 2 and 3 considered project design evolution, site selection and option appraisal [APP-179 and APP-180]. The Statement of Reasons [APP-083] summarised the relevance of this part of the ES in relation to CA matters. Of paramount importance for a tidal energy project was that there was a requirement for it to be situated in an area of high tidal range. The Severn Estuary, of which Swansea Bay is part, has the second highest tidal range in the world, at approximately 10.5m.
- 6.8.5 Other considerations which gave rise to Swansea Bay being the chosen location included:-
- The gently sloping sea-bed of the Bay, which reduces the requirement of the impounding seawall required, and associated costs, thereby increasing viability;
 - The location of urban centres within the Bay, which increases the opportunities for regeneration and recreational benefits; and

- The proximity to infrastructure to which to export electricity generated by the project to the National Energy Transmission System (NETS).

THE SPECIFIC CHARACTERISTICS OF THE SITE

6.8.6 Other factors which informed the choice of Swansea Bay included:-

- the location of it in the area south of Swansea Docks which preserves the designated recreational beaches of Aberafan Sands and Swansea Bay;
- By locating it between the dredged channels of the River Tawe and the River Neath, access to Swansea and Neath Docks are retained and it avoids designated conservation areas; and
- The application site supports access to local and wider transport infrastructure and provides appropriate space for onshore construction and operation facilities.

THE SCALE OF THE PROPOSED DEVELOPMENT

6.8.7 Alternatives with no connection of seawalls to land were considered but discarded early in the project design stage. The ES chapter 3, section 3.4.2 [APP-180] explains that at the early stage of the Project design, an offshore lagoon option was found to be not commercially viable, as the ratio of wall length to enclosed area was too low. In addition to this, initial coastal modelling work showed that significant current movement would occur on the landward side of the lagoon as a result of tides, potentially significantly increasing scouring. This meant that the acquisition of a sea frontage - private land ashore would be unavoidable.

6.8.8 The iterative design process looked at smaller and larger lagoon configurations, which would have had more or less sea front land take. The final design of the development was based on optimising viability and generating capacity [APP-083].

ALTERNATIVES TO THE PROPOSED ACQUISITION OF LAND AND RIGHTS OVER LAND

6.8.9 The Panel is satisfied that the applicant made good progress on negotiating options for leases with landowners during the Examination. However the Panel understands that all plots remained in the BoR to ensure that any outstanding easements or other private rights by agreement are subject to the powers of compulsory acquisition, as well as granting to the applicant powers of temporary possession (referred to in the BoR as temporary rights).

PANEL CONCLUSION

6.8.10 Section 5.1 of this report considers alternative sites and designs in relation to WFD requirements. The Panel is satisfied that alternatives to the proposed location and project design were explored as part of the project design stage and reported in the ES. Whilst there may be

other locations suited to a tidal lagoon in the Severn Estuary area or elsewhere in the UK, their development would not be precluded by the grant of consent for TLSB.

- 6.8.11 Paragraph 4.4.3 of EN-1 explains that where (as in the case of renewables) legislation imposes a specific target for particular technologies, the decision maker should not reject an application for development on one site simply because fewer adverse impacts would result in developing similar infrastructure on another suitable site, and it should have regard as appropriate to the possibility that all suitable sites for energy infrastructure of the type proposed may be needed for future proposals. In relation to these EN-1 paragraph 4.4.3 requirements, first, there was no evidence before the Panel which indicated that there is an alternative suitable site which would have fewer adverse impacts; second, the Panel is aware that the Swansea Bay Tidal Lagoon could be the first of similar developments. This is confirmed in the Government's National Infrastructure Plan 2014 (H M Treasury, 2 December 2014), published before the end of the Examination, where it is stated that DECC has started to explore the potential of a tidal lagoon programme.
- 6.8.12 The Panel is also satisfied that the applicant has progressed with private negotiations with the relevant land-owners in order to secure leases across much of the application area. However, CA powers are still required in order to ensure the delivery of the development.
- 6.8.13 The Panel concludes that all reasonable alternatives to compulsory acquisition were explored and in order to deliver the tidal energy scheme, CA powers are necessary.

6.9 WILL AN ADEQUATE COMPENSATION FUND BE AVAILABLE?

- 6.9.1 DCLG Guidance related to procedures for the compulsory acquisition of land requires applications to be accompanied by a statement explaining how it will be funded. This statement should provide as much information as possible about the resources implications of both acquiring the land and implementing the project for which the land is required. The timing of the availability of funding is also likely to be a relevant factor. Regulation 3(2) of the Infrastructure Planning (Miscellaneous Prescribed Provisions) Regulations 2010 allows for five years within which any notice to treat must be served, beginning on the day that the order granting development consent is made, though the SoS does have the discretion to make a different provision in an order granting development consent.

THE FUNDING REQUIRED

- 6.9.2 The Panel is satisfied that the sum of money proposed by the applicant to cover all CA land acquisition liabilities has been reviewed and agreed by a competent independent advisor [REP-769]. St Modwen raised concerns in their WR regarding the adequacy of the funding [REP-481; REP-482], these will be discussed below. The Panel

considers that there is no evidence before it to indicate that the sum proposed is not sufficient or adequate.

- 6.9.3 The funding statement [APP-084] explained that the development did not have the benefit of full funding at application stage and that this was not unusual for a project of this nature as planning permission would be required to reach financial close (that is secure binding financial commitments). However it was not anticipated that there would be any funding shortfall for the project in terms of its principal project cost financing of land or land acquisition at the time when finance is required. During the Examination, the Panel sought updates and reassurance from the applicant regarding the likelihood of funding being secured in order to meet all of the liabilities of the project. At deadline II, in response to a Panel Question, the applicant explained that the project will be funded by a mix of project equity, mezzanine debt and project debt [REP-529]. At deadline V, the applicant submitted a news release from Prudential, dated 20 October 2014, confirming their commitment to become a cornerstone investor in the project [REP-842].
- 6.9.4 Draft DCO Article 7 [REP-1002] requires the applicant to have the funding mechanism in place and approved by the LPA prior to the commencement of work and so the applicant will not be able to take possession of any of the land under CA rights until the funding mechanism is in place and agreed. CCSC confirmed [REP-828] that in relation to Article 7 (Benefit of the Order), "CCS welcomes the sufficient security provision but as per the evidence presented at the hearing of the 22 October, would welcome further provision to provide for expert advice to be paid by the applicant to appraise information submitted to it, as relevant authority". The Panel notes that the applicant has made provision for this in the 4 Dec 2014 DCO [REP-1002] as Article 7 (6).
- 6.9.5 The Panel is satisfied that the applicant has demonstrated that adequate funding is likely to be available to enable the compulsory acquisition of the land in the statutory period following the order being made. The Panel is also satisfied that the provisions within Article 7 are proportionate and would deliver a mechanism ensuring that security for CA land acquisition liabilities would be provided to the satisfaction of the LPA.

THE SOURCE AND SECURING OF THE FUNDING.

- 6.9.6 The applicant's final draft DCO [REP-1002] identifies in Article 7 that security for the funding of the CA liabilities would come from one or more of the mechanisms identified within that Article. They are as follows:-
- Deposit of a cash sum;
 - Payment into court;
 - An escrow account;
 - A bond provided by a financial institution;

- An insurance policy; and/or
- A guarantee by a person of sufficient financial standing not being the undertaker.

PANEL CONCLUSION

- 6.9.7 The Panel considers that both the mechanism for delivering the financial sum required to cover CA liabilities within Article 7 of the Order and the total sum proposed conform with the CLG Guidance requirements on this matter. On the basis that the Order would provide the mechanism to ensure that funding is available for CA to proceed, the Panel concludes that the provisions set out in Article 7 are adequate to support a compelling case for the grant of compulsory acquisition powers.

6.10 DOES THE CASE FOR COMPULSORY ACQUISITION IN THE PUBLIC INTEREST OUTWEIGH ANY PRIVATE LOSS?

THE PUBLIC BENEFIT

- 6.10.1 With regard to s122(3), in considering whether there is a compelling case in the public interest there are a number of issues to be considered in balancing the public interest against the private loss which would occur. The pressing need for renewable energy facilities is recognised in NPS EN-1. The Panel considers that although there is no specific national policy relating to tidal range energy, the proposal by generating reliable, renewable low carbon energy would support the objectives of NPS EN-1 and the Renewable Energy Infrastructure NPS (EN-3) and contribute to WG policy objectives in relation to securing a low carbon future and delivering reliable renewable energy from a marine source.
- 6.10.2 The recently published National Infrastructure Plan 2014 (H M Treasury, 2 December 2014) named Swansea Tidal Lagoon in its announcements in energy, explaining that the government remains committed to achieving its low carbon energy goals through the deployment of a range of technologies. It goes on to explain that the government will start closer discussions with Tidal Lagoon Power Ltd to establish whether a potential tidal lagoon project at Swansea Bay is affordable and value for money for consumers (without prejudice to the planning decision on the project).
- 6.10.3 The Panel is satisfied that, subject to consideration of the position of affected persons, there would a compelling case in the public interest for the development, in order to contribute to national renewable energy requirements identified in national policy.

PRIVATE LOSS – THE AFFECTED PERSONS (APS)

- 6.10.4 The applicant submitted a BoR with the application [APP-085] which, in accordance with the Infrastructure Planning (Applications Prescribed Forms Procedure) Regulations 2009 [the APFP] Regulations, included details of persons with interests in the Order land (the 'affected

persons'). The applicant's Certificate under s59 PA2008 [CERT-002] confirmed that the affected persons (APs) were those named in the BoR as amended by a table appended to the Certificate.

- 6.10.5 The APs were invited to attend the PM by way of the 'Rule 6 letter' [PD-003], as required by s88 PA2008, and were given the opportunity to participate in the subsequent examination by submitting written representations or asking to be heard at a compulsory acquisition hearing. In the event, only a small number of APs made representations or asked to be heard.
- 6.10.6 During the course of the examination, a number of those APs withdrew their objections to the exercise of compulsory acquisition powers.

6.11 IS THE ACQUISITION OF INTERESTS OF AFFECTED PERSONS WHO DID NOT PARTICIPATE IN THE EXAMINATION JUSTIFIED?

PANEL CONCLUSION – AFFECTED PERSONS THAT DID NOT PARTICIPATE

- 6.11.1 In the absence of any representations from APs, the Panel has no evidence of any private loss that would outweigh the proven public interest in carrying out the development. However, the Panel is aware that the tests in s122(3) apply to all land whether the APs participated in the Examination or not.
- 6.11.2 The Panel considered all the evidence in relation to each of these plots and is satisfied that the compulsory acquisition powers required in relation to them is justified.

6.12 IS THE ACQUISITION OF INTERESTS OF AFFECTED PERSONS WHO DID NOT OBJECT OR WITHDREW THEIR OBJECTIONS DURING THE EXAMINATION JUSTIFIED?

- 6.12.1 This section of the chapter considers APs who did not object or withdrew their objections during the examination. Not all of the APs who did not object are listed below. The details of all Category 1 and Category 2 owners were described in the BoR [REP-923].

NATIONAL GRID ELECTRICITY TRANSMISSION PLC (NGET)

- 6.12.2 The NGET land is an internal access road and includes land in the vicinity of Baglan Bay power station. It is required for the installation, maintenance and operation of the cables. NGET withdrew its objection on 21 November 2014, having entered into an agreement to safeguard its apparatus [CORR-015].

WESTERN POWER DISTRIBUTION (SOUTH WALES) LLP (WPD)

- 6.12.3 WPD's land includes land adjacent to and including the River Tawe west of Swansea Docks; land south of Prince of Wales Dry Docks and to the south and east of Queen's Dock including internal access roads

and to the east of King's Dock; land between King's Dock and Queen's Dock; Langdon Road and land north east of King's Dock; land to the south of Fabian Way; and in the vicinity of Baglan Bay power station.

- 6.12.4 WPD withdrew its objections on 25 November 2014 [REP-919] in respect of s127 and 138 of the Planning Act 2008, having agreed protective provisions with the applicant. However, it confirmed that it wished its representation to stand in respect of all other matters.

DWR CYMRU CYFNGEDIG/WELSH WATER (DCWW)

- 6.12.5 DCWW withdrew its objection on 27 November 2014 [REP-901], including under s127 and s138 of the PA2008, as it had agreed protective provisions to be included in the applicant's final draft DCO [REP-1002].

DAN MORRISSEY (UK) LIMITED (DAN MORRISSEY)

- 6.12.6 Dan Morrissey withdrew its objection on 26 November 2014 as it had reached agreement with the applicant [CORR-016].

BAGLAN BAY COMPANY LTD (BBCL)

- 6.12.7 BBCL withdrew its objection to the Order on 22 October 2014 [REP-826] as it had received an acceptable undertaking from the applicant.

THE COAL AUTHORITY

- 6.12.8 The Coal Authority made neither a relevant representation nor an objection to the making of the Order. However, the applicant has sought to accommodate the Coal Authority in Article 37 of the applicant's final draft DCO in any event.

THE WELSH GOVERNMENT (WG)

- 6.12.9 Land in which the WG has an interest is protected under Article 57 (Crown Rights) of the applicant's final draft DCO [REP-1002]. On the 4 December 2014 the Welsh Ministers confirmed that, for the purposes of section 135 of the PA2008, they consented to the making of the Order, subject to the inclusion of Article 57, materially in the form stated in the letter, in the Order [REP-977]. This is discussed further below.

DEPARTMENT OF THE ENVIRONMENT C/O MAPELEY STEPS LIMITED (DOE)

- 6.12.10 Part of the ABP land is leased to the SoS for the Environment and Transport. It is currently sub-let to Her Majesty's Revenue and Customs and is used for car parking and a Road Fuel Testing Unit, which tests fuel that is used in the Port [REP-468]. The SoS for Communities and Local Government through its authorised agent, Mapeley Steps Limited, provided a letter on the 19 Nov 2014 [REP-932] stating that it has no objection to the making of the Proposed

Tidal Lagoon Swansea Bay (Generating Station) Order and the provisions it contains in so far as it affects the right granted under the lease made between ABP and the Secretary of State for the Environment and Transport and the Regions on 27 July 1998.

THE CROWN ESTATE

- 6.12.11 The applicant is taking part in the leasing round for the grant of a lease over Crown land (the seabed). Land in which the Crown has an interest is protected under Article 57 (Crown rights) of the applicant's draft DCO [REP-1002]. On 24 November 2014, the Crown Estate Commissioners, as the appropriate Crown authority, consented in accordance with s135(2) of the PA2008, to the inclusion of provisions in the draft DCO that applied to Crown land or rights, subject to the amendment of the wording in the Article on Crown Rights to reflect the wording set out in earlier correspondence [REP-915]. Crown Estate matters are discussed further below.

PANEL CONCLUSION – APS THAT DID NOT OBJECT OR WITHDREW THEIR OBJECTIONS

- 6.12.12 The Panel is satisfied that the acquisition of interests in relation to land owned by APs who did not object or withdrew their objections during the Examination including NGET land, WPD land, DCWW land, Dan Morrissey land and BBCL land is justified in order to ensure the delivery of the NSIP. Coal Authority rights are protected in Article 37 of the DCO and Crown land is not subject to CA.

6.13 IS THE ACQUISITION OF INTERESTS OF AFFECTED PERSONS THAT MAINTAINED THEIR OBJECTIONS OR CONCERNS JUSTIFIED?

ST MODWEN DEVELOPMENTS LIMITED, ST MODWEN PROPERTY VIII SARL, ST MODWEN PROPERTIES PLC (ST MODWEN).

The applicant's case

- 6.13.1 St Modwen land is required as part of the cable easement as well as parts of the eastern landfall and an access track. At deadline VII, the applicant stated [REP-999] that it continued to negotiate with St Modwen. It considered that the St Modwen land could be included in the powers under the order since its case had not been made out, but no reasons were given.

The objector's case

- 6.13.2 St Modwen explained in their summary of WR [REP-482] that their concerns about CA were regarding the applicant seeking powers of outright acquisition of all land within the Order limits, even that land which the applicant has noted on land plans as land over which only powers of temporary possession or the acquisition of rights is necessary. It considered that the applicant had failed, at that time to justify why there should be a sweeping power of outright acquisition

under Article 23 of the DCO and that in seeking such a wide power it had not adequately considered funding. The Panel notes that Article 23 in the Draft DCO at that time is Article 25 in the applicant's final draft DCO [REP-1002].

- 6.13.3 In its representations following the CA ISH on the 23 October [REP-836; REP-837; REP-838], legal advisors to St Modwen reported that the applicant had failed to include the protective provisions that were under negotiation. In the event that the applicant did not include these protective provisions in its draft DCO in the submission by deadline V (28 October 2014) they requested that the Panel take this representation into account and incorporate their proposed protective provisions in the DCO. They cited the Clocaenog Forest Wind Farm Order 2014 as an example of the Examining Authority recommending that protective provisions be imposed in favour of a neighbouring wind farm, albeit the protective provisions proposed had not been included in the final Order. They considered that protective provisions can be imposed in favour of landowners who are not statutory undertakers. They requested protective provisions in relation to bearing the costs should contamination cause St Modwen to cease to occupy or permit the occupancy of its land, minimising interference, isolation and damage of their land, payment of reasonable expenses in connection with inspection, superintendence and monitoring of any works and alternative means of access and other matters.
- 6.13.4 St Modwen's position regarding compulsory acquisition was that it had hoped to negotiate with the applicant and that agreement would be reached on or before the 25 November to enable it to withdraw this part of its submissions. If agreement was reached, then St Modwen's land would not be needed in the DCO. If agreement was not reached between St Modwen and the applicant, their position (as stated in the representations following the CA ISH on the 23 October) was that their land should not be included in the DCO because the applicant has failed to demonstrate that it has made sufficient effort to acquire St Modwen land by negotiation.
- 6.13.5 No further representations were received from St Modwen after this.

Panel conclusion – St Modwen

- 6.13.6 There were no further updates from St Modwen or the applicant on this matter before the close of the Examination. The Panel have therefore treated the objection as maintained.
- 6.13.7 Turning now to the concerns raised by St Modwen in its WR regarding the adequacy of funding. Article 23 referred to by St Modwen in the first version of the Draft DCO is now Article 25 in the applicant's final draft DCO [REP-1002]. The Order land that is subject to compulsory acquisition under this Article is defined in Article 2 (Interpretation) as "the land shown on the land plans" and "described in the book of reference". The plot numbers are shown on the land plans [REP-930] and the BoR [REP-923] sets out whether the whole plot will be

compulsorily acquired or whether it is just the rights over the plot that will be acquired. Some plots are described in the BoR as not being subject to CA at all, for example temporary possession rights only. Also DCO Article 25 is subject to articles 34 and 35 (temporary use of land).

- 6.13.8 The descriptions in the BoR [REP-923] identify the land affected and what rights/powers the applicant is seeking over each plot. The applicant's SoR [APP-083] submitted with the application provides the justification for the use of powers of CA.
- 6.13.9 The Panel notes that the applicant has followed the approach set out in the DCLG Guidance on CA and the PA2008, with regard to resourcing the proposed scheme. The Panel accepts that the applicant is not seeking powers to acquire compulsorily all the land (just certain specified plots and certain rights over some of the plots). The Panel concludes that the acquisition cost would not be as great as St Modwen had thought at the time of their WR as they considered that there was a risk that the whole of the land was to be acquired. The Panel considers that their concerns over funding levels are not justified.
- 6.13.10 The Panel has considered the request by St Modwen for protective provisions. It does not consider that these would be proportionate or necessary. Matters regarding contamination are adequately addressed in requirement 12 of the 4 December 2014 DCO [REP-1002], interference, isolation and damage of their land will be addressed in the compensation payments and DCO requirements 7 and 8 would provide the mechanism for ensuring that any damage to land is made good by landscaping. 'Superintendence and monitoring of works' is not a matter for an AP, as these matters will be addressed by the LPA in association with NRW with regard to ensuring that the mitigation requirements within the DCO itself as well as the AEMP, CEMP and OEMP are delivered.
- 6.13.11 The Panel concludes that the acquisition of St Modwen land is justified in order to deliver the NSIP.

SWANSEA UNIVERSITY

The applicant's case

- 6.13.12 University land that is required for the development includes part of the foreshore and landfall, parts of which are required for the cable route. The applicant stated that negotiations were on-going at deadline VII [REP-999], with both parties hoping to conclude by 8 December 2014.
- 6.13.13 In its final representations (at deadline VIII on 8 December) (REP-1025) the applicant stated that it expected to reach agreement on the lease 'in the near future', but that it would not be appropriate to remove the CA powers at that time 'given the unmade nature of any

agreement and the need to secure delivery of the Project in the public interest’.

The objector’s case

- 6.13.14 In its WR and WR summary [REP-488] and [REP-489] Swansea University raised the same concerns about CA as St Modwen in relation to Article 23 where it considered that the DCO went too far in permitting powers of outright acquisition. It considered that, “The applicant seeks powers of outright acquisition of all land within the Order limits, even that land which the applicant has noted on land plans as land over which only powers of temporary possession or the acquisition of rights is necessary. The applicant fails to justify why there should be a sweeping power of outright acquisition under Article 23 of the DCO”.
- 6.13.15 At deadline VII, legal advisors to Swansea University reported that in order to avoid compulsory acquisition the University sought to negotiate a lease of its land with the applicant [REP-975]. At that stage, good progress was being made on the negotiations with a view to providing the applicant with a lease of the rights which it would require to deliver the project. The University was reasonably optimistic as to the outcome of those negotiations, which would mean that the University's land did not need to be included in the DCO.
- 6.13.16 No further representation was received from the University.

Panel conclusion – Swansea University

- 6.13.17 The Panel notes that Swansea University has a Category 2 interest (see PA2008 section 44(2)) in land owned by St Modwen. There were no further updates from Swansea University or the applicant on this matter before the close of the Examination. The Panel have therefore treated the objection as maintained. The Swansea University concerns relating to the level of funding and the powers of Article 23 (now Article 25) [REP-1002], which duplicate those raised by the landowner, St Modwen, are discussed in relation to St Modwen above and the Panel’s conclusions on these points are the same as it arrived at in respect of St Mowden’s concern on the same issues.
- 6.13.18 The Panel concludes that the acquisition of rights over Swansea University land is justified in order to deliver the NSIP.

ASSOCIATED BRITISH PORTS (ABP)

The applicant’s case

- 6.13.19 The land required is adjacent to and including the River Tawe west of King's Dock; land south of Prince of Wales Dry Docks and to the south and east of Queen's Dock including internal access roads and to the east and north of King's Dock; land between King's Dock and Queen's Dock; Land South of Fabian Way including waste water treatment works, grassland and seabed [REP-1098].

- 6.13.20 It is required for authorised development in relation to the road, cycle way, access, car park and landscaping at Western Land Fall, as well as a foreshore lease. Protective Provisions have been agreed with ABP [REP-529].
- 6.13.21 The applicant at deadline VII of the 4 December reported [REP-999] that TLSB and ABP had continued negotiations for the acquisition of rights in, ABP's land by TLSB. This was in the form of two leases, which were said to be very close to being agreed at that stage.
- 6.13.22 TLSB reported that ABP had withdrawn its objection for the purposes of ss127 and 138 PA2008 at the compulsory acquisition hearing held on the 23 October 2014. Although in [REP-941] the applicant acknowledged that in the ABP written summary of oral representations [REP-825], there was a contradiction from ABP on this matter.

The objector's case

- 6.13.23 At deadline VIII in its letter of the 8th December, ABP's legal advisor, clarified its position, in that it continues to object to compulsory acquisition of any of its land falling within the Port of Swansea. However, the objection is qualified in that ABP does not object to the principle of the Tidal Lagoon project [REP-1005].
- 6.13.24 On that basis, ABP had entered into an Option Agreement with the applicant, enabling the applicant to enter into lease arrangements with ABP - when the applicant requires land within the Port either temporarily (for example for construction purposes) or on a more long term basis (for the access road). ABP explained that on the basis of the above, it was content for the provisions relating to the compulsory acquisition of its land to remain in the DCO as drafted, noting the safeguarding protective provision set out in ABP Protective provision 3 (which provides that the applicant may not under the powers of the Order acquire or use or acquire new rights over port land without the consent of ABP), but subject always to the qualifications noted in earlier representations.
- 6.13.25 However, ABP does object to the threat of compulsory acquisition against land that falls outside the Tidal Lagoon lease arrangements included in the Option Agreement.
- 6.13.26 ABP's earlier representation of the 4 December [REP-969] identified that the area of land within the Port of Swansea which is subject to the lease arrangements is in fact less than the land that was identified and referenced by the applicant in the Book of Reference and accompanying plans. ABP as a consequence required that the Book of Reference and relevant plans be amended so as to remove the land owned by ABP no longer necessary to deliver the project from the explicit threat of compulsory acquisition
- 6.13.27 The Panel notes that following receipt of the letter of the 4 December, the applicant did not change the Book of Reference or the Land Plans

and further that the details of the TLSB lease area in relation to ABP land were not before the Examination.

Panel conclusion – ABP

- 6.13.28 The Panel understands that it cannot recommend that CA powers are granted over land unless it is all required for the development. The Panel notes that whilst ABP submits that Order land outside the lease area is not needed to be included in the compulsory purchase powers, the location of the land that is not included in the lease was not before the Examination.
- 6.13.29 The Panel is satisfied on the evidence submitted to it by the applicant in the Statement of Reasons and further representations, and notwithstanding the representations from ABP, that the applicant has justified the need for all of the ABP land and that it is required for the project or is incidental to it and that the tests under sections 122 and 123 have been met.
- 6.13.30 The Panel notes that ABP objects to the compulsory acquisition of its land but does not object to the principle of the Tidal Lagoon project and that it has entered into an Option Agreement (confirmed in its letter of the 8 December), which will enable the applicant to enter upon and use the land that it requires for the development of the project under the terms of the two agreed leases.
- 6.13.31 The Panel further notes that in the light of the Protective Provisions afforded to ABP in the DCO by Protective Provision 3, ABP does not resist the retention of the powers of compulsory acquisition of its land in the DCO.
- 6.13.32 Accordingly the Panel recommends to the SoS, pursuant to the provisions of sections 122 and 123 that the compulsory acquisition powers in relation to ABP's land and interests be granted.

BAGLAN OPERATIONS LIMITED, BAGLAN GENERATING LIMITED, BAGLAN PIPELINE LIMITED (BAGLAN)

The applicant's case

- 6.13.33 Baglan owns and operates Baglan Bay Power Station. Baglan land would be required to enable the grid connection into the Power Station to be constructed. At deadline VII the applicant reported that negotiations were on-going between TLSB and Baglan [REP-999] but were not expected to be concluded by the end of the Examination. However, the applicant considered that the Order could be made and the project constructed and operated with no detriment to the undertaking of Baglan.

The objector's case

- 6.13.34 Baglan's legal advisor provided a set of notes, plans and diagrams for the ISH on the 30 September 2014 [REP-740] when it explained its

concerns about land parcel 04095 and identified an alternative route into the power station. The BoR indicates that parcel 04095 is to be subject to acquisition of rights connected with the installation and maintenance of the grid connection. At the hearing, Baglan's advisors explained that land parcel 04095 contains sensitive equipment which is essential for the operation of the power station including safety pressure reduction equipment, ducts containing complex command and control systems, control instrumentation and gas pipelines. Using land parcel 04095 for the cable route could result in damage to the existing sensitive equipment which could lead to a shut-down of the power station for up to a year with a potential loss of income of £100M [HE-38]. Their note of their representations for the CA ISH on the 30 September is [REP-741].

- 6.13.35 At the end of the Examination, Baglan wrote to the Planning Inspectorate explaining that it cannot withdraw its objection to the Order while it contains compulsory acquisition powers over parcel 04095, due to the risk to the existing Baglan assets. [REP-970]. It explained that Baglan and the applicant had agreed in principle an alternative route for the cable which both parties were satisfied with, such that it runs to the east rather than the west of the substation. Until parcel 04095 is removed from the scope of compulsory acquisition purchase, Baglan maintains a representation relevant to s127 of the PA2008, as to acquire that parcel would cause serious detriment to the carrying out of Baglan's operations, ie the operation of the power station.

Panel conclusion - Baglan

- 6.13.36 The Panel has considered the representations made by Baglan and in particular regarding Plot 04095. The Panel's view is that Plot 04095 is statutory undertaker land used by the undertaker for the purpose of its undertaking. Many of the underground services and essential infrastructure necessary for the operation of the power station are located within this land parcel. The location of plot 04095 is critical for the purpose for which it is being used, namely the routeing of underground services and the location of essential infrastructure for the power station. However, during the Examination the Panel was made aware that an area of land over which the applicant was seeking a power of temporary use, could be used as an alternative to plot 04095 for the routeing of the power cable from the proposed development to Baglan Power Station. The Panel notes that two of the plots that would be required for the alternative route into the power station, Plots 04080 and 04085 are described in the BoR [REP-923] as a 'temporary right' with the additional description 'Land not to be acquired'.
- 6.13.37 Both parties agreed the land in question could be used as an alternative route and were negotiating to conclude an agreement to enable its use as such outside the DCO, but the agreement had not been finalised by the date of the close of the Examination.

- 6.13.38 The Panel has concluded that there is justification pursuant to sections 122 and 123 for the grant of compulsory acquisition powers in respect of the Baglan land save for plot 04095 where there is an alternative route available into the power station for the cables which is acceptable both to the applicant and Baglan and would enable the delivery of the Project. Accordingly, its recommendation to the SoS is that all of Baglan's interests in the Order land, save Plot 04095 should be included in the compulsory acquisition powers.

Intertissue Ltd (Intertissue)

- 6.13.39 The Intertissue land is required for part of the cable easement.
- 6.13.40 Intertissue made a brief relevant representation [REP-096]. Its subsequent written representation [REP-467] indicated that whilst it did not object in principle to the new generating station, it wished to protect its interest, land ownership, rights and easements at the Intertissue Ltd paper mill and adjoining land at the Baglan Energy Park that was reserved for expansion of the mill. It also objected to any proposed development that would compromise existing service easements that were critical to the operation of the paper mill.
- 6.13.41 The applicant's response [REP-595] to Intertissue's written representation indicated that negotiations were on-going. It intended to attempt to devise an underground cable route avoiding the area in question completely, if technically feasible. If not, it would work with Intertissue to agree a mutually acceptable layout.
- 6.13.42 At deadline VII the applicant reported that it continued to negotiate with Intertissue [REP-999]. No further submissions were received about this land from either party. The Panel considers that the Intertissue representation was maintained at the end of the Examination.

Panel conclusion - Intertissue

- 6.13.43 The Panel has considered the representations made by Intertissue regarding its land. It concludes that the acquisition of Intertissue land is justified in order to deliver the NSIP.

6.14 IS THE INEVITABLE INTERFERENCE WITH HUMAN RIGHTS BY THE GRANT OF COMPULSORY ACQUISITION AND TEMPORARY POSSESSION POWERS JUSTIFIED?

- 6.14.1 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.
- 6.14.2 The European Convention on Human Rights (ECHR) was incorporated into domestic law by the Human Rights Act 1998. Article 1 of the First Protocol of the ECHR (rights of those whose property is to be

compulsorily acquired and whose peaceful enjoyment of their property is to be interfered with) would be engaged.

6.14.3 Article 6 of the ECHR, which entitles those affected by compulsory acquisition and temporary possession powers sought for the project to a fair and public hearing of their objections, was engaged. Several of the APs requested to participate in a Compulsory Acquisition Hearing and the Panel arranged for two CA hearings during the Examination. All APs that requested to be heard at the CA hearings were given an opportunity to put their case to the Panel and to provide a subsequent written report of their Oral Case. The Panel is satisfied that the requirements of Article 6 have been met.

6.14.4 Article 8, which relates to the right of the individual to 'respect for his private and family life, his home ...' would have a much more limited application as the only domestic property which may be affected by the development is that owned by residents of Bevan's Row who are identified in relation to parcel 01070, since access to their homes may be affected by increased traffic and works on the roads serving Bevan's Row [REP-529].

PANEL CONCLUSION – INTERFERENCE WITH HUMAN RIGHTS

6.14.5 The Panel agrees with the applicant's reasoning, in Section 9 of the Statement of Reasons [APP-083] regarding why it considers that the inclusion of powers of acquisition would not constitute any unlawful interference with Convention rights. The Panel considers that it would be appropriate and proportionate to make the DCO, including the grant of powers of compulsory acquisition and temporary possession. In reaching this conclusion we have had regard to the compensation to which the APs would be entitled. The Panel concludes that the need for the development outweighs any private loss that may arise in relation to APs having rights imposed over their land or being deprived permanently or temporarily of their land.

6.15 TEMPORARY POSSESSION POWERS

6.15.1 The applicant's final draft DCO [REP-1002] at articles 34 and 35 respectively seeks powers to take temporary possession of land to carry out the authorised development and to maintain it. The land which is subject to these powers is described in the Book of Reference [REP-923] and shown on the Land Plans [REP-930]. The nature of the power is also described in the BoR [REP-923]; Schedule 6 of the DCO identifies the land and the purpose for taking temporary possession. The justification is set out in the SoR [APP-083]. The Funding Statement [APP-084] submitted with the application concludes that there will be no funding shortfall in meeting any compensation payments.

6.15.2 Although described by the applicant as temporary rights in the BoR and shown as land to be acquired on the Land Plans, as indicated above these powers are not compulsory acquisition powers and

accordingly the tests under sections 122 and 123 are not applicable. However, the use of the power must be justified in order to enable the proposed development to be implemented and maintained, the inevitable interference with human rights must be justified and there must be adequate compensation provisions in place for those whose land is affected.

- 6.15.3 The Human Rights Act considerations have been addressed above and the Panel is satisfied that the powers are needed both to facilitate implementation of the proposed development and to maintain it and that there are also adequate compensation provisions in place in articles 34 and 35 of the draft DCO. The Panel accordingly recommends to the Secretary of State that the powers be granted.

6.16 SECTION 135 CROWN LAND

- 6.16.1 Details of the Crown Estate land are provided in Part 4 of the updated Book of Reference [REP-923]. All of this land comprises sea bed within the Order land.
- 6.16.2 As noted in chapter 3, a DCO cannot authorise the compulsory acquisition of an interest in Crown land unless it is for the time being held by someone else (e.g. under a lease from the Crown) and the appropriate Crown authority consents. The Crown Estate land cannot therefore be subject to CA powers.
- 6.16.3 The Order land also included land comprising plots with the River Tawe and Langdon Road in which WG has an interest. In both cases the applicant was seeking only temporary powers of possession and would not permanently deprive WG of land. On the 4 December 2014 the Welsh Ministers confirmed that, for the purposes of section 135 of the PA2008, they consented to the making of the Order, subject to the inclusion of Article 57, materially in the form stated in the letter, in the Order [REP-977]. The Panel notes that the wording specified in the letter is reflected in Article 57 of the applicant's final draft DCO [REP-1002].
- 6.16.4 At deadline V [REP-843] the applicant clarified the situation regarding the right over land belonging to ABP in favour of the Department of the Environment (now Department for Communities and Local Government) who is a tenant with rights to use roads in the dock estate. Vehicular access to the dock roads would be maintained and so the rights of DCLG would not be interfered with.
- 6.16.5 Also as noted in chapter 3, a DCO may not include any other provision applying to Crown land or rights unless the appropriate Crown authority consents to its inclusion.
- 6.16.6 On 24 November 2014, the Crown Estate Commissioners, as the appropriate Crown authority, consented in accordance with s135(2) of the PA2008, to the inclusion of provisions in the draft DCO that applied to Crown land or rights, subject to the amendment of the wording in the Article on Crown Rights to reflect the wording set out in

earlier correspondence [REP-915]. The Panel has reviewed the relevant Article (57) in applicant's final draft DCO [REP-1002] and considers that it reflects the wording that was agreed in the earlier correspondence.

- 6.16.7 As noted above, the Welsh Ministers' letter of 4 December 2014 confirmed their consent to the making of the Order for the purposes of s135 subject to the inclusion of Article 57.

6.17 SECTIONS 131 AND 132 OPEN SPACE LAND

- 6.17.1 The Order land included open space land and at Deadline V the applicant provided details in their written summary of the oral case regarding the open space land [REP-843]. At deadline VI the applicant provided a table [REP-940] identifying the relevant plots for the purposes of ss131 and 132 of PA2008.
- 6.17.2 The applicant explained [REP-940] that plots 02042 and 03027, the land parcels affected by the eastern landfall of the project, would be subject to s131 PA2008. These parcels were open space, satisfying s131(4B)(b); and they would only be acquired for a temporary albeit long-lived purpose because they would be required for landscaping use, following which the land would revert to open space. Thus, in the view of the applicant, s131(4B)(c) was satisfied.
- 6.17.3 The applicant explained [REP-940] that land parcels affected by the cable route for the grid connection would be subject to s132 PA2008. Although the applicant would hold a permanent right to lay and relay cable in respect of these parcels, open space access would be maintained. Therefore the land would be no less advantageous to any persons than it was before the rights granted in the DCO come into effect. Therefore the test in s132(3) was satisfied in respect of this land; and the test in s132(4B) was satisfied in respect of land required for the cable route for the same reason. In respect of these plots, only subsoil would be taken and the surface of the land, which comprised the open space, would not be affected in the same way, as it would only be affected temporarily.
- 6.17.4 The applicant [REP-940] also explained that it was not arguing that temporary possession was not compulsory acquisition because this still would entail a compulsory interference with rights over land. It considered that there was no other suitable land to be used for the eastern landfall as any other land would be affected in the same way. It also maintained that the Order limits had been amended so that the only land that would need to be obtained was absolutely required and it was in the public interest for the Project to be delivered.
- 6.17.5 The applicant stated that it did not consider that the DCO should be subject to special parliamentary procedure because the exception tests in s131 and s132 PA2008 were satisfied in respect of each relevant land parcel.

PANEL CONCLUSIONS ON SECTION 131 AND 132

- 6.17.6 The Panel notes that restoration of the open space plots at the eastern landfall is secured by landscaping requirements 7 and 8 of the applicant's final draft DCO [REP-1002].
- 6.17.7 In respect of open space plots 02042 and 03027 the applicant provided details of the temporary rights that it was seeking over these plots, in the BoR and [REP-940]. They were described as temporary rights under Article 34 (temporary use of land for carrying out the authorised development) of the draft DCO. The plots are listed in Schedule 6 of the applicant's final draft DCO [REP 1002]. The applicant also confirmed [REP-940] that it was important to note that these parcels would not be acquired permanently. Section 131 does not apply to the grant of powers for the temporary use of land under Article 34 as these are not compulsory acquisition powers. Sections 131 and 132 are only engaged when a DCO authorises the compulsory acquisition of open space land or rights over such land. Notwithstanding the applicant's statement [REP-940] that section 131 applies to these plots, the Panel concludes that this section is not engaged in respect of plots 02042 and 03027 and therefore has not considered its application in respect of these plots.
- 6.17.8 In respect of the remainder of the open space plots listed in the BoR, only section 132 applies as the applicant is seeking compulsory acquisition of rights over the open space land and not the land itself.
- 6.17.9 The Panel agrees with the applicant's explanation [REP-940] that the land would be no less advantageous than it was before to any person and the public, as the cable routes lie beneath the surface of the open space land within the subsoil. The surface of the land would only be affected temporarily and the applicant states that open space access would be maintained. The Panel takes the view that section 132(3) applies and that the DCO can authorise the compulsory acquisition of rights over the open space without being subject to special parliamentary procedure. Wording has therefore been inserted in the preamble of the Panel's recommended DCO to reflect this view.

6.18 SECTION 127 STATUTORY UNDERTAKERS (SUS) (AS NOTED IN CHAPTER 3, SPECIAL CONSIDERATIONS APPLY IN RELATION TO SU'S LAND, UNDER S127 AND S138 PA 2008).

- 6.18.1 A number of SU have interests in the Order land. These are:-

- National Grid Electricity Transmission plc (NGET)
- Western Power Distribution (South Wales) Ltd (WPD)
- Associated British Ports (ABP)
- Dwr Cymru Cyfngedig/Welsh Water (DCWW)
- Baglan Operations Ltd (Baglan)
- Telefonica O2 UK Ltd
- Wales and West Utilities Limited
- Virgin Media Limited

- SSE SWALEC; and
- British Telecommunications plc

6.18.2 At deadline V, the applicant confirmed that the following SUs did not make representations [REP-941].

- Wales and West Utilities Limited
- Virgin Media Limited
- SSE SWALEC; and
- British Telecommunications plc

6.18.3 As indicated earlier in this chapter NGET and DCC withdrew their representations, and WPD withdrew its representations with regard to section 127 and 138 but otherwise maintained its representation in relation to all other matters.

6.18.4 O2 wrote to the Panel on 23 May 2014 stating that “there is no impact of this design as it is off shore. Any aspect of radio interference will be dealt with separately. As this proposal matures any effects on shore of development may need to be re-assessed should any new infrastructure be planned close to existing cell sites” [REP-425]. The applicant proposed various matters for agreement by O2 in its letter of 7 July 2014 [REP-579], annexed to its position statement on SoCG [REP-566]. No further evidence was submitted to the Panel by either party.

6.18.5 ABP and Baglan made representations, objecting to the grant of compulsory acquisition powers and did not withdraw their representations. In such circumstances the provisions of section 127 apply and the requirements of the section must be considered and addressed by the Panel.

PANEL CONCLUSION ON S127

ABP

6.18.6 The Panel is satisfied that all the ABP land within the Order is used for the purposes of the carrying on of the undertaking and but has no evidence before it that the requirements of sections 127(3) or 127 (6) cannot be met.

6.18.7 It accordingly recommends that the compulsory acquisition powers sought be granted.

6.18.8 It has formed this view and made this recommendation solely on applying and testing through the evidence the requirements of section 127 though it is of course aware that even if the Secretary of State accepts the Panel’s recommendation, the provisions of Protective Provision 3 will prevent the exercise of the powers without the consent of ABP, though the Option Agreement will enable the use of the ABP land necessary to implement the development through the grant of the leases under it.

Baglan

- 6.18.9 The Panel is satisfied that all the Baglan land is used for the purposes of the carrying on of the undertaking but save in respect of Plot 04095 has no evidence before it that the requirements of sections 127(3) or 127(6) cannot be met.
- 6.18.10 It has formed the view that it can recommend to the Secretary of State that compulsory acquisition powers can be granted in respect of all the Baglan land except plot 04095.
- 6.18.11 In respect of Plot 04095 the Panel is not satisfied that if CA powers are used and rights are acquired, the conditions set out in s127(6) could be met, i.e. that the rights can be acquired without serious detriment to the carrying on of the undertaking or that any detriment could be made good by Baglan by the use of other land belonging to or available for acquisition by it. Accordingly, the Panel's recommendation to the Secretary of State is that the compulsory acquisition power should not be granted in respect of this plot.
- 6.18.12 As stated earlier in this chapter both the applicant and Baglan agree that land over which the applicant is seeking only powers of temporary possession could be used as an alternative to plot 04095 and the parties were negotiating to conclude an agreement to enable its use as such. The agreement had not been finalised by the date of the close of the Examination and the Secretary of State may wish to check on progress with this agreement before coming to a decision on the recommendation from the Panel.

6.19 SECTION 138 EXTINGUISHMENT OF RIGHTS AND REMOVAL OF APPARATUS OF STATUTORY UNDERTAKERS ETC

- 6.19.1 As noted in chapter 3, a DCO provision extinguishing certain rights of SUs or requiring removal of their apparatus can only be included if the SoS is satisfied that it is necessary to do so to carry out the development to which the Order relates. Unlike s127, the section operates whether or not the SU has made a representation about the application.
- 6.19.2 The applicant made a number of submissions regarding s138 [REPS-712 – 722] and statutory undertakers with rights or apparatus that would be affected by the grant of compulsory acquisition powers and powers of temporary possession. As s138 only applies where compulsory acquisition is involved, the Panel has taken into account the issues raised by the statutory undertakers in respect of compulsory acquisition and the protective provisions in the recommended draft DCO. The Panel considers that submissions made during the examination demonstrate that the requirement of s138(4) has been met in respect of Article 25 and Article 29, which enable the extinguishment of statutory undertakers rights in the plots listed in the BoR.

- 6.19.3 Article 36 of the applicant's final draft DCO [REP-1002] would enable the applicant to remove or reposition SUs apparatus under the streets described in column (1) of Schedule 2 to the Order and to compulsorily acquire rights over those streets. Article 33 gives further powers to the applicant in relation to use of the sub-soil or airspace under or over streets. In relation to Article 36, the test in s138 of the PA2008 has to be met before such a provision can be included. The Panel has no evidence before it to identify the plots in which those streets are located and therefore it is not clear whether or not those streets are subject to powers of compulsory acquisition which would result in the extinguishment of rights or removal of apparatus of statutory undertakers. The Panel is unable to conclude that the test in s138(4) is met and unable to recommend that Article 36 be included within the recommended draft DCO. This Article has therefore been removed. In order for this Article to be included, it will be for the Secretary of State to satisfy himself of the need for Article 36 and that the s138(4) test has been met.

PANEL CONCLUSION ON S138

- 6.19.4 The Panel considers that in the case of the land identified on the land plans and in the BoR (save for plots 04095,02055,05035 and 01135), extinguishment of rights of statutory undertakers under Article 25 and Article 29 is necessary for the purpose of carrying out the development and s138(4) is met. Extinguishment of rights and removal of apparatus in the streets, listed in Schedule 2 of the recommended draft DCO, under Article 36, does not appear to meet the test in s138(4). As such Article 36 in the applicant's DCO [REP-1002] has been removed in the recommended order.

6.20 MODIFICATION OF STATUTORY PROVISIONS.

- 6.20.1 With regard to the incorporation of other statutory powers pursuant to s120 (5) (a) the DCO has been drafted in the form of a statutory instrument and further no provision in the DCO contravenes the provisions of s126 which precludes the modification of compensation provisions.

6.21 THE PANEL'S RECOMMENDATIONS ON THE GRANTING OF CA POWERS

- 6.21.1 The Panel notes that Crown land plots remain in the BoR and on the land plans and these plots will not be subject to CA. With regard to s122(2) of the PA2008, the Panel is satisfied that the legal interests in all plots described and set out in the BoR [REP-923] and on the land plans as amended, save Plots 04095, 02055, 05035 and 01135 are required in order to implement the development.
- 6.21.2 With regard to s122(3) the Panel is satisfied in relation to the application that:
- Development consent for the development should be granted;
 - The need for new reliable renewable power facilities is proven;

- There are no suitable sites which are alternatives to Swansea Bay;
- The funding is available; and
- The proposed interference with human rights would be for legitimate purposes that would justify such interference to a proportionate extent and is lawful in the public interest.

6.21.3 The Panel therefore concludes that the development would comply with s122(3) of the PA2008.

6.21.4 In relation to all objections and outstanding representations from APs considered by the Panel, we do not consider that the private losses suffered are such as to outweigh the public benefits that would accrue from the grant of the compulsory acquisition powers which are sought. In relation to land plots where there were no representations or representations were withdrawn during the Examination, the Panel does not consider that the private losses suffered are such as to outweigh the public benefits that would accrue from the grant of the compulsory acquisition powers which are sought.

6.21.5 In these circumstances, we consider that there is a compelling case in the public interest for the grant of compulsory acquisition powers sought by the applicant in respect of the Order land as shown on the Land Plans save plots 04095, 02055, 05035 and 01135.

6.22 OTHER LAND MATTERS

S131

6.22.1 Plots 02042 and 03027 are listed in the BoR as open space satisfying s131(4B)(b). They would only be acquired for a temporary, albeit long-lived purpose, of landscaping use. This is a temporary power and as such, the Panel concludes does not amount to compulsory acquisition and does not engage s131.

S132

6.22.2 In respect of the remainder of open space plots listed in the BoR, excepting plots 02042 and 03027 discussed above, only section 132 applies for the compulsory acquisition of rights over land and not the land itself. The land is identified for the cable route and following installation, the land would revert to open space which the panel is satisfied is a no less advantageous than currently. The restoration of the open space is secured by landscaping requirements 7 and 8. The Panel therefore concludes that s132(3) applies and the compulsory acquisition of rights can be authorised without being subject to special parliamentary procedure.

S127

6.22.3 At the close of the examination only two objections remained in respect of Statutory Undertakers land. The Panel conclude that in respect of the ABP land, the requirements of s127(3) and s127(6) are

met and recommends that the compulsory acquisition powers are granted. The Panel notes the provisions of Protective Provision 3 in the recommended order.

- 6.22.4 As Panel conclude that in respect of the Baglan land the requirements of s127(3) and s127(6) are met and recommends that the powers of compulsory acquisition are granted save for plot 04095 where the Panel have concluded above that the tests under s122 are not met.

S138

- 6.22.5 The Panel considers that in the case of the land identified on the land plans and in the BoR (save for plots 04095,02055,05035 and 01135), extinguishment of rights of statutory undertakers under Article 25 and Article 29 is necessary for the purpose of carrying out the development and s138(4) is met. Extinguishment of rights and removal of apparatus in the streets, listed in Schedule 2 of the recommended draft DCO, under Article 36, does not appear to meet the test in s138(4) and has been deleted from the recommended order.
- 6.22.6 Lastly, with regard to the incorporation of other statutory powers pursuant to s120 (5) (a) the DCO has been drafted in the form of a statutory instrument and further no provision in the DCO contravenes the provisions of s126 which precludes the modification of compensation provisions.

7 DRAFT DEVELOPMENT CONSENT ORDER AND RELATED MATTERS

7.0 INTRODUCTION

- 7.0.1 The recommended Order appended to the report is comprised of the Articles, including the principal powers (Articles 3 to 8) and the Powers of Acquisition (Articles 25 to 39). Schedule 1, Part 1A sets out what would be the authorised development and Part 1B, the Ancillary Works that would be authorised. Schedule 1 Part 2 sets out limits on construction dimensions. Part 3 sets out the recommended requirements. Schedule 2 sets out the streets that would be subject to street works. Schedules 3 and 4 set out, respectively, the streets which would be temporarily stopped up and the various accesses to works. Schedule 5 sets out the Protective Provisions. Schedule 6 identifies the land of which temporary possession would be taken.
- 7.0.2 A marine licence is required for the offshore works. A draft licence was included with the application [APP-387] but as the project is in Wales it cannot be included in the DCO. The applicant has applied for a marine licence [REP-1034], and NRW provided a progress update [REP-1037] at the end of the examination period. The DCO has been examined and this report is written with on the basis that there are no matters which cannot be resolved in relation to the marine licence.
- 7.0.3 An explanation of the DCO as submitted was provided and is to be found in the Explanatory Memorandum [APP-082], but that was not updated subsequently during the examination.
- 7.0.4 At the request of the Panel [PD-014] the applicant was asked to review Planning Inspectorate Advice note 15 and 'include appropriate compliant amendments in the its next version of the DCO' such that the recommended Order now makes use of modern phraseology and has been formatted to be consistent with the format required for Statutory Instruments.

7.1 THE APPLICANT'S DCO

- 7.1.1 The applicant updated its DCO and numbered its versions of the DCO 1 to 8. Each iteration was accompanied by a tracked change version. For a number of the iterations, the applicant provided a commentary document to assist the Panel and IPs to understand the reasoning behind the amendments in the iterations. Those versions of the DCO and supporting documents provided to the examination by the applicant can be found in the examination library appended and are as follows:
- Application Version [APP-081] and Explanatory Memorandum [APP-082];
 - Version 2 dated 9 July 2014 [REP-492], tracked change version V1 to V2 [REP-494];

- Version 3 dated 5 August 2014 [REP-664], tracked change version V2 to V3 [REP-663];
- Version 4 dated 7 October 2014 [REP-770], tracked change version V3 to V4 [REF-771];
- Version 5 dated 28 October 2014 [REP-844], tracked change V4 to V5 [REP-845]
- Version 6 dated 4 November 2014 [REP-865], tracked change V4 to V6 [REP-864]; Commentary document on comparison between V4 and v6 [REP-866];
- Version 7 dated 25 November 2014 [REP-927], tracked change version V6 to V7 [REP-928]; Commentary document on comparison [REP-963];
- Version 8 dated 4 December 2014 [REP -1002], tracked change version V7 to V8 [REP-1000]; Commentary document on comparison between V7 and V8 [REF-1003].

7.1.2 There are a number of differences between the schedule of works listed in the submission version 1 of the DCO and Version 8 of the DCO; the applicant's final draft submitted on 4 December 2014 [REP-1002]. These are explained in chapter 2 of the report. The extent of any works not subject to specific limitations in the Order would however, be limited by the description in the ES and therefore could not lawfully be carried out without first being assessed under the Infrastructure Planning (Environmental Impact Assessment) Regulation 2009.

7.1.3 Most of the changes to the scheduled works made by the applicant were to address concerns raised by IPs and the Panel in relation to ensuring that all works are lawfully able to be consented as part of an NSIP under PA2008 in Wales, as discussed in chapter 3. Other changes were made by the applicant in response to representations to better secure mitigation outlined in the ES but not originally secured by the application version of the DCO.

7.1.4 The panel issued a consultation version of the draft DCO annotated to draw out points in response to potential changes such that the recommended version of the DCO could potentially be consented under PA2008. The applicant incorporated a number of changes, but not all, identified by the panel. The recommended draft DCO reported on in this chapter is based on the applicant's final submitted version [REP-1002] but with further changes discussed below.

7.2 PRECEDENT ORDERS

7.2.1 Due to this being the first DCO for a Tidal Lagoon, the Panel note that there are few direct precedents from which guidance can be drawn. This was a recurrent issue for the examination and has been reported on in chapter 3 and in each relevant section of chapter 4.

7.2.2 Consent Orders have, however, been made relating to projects in Wales, these are the Brechfa Forest West Wind Farm, South Hook Combined Heat and Power Station and Clocaenog Wind farm Orders

and these are considered in the authorised development section of this report.

7.3 DEFENCE TO PROCEEDINGS IN RESPECT OF STATUTORY NUISANCE

- 7.3.1 This matter is discussed in report Section 4.18. The Panel's conclusions on this issue are reported below. The Panel concurs with CCSC, NPTCBC and the applicant that the requirements in the DCO together with details on monitoring and mitigation for any potential impacts upon human receptors, and the complaints procedure that is contained in the CEMP [REP-1107], will provide a suitable and deliverable response mechanism for minimising impacts from noise and emissions and for dealing with any complaints when they arise. The Panel concludes that the wording of the 4 December 2014 DCO on this matter in Article 8 [REP-1002] is acceptable and has been carried forward into the recommended draft DCO.

7.4 CERTIFIED DOCUMENTS AND PLANS

- 7.4.1 As set out in Schedule 7 of the Panel's recommended DCO, Land Plans, Works Plans, a number of other documents and drawings would be submitted to the SoS as soon as practicable after the making of the DCO to be certified.
- 7.4.2 Revisions to plans were made during the examination. The other documents that would be certified would include a number of outline strategies and plans. Many of the final versions of these plans and strategies to be approved through the discharge of requirements would be required to substantially accord with their outline counterparts to be certified under the Order. For example the Adaptive Environmental Management Plan to be approved under requirement 6 would have to substantially accord with the Outline Adaptive Environmental Management Plan. The Panel consider that the inclusion of the phrase 'substantially in accordance with' is acceptable because the 'outline' documents have, as the examination progressed, become more detailed and provide a suitably detailed framework against which the final versions can be assessed. The Panel therefore are of the opinion that should the word 'substantially' not be present, it could restrict the applicant on the content of the final documents and make them unable to reflect the best options that might be available at the time of submission for approval.
- 7.4.3 A number of representations were received relating to these outline plans and strategies and the Panel asked questions about and thoroughly examined them as reported upon throughout this Report. In response to the various examination deadlines the applicant updated and altered these documents. This process has been described in chapter 2.

7.5 OTHER LEGAL AGREEMENTS

- 7.5.1 The draft s106 agreement under the Town and Country Planning Act 1990 is reported upon in detail in chapter 2 and further in the subchapters of chapter 4 where appropriate. The panel recognises the significance of the s106 as a path to securing elements of the scheme that relate to development of the lagoon as a recreational facility and visitor attraction. However it does not form part of the development before the Panel upon which a decision of development consent rests.

7.6 THE RECOMMENDED ORDER

- 7.6.1 The recommended Order is based on the applicant's last submitted version of the DCO as proposed by the applicant [REF-1002], but includes the following changes made by the Panel and incorporated within it.
- 7.6.2 All of the amendments made by the Panel below (with the exception of those identified as 'drafting changes' or otherwise identified in chapter 4) have been considered in principle in consultations during the examination and therefore the applicant and other IPs have had an opportunity to set out their views upon them, as reflected in the relevant sections of this Report. The table does not set out where drafting changes have been made solely to ensure that modernised language for the DCO is used.

Panel Amend 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	Preamble	Various	Drafting changes and additional paragraph to confirm, as required by s132(2) PA2008, that the SoS is satisfied that s132(3) PA2008 applies (no reference to s131(4) or (5) is needed as no compulsory acquisition of land is being sought, only the acquisition of rights - see Chapter 6).
2	Interpretation – AB Ports	Clarification	Clarification to provide the company registration number and registered address of AB Ports.
3	Interpretation – authorised development	Clarification	Clarification to ensure the definition correctly refers to the appropriate Parts of Schedule 1.
4	Interpretation – Commence	Deletion of reference to excluded works	Original definition included some potentially significant works, which should be subject to Requirements that required details to be agreed before commencement eg. approval of the CEMP.
5	Interpretation – harbour authority	Insertion of statutory reference	Definition added, derived from s17A of the Harbours Act 1964 as amended by s6 of the Marine Navigation Act 2013 – 'harbour authority in relation to a harbour means the harbour authority which has a statutory duty to manage, maintain or improve the harbour'.

6	Interpretation - relevant planning authority	Clarification	To ensure that the definition will continue to apply when Article 53 extends the planning jurisdiction of the local authorities beyond their normal administrative area.
7	Interpretation - seaward boundary line plan	Insertion	Definition included for the purposes of amended Article 52 and new requirement 41 in the recommended DCO.
8	Interpretation - sections	Clarification	To identify the correct works plans relating to the cross-sections of the seawall.
9	Interpretation – Order land	Clarification	This is to avoid confusion over the nature of the rights to be granted. The applicant has shown land which is subject to powers of temporary possession as “Land to be acquired” on the Land Plans.
10	Interpretation - Tidal Lagoon (Swansea Bay) plc	Insertion	To provide the company registration number and registered address of the undertaker.
11	Interpretation - undertaker	Clarification	To remove the reference to 'named undertaker', a term no longer in the recommended DCO, and to include transferees and lessees under Article 6.
12	Article 3 (2)	Deletion	Removal of reference to 'drawings specified in the requirements' as these references have been removed.
13	Article 3(3)	Amendment	Tolerances for vertical deviation deleted as it is unclear that such deviation has been subject to environmental assessment.
14	Article 3(5)	Clarification	Clarification of the appropriate descriptions of plans and drawings.
15	Article 4	Removal of 'and Decommissioning' from the title of the article and the article itself	Drafting change – decommissioning is covered in definition of maintain.

16	Article 5(3)	Amendment	'development' replaced by 'generating station' to ensure that the only uses and operations that may be completed or enabled with planning permission but without breach of the terms of the Order relate to the NSIP being authorised.
17	Article 5(4) and (5)	Deletion	This was suggested in the Panel's consultation draft but not accepted by the applicant. Deleted in the interests of certainty and to ensure that the uses relate to the NSIP being authorised as some buildings proposed by the applicant were designed for various use.
18	Article 6	Deletion	Deletion of 'named' because 'named undertaker' was not defined separately (albeit mentioned within the definition of 'undertaker') and is in any event unnecessary.
19	Article 6(3)	Substitution of 'a transfer or grant' for 'an agreement'	Substitution for consistency with para (2).
20	Article 7	Amendment	To ensure that none of the powers in the articles relating to compulsory acquisition are exercisable until security for compensation has been provided.
21	Article 10(6)	Deletion of 'in the County Borough of Neath Port Talbot'	Deleted as it seems inappropriate and unnecessary to limit the provision to the NPTCBC area.
22	Article 10	Suggested consideration by the SoS	No amendment has been made but the Panel have some reservations about this Article, but have retained it as drafted by the applicant. Attention is drawn to the wording 'carrying out the authorised development'. In the context of a project with a 120 year lifespan, the Panel consider that this could be clearer as to define the time period within which the article would operate, for example limited to the construction period.

23	Article 18 (4) Article 10	Amendment of paragraph to read 'This article shall cease to have effect if a marine licence under Part 4 of the 2009 Act exists in relation to the tidal work.	This was suggested in the Panel's consultation draft but not accepted by the applicant. The Panel deem the applicant's draft wording to be unclear and contradictory. Article 18(1) imposes a 5 year moratorium on the need for Welsh Government consent to tidal works - after which such consent would be required; Article 18(4) of the applicant's DCO appears to contradict that by saying that the Article has no effect after 5 years. The applicant attempted to address this issue - in the Panel's view unsuccessfully - in [REP-952].
24	Articles 20 to 24	Substitution	Specific references to the current harbour authorities for the Ports of Swansea and Neath (AB Ports and Neath Port Authority respectively) have been changed to generic references to harbour authorities for the respective ports as those authorities may not necessarily continue to be the harbour authorities during all of the 120 year life of the generating station
25	Article 25 (1)	Clarification	<p>This is to avoid confusion over the nature of the rights to be granted. The applicant has shown land which is subject to powers of temporary possession as "Land to be acquired" on the Land Plans.</p> <p>Certain plots were excluded. The test under the PA2008 for compulsory acquisition of these plots has not been met. Chapter 6 provides explanation and reasons for this.</p>
26	Article 25(3)	Deletion of 'or way' Deletion of 'or suspension'	<p>This was suggested in the Panel's consultation draft and accepted by the applicant as stated in its response [REP-952] to the Panel's consultation draft DCO [PD-020] but not reflected in the applicant's final draft DCO [REP-1002].</p> <p>Removal of reference to 'suspension' as this is not covered by this article.</p>
27	Article 25(4)	Insertion of reference to Article 27 (private rights)	<p>Powers of compulsory acquisition should also be subject to Article 27.</p> <p>Drafting point – to ensure consistency and to clarify that the application of specific compulsory acquisition and temporary possession powers in these Articles takes precedence over the more general power in Article 25</p>

28	Article 26	Insertion of paragraph to confirm that the article does not apply to rights to which s138 PA2008 applies	This paragraph was included in the Panel's consultation draft [PD-020]. The applicant did not include it in subsequent drafts as it considered that concerned statutory undertakers should have sought protective provisions. The Panel nonetheless consider it appropriate to include it because the protection provided by s138 for statutory undertakers is not dependent on the existence of protective provisions.
29	Article 29(1)	Clarification	Drafting point - ensures clarity and confirms that temporary rights are not compulsory acquisition rights but are rights of temporary possession and use. Articles 33 and 34 provide for these rights.
30	Article 29(4)	Deletion of reference to 'suspension'	Suspension is not covered by this Article.
31	Article 29	Insertion of new paragraph (5)	Added to recommended draft to reflect practice in recent DCOs, to ensure that statutory compensation provisions are available where rights are acquired or created.
32	Article 34(1)(c)	Amendment	Amended to make clear that the only permanent works that might be undertaken using this power for temporary use are those comprised in the authorised development.
33	Article 34(1)(d)	Deletion of "or any other mitigation works"	The Panel consultation draft [PD 020] suggested the removal of these words on the basis that their scope was too uncertain. The applicant's response [REP-952] did not address this. The Panel remains of the view that they should be deleted for that reason.
34	Article 36	Article deleted	<p>The Panel consultation draft [PD-020] suggested "Column (1) of Schedule 2 does not describe plots of land; the power to compulsorily acquire an (unspecified/unrestricted) right over a street seems excessive; there should be some provision referred to in this article for the protection of the statutory undertaking and its apparatus. The applicant may wish to address this in the next version of its DCO. Section 138 PA2008 applies".</p> <p>The applicant's response [REP-952] merely said: "This provision has been clarified to refer to column (1) of Schedule 2 to the Order."</p>

			<p>The Panel assumes that the applicant intended to refer to column (2) of Schedule 2, which identifies lengths of street subject to street work. However, it remains of the view that the power is excessive and should provide some protection for statutory undertakers, particularly as section 138 of PA2008 applies. The Article has therefore been deleted from the recommended draft.</p>
35	Article 44(2) & (5)	<p>Amendment to reflect the suggestion in the DECC consultation Tidal Lagoons attached to land - addendum to guidance under the Energy Act 2004' (October 2014) that the decommissioning programme should be submitted before construction</p>	<p>The Panel consultation draft [PD-020] drew attention to paragraph 5.6 of DECC Guidance on 'Decommissioning of offshore renewable energy installations under the Energy Act 2004' (January 2011) and paragraph 3 of the Consultation on 'Tidal Lagoons attached to land - addendum to guidance under the Energy Act 2004' (October 2014) in proposing to require the decommissioning programme prior to construction. The applicant's response [REP-952] said:</p> <p>'The reference to commencement of the authorised development should not apply. Given the longevity of a tidal lagoon, commencement of operation is a sufficient time-scale, especially as the guidance Decommissioning of offshore energy installations under the Energy Act 2004 - Guidance notes for industry (DECC, January 2011(Revised)) states the programme is only "likely" to be required at commencement of construction (see para 5.6).'</p> <p>The Panel nonetheless considers that it is appropriate for the decommissioning programme to be submitted before construction and has so provided in the recommended draft.</p>
36	Article 44(3)	<p>Amendment to remove the limitation that the decommissioning programme could only require removal of turbines and sluices and not the seawalls</p>	<p>The Panel consultation draft [PD-020] suggested that the scope of what was to be removed was a matter for the decommissioning programme itself. The applicant's response [REP-952] was:</p> <p>"The application for development consent was in respect of the assessed scheme. This relates to the retention of sea walls and turbine housing in situ. This is explained in sections 3.9 and 4.9 of the ES. As such, it is appropriate to secure that the assessed development is delivered and so the deleted text should be reinstated"</p> <p>The Panel remains of the view that the DCO should not limit the scope of the decommissioning programme. The recommended draft does not therefore limit the scope of removal or alteration of works to the turbines or turbine housing.</p>

37	Article 44(4)	Amendment to remove the limitation that payments are not made into the maintenance fund until the 50th year of operation	The Panel consultation draft [PD-020] suggested that the decommissioning programme should not identify a start date for payments into the maintenance fund. TLSB's response [REP-952] said: "It is not the case that this needs to be deferred until a Secretary of State decision on a decommissioning programme. The versions of the DCO submitted by TLSB on 4 November 2014 made provision for the establishment of a decommissioning fund from the mid-life of the Project, which accords with paragraph 8.7 of the guidance Decommissioning of offshore energy installations under the Energy Act 2004 – Guidance notes for industry" The Panel remains of the view that the date for payments into the maintenance fund is a matter for the decommissioning programme and that the DCO should not specify deferment for 50 years as suggested by the applicant.
38	Article 44(6)	Additional paragraph	A similar paragraph was proposed in the Panel consultation draft [PD-020] to comply with paragraph 3.3 of the October 2014 Consultation. TLSB's response [REP-952] was that it was otiose because the effect of paragraph (1) was to give effect to those provisions. The Panel has nonetheless included this sub-paragraph in the recommended draft.
39	Article 45(2)	Amendment	The Panel consider that the provisions of s106 of the 1990 Act should all become applicable not merely the two subsections in the applicant's draft (for example s106(5) - enforcement by injunction - would not otherwise be available); a drafting change has also been made.
40	Article 45, (4)	Amendment: "In this article and article Error! eference source not found. (development consent obligation - enforcement), "obligation" has the same meaning as in section 106 of the 1990 Act, referred to in that section as a 'planning obligation"	Amended to reflect the terminology of s106 of the 1990 Act.

41	Article 47	No change	CADW have consented to the inclusion of this article see WG representation of 4 December 2014 [REP-976].
42	Article 48(1)	No change	This is a prescribed consent in Wales, but NRW have consented to its inclusion-see [REP-905]
43	Article 48(2)	No change	Although this paragraph relates to a provision that is a prescribed consent in Wales, NRW confirmed in [REP-1007] submitted on 25 November 2014, that an environmental permit was not required. The applicant wished the paragraph to remain for clarity - see [REP-952]
44	Article 48(3)	No change	NRW objected to the inclusion of this paragraph. However, as it refers to a provision which is not a prescribed consent in Wales, the Panel consider that it can and should be included for the reasons given in Chapter 4 (see section on Migratory Fish).
45	Article 48(5)	No change	Although this paragraph relates to a provision that is a prescribed consent in Wales, NRW confirmed in [REP1007] that eel screens were not required.
46	Article 49, (10)	Spelling correction	Incorrect spelling of Welsh (wels).
47	Article 50(1)(b)	Insertion of wording	<p>Insertion of: 'insofar as those provisions are not inconsistent with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 and any other orders, rules or regulations made under the 2008 Act.'</p> <p>At the end of the sentence to ensure consistency with EIA regulations as noted in the Inspectorate's Advice Note 15.</p>
48	Article 53 (3)	Amendment to refer to a plan to be submitted for the approval of the planning authorities showing the proposed seaward extension of their respective	Having reviewed the article and representation made by CCSC (REP-899] and NPTCBC [REP-908]on 25 November 2014 in respect of Panel consultation draft DCO Article 50, there is some disagreement about the precise proposed line of the new seaward boundary between the two authorities' jurisdictions which was not resolved by the close of the examination. The Panel is content with the principal of the article but has amended it to refer to a plan, coupled with a new requirement for the submission of the plan for approval of the authorities.

		jurisdiction under this article	
49	Article 54		See comment on Articles 20 to 24.
50	Article 54 (4)	Drafting change	Drafting change to read 'obstruction to or the closure of navigation'.
51	Article 57	No change	The inclusion of an article in this form was a condition of the consent of both the Crown Estate and the Welsh Government for the purposes of s135(2) PA2008.
Schedule 1 – Part 1 A			
52	Schedule 1 - Title	Drafting change to "Authorised development, ancillary and necessary works, and requirements"	Change to more accurately reflect content of Schedule.
	Schedule 1 Part 1 - general	Amendment to description of each work to include reference to relevant Works plans	Clarification
53	Work 1a(c) Boating facilities	Drafting	The applicant's written summary of its oral case at the hearings of 21/22 October 2014 [REP-842] stated that access for boats was required for operational purposes in respect of a safety boat operation and maintenance craft and dredging machinery; and for recreational sailing, boating and rowing as mitigation for impacts of the Project on members of public who might otherwise use the non-impounded area. The Panel considers that the term 'boating facilities' is too vague, and that they should be limited to the needs of operation and maintenance of the generating station. The recommended draft DCO provides accordingly.
54	Work 1a(d) landscaped area	Deletion of 'including park and landscaping'	The Welsh Government objected to the inclusion of 'park' on the basis that it implied recreational uses that were not necessary for the NSIP. The Panel considers that the additional wording 'including park and landscaping' adds no

			further clarification to 'a landscaped area' and it has been omitted from the recommended draft DCO.
55	Work 1a (e) offshore building	Drafting	The Panel have considered the views put forward by the applicant and Welsh Government among others in relation to the offshore building. The Panel acknowledge that the applicant has tried to address concerns raised however feels that the paragraph requires further refinement to bring it in line with what is permissible under PA2008. This includes the deletion of reference within the paragraph to the visitors centre and viewing area and the clarification that foundations are to only be constructed within the lagoon wall. Furthermore, to ensure clarity in the detail of the work for which the DCO is consenting, the Panel is suggesting a height limit within which the foundations must be built - see comments on Schedule 1, Part 2.
56	Work No. 2a	Clarification of location	The reference to co-ordinates should read 'between' rather than at two locations to provide clarity as the turbine location was reduced to one option.
57	Work No. 2a (e)	Clarification	The Panel consider that as drafted this provision is too uncertain. It has been redrafted to reflect what was assessed in the ES and that 'such infrastructure or plant' should be limited to the operation and maintenance of the turbines and sluices.
58	Relating works to works number 1a, 1b and 2a	Deletion of 'mounting facilities' for works of public art'	The Panel have considered the views put forward by the applicant and Welsh Government among others in relation the works and consider that mounting facilities for works of public art are not justified within the application documents as to their scale and design nor are they required for the function of the NSIP. The Panel have deleted them from the recommended draft DCO, as they can, if required be retrofitted Furthermore, further drafting has been undertaken to clarify the meaning of 'viewing areas' and siting locations to reflect how they were described by the applicant during the examination (at 19.4 in REP-980).
59	Work No. e	Clarification	Drafting change as work no. 5h has been renumbered as work no. 5f.
60	Work No. 6b	Various	Work 6b has been redrafted to separate those elements which are within the building (6b(a))and those which are outside (6b(b)). The ES (paragraph 4.3.5.22) clearly refers to the Western Landfall building as a single building with dimensions

			of 120x18x13.5 and therefore the Panel are of the view that the description, particularly having regard to the views of the Welsh Government, should reflect the ES. The reference to 'one or more buildings' in the applicant's final draft DCO does not. Other amendments have been made to limit the facilities to those considered to be necessary for the functioning of the NSIP. In relation to the onshore building, those elements that were shown coloured blue on the planning drawing referred to in the applicant's final draft DCO [REP-1002] are not included in the recommended draft DCO.
61	Work No. 7g	Clarification	Redrafted to ensure delivery of landscaping required for mitigation.
62	Miscellaneous works in DCO after Work No. 7	Clarification of (b)	The additional works authorised by (b) should be limited to those required for mitigation of the impacts of the NSIP
63	Schedule 1B introduction	Deletion of reference to environmental assessment	Deleted from the Panel recommended draft DCO as unnecessary.
64	Work Nos. 9 and 10	Deletion of "A work including"	The wording has been deleted from the recommended draft DCO because 'including' introduces uncertainty over the scope of what is being authorised by the DCO, particularly having regard to Article 2(5) as to the meaning of 'include'.
65	Work No 9	Deletion of 'at the northern edge of the lagoon adjacent to land'	Wording deleted as unnecessary, the location is shown on the works plans.
66	Schedule 1 Part 2	Title amended to 'Dimensions of structures'	The amended title more accurately reflects the content of Part 2.
67	Schedule 1 Part 2 - Table	Amendment to refer to 'offshore building foundations and pilings' and inclusion of maximum height of 12m CD	The dimensions of the offshore building have been deleted as the building itself is no longer to be authorised by the DCO. The recommended draft instead includes a height for the foundations and pilings for the offshore building of 1mCD which is taken from the applicant's planning drawing 2.4.15A as being the height of the seawall.
68	Schedule 1 Part	Clarification	The reference to 'SSSI building' has been amended to 'SSSI visitor/information

	2 - Table		point' to align with the description in Work 10.
69	Schedule 1 Part 2 - Table	Amendment to refer to 'operation and maintenance facilities within the seawall' and offshore building 'foundations and pilings to enable construction of offshore building' and inclusion of maximum height of 12m 14m CD	The dimensions of the offshore building have been deleted as the building itself is no longer to be authorised by the DCO. The recommended draft instead includes a height for the operation and maintenance facilities and the foundations and pilings for the offshore building of 12mCD 14mCD which is taken from the applicant's planning drawing 2.4.15A as being the height of the seawall.
70	Schedule 1 Part 2 - Table	Clarification	The height of the onshore building has been amended to reflect that in the ES of 13.5m., and the dimensions in column (4) amended to 18m/120m from 20m/155m for the same reason.
71	Schedule 1 Part 2 - Table	Deletion of vertical limits of deviation	These have been removed as it is not clear that they have been assessed in the ES.
Requirements			
72	Requirement 1 - Interpretation	Outline Management Plans	Updated to refer to the latest draft Plans submitted to the examination.
73	Requirement 1(2)	Deletion	Provision deleted from recommended draft - The Panel consider it to be unenforceable and that it fetters the discretion of the LPA. The phrase only appears in Requirement 8 re. planting in any event.
74	Requirement 3(2)	Clarification	References changed from 'relevant planning authority' to 'relevant planning authorities' to reflect the fact that the project straddles the planning authority boundaries.
75	Requirement 4	Substitution of revised requirement	The requirement as drafted by the applicant is considered to lead to uncertainty as to what development was going to take place, in that the applicant need only optionally carry out the development in accordance with the planning drawings. This requirement has been substantially redrafted with the intent that the generating station comprised by the seawalls and turbines should be constructed

			in accordance with the relevant submitted works plans and planning drawings, but that all other works above mean low water springs (including the landfall of the seawalls) would be subject to detailed LPA approval. This is because many of the planning drawings for works above low water, include both elements of the NSIP and elements of the wider project which are not to be authorised by the DCO. The list of planning drawings in Schedule 7 has been reduced accordingly.
76	Requirement 5(1) and 6(1)	No change	The phrase 'substantially' is considered satisfactory as it refers to an outline document which by the close of the examination had become quite detailed and would provide an adequate framework.
77	Requirement 5 (5)	Clarification	The Panel consider it necessary to list key contents of the CEMP in the DCO to ensure that they will be included in the CEMP to be submitted for approval.
78	Requirement 6(5)	Insertion	An additional element of the AEMP relating to mud deposition within the lagoon area has been added as the Panel consider that mitigation of such impacts may be necessary.
79	Requirement 6(6)	Insertion	This paragraph has been included as the inclusion of a scheme in the AEMP was agreed by the applicant in the RYA SoCG [REP-961] dated 9 September 2014 at para 2.10.1, but was not included in the most recent draft AEMP submitted to the examination.
80	Requirement 6(7)	Insertion	The Panel consider the appointment of a Core Review Group to be a key element of the AEMP for which provision should be made in the recommended draft. The most recent AEMP submitted to the examination provided for the Group to be chaired by a representative of the applicant, but the Panel consider that the chair should independent and be selected by the members.
81	Requirement 7(1)	Amendment	<p>The Panel have concluded that the Landscaping Strategy should be approved prior to commencement rather than operation. This is as a result of the case for the need for landscaping that the applicant has set out in the examination. The Panel consider that as landscape mitigation is an important component of the NSIP, it should be a matter addressed and consented before construction commences.</p> <p>The landscaping scheme cannot be completely in accordance with the DAS - as</p>

			proposed in the applicant's final draft - as the DAS covered the entire original project not only the NSIP and so the words reflecting the landscaping principles in the design and access statement have been substituted.
82	Requirement 7(1)	Amendment	References changed from 'relevant planning authority' to 'relevant planning authorities' to reflect the fact that the project straddles the county boundaries and the overall scheme will be of concern to both authorities.
83	Requirement 8(4)	Amendment	The Panel's consider that 5 years is an unnecessarily extended length of time for preparation of a plan of management. Long term management is an essential feature of a sustainable landscape strategy. The applicant presented a firm view that landscaping was required for the project. The Panel proposes that the long term management plan be submitted within two years from commencement of operation. As 'long term management' is an imprecise expression, the Panel has added 'for the period of operation of the development'
84	Requirement 8(4) &(5)	Clarification	Requirement 8(4) has been split to make clear that separate long term management plans are to be submitted to each of the two LPAs
85	Requirement 9(1)	Deletion of 'with the relevant planning authority'	As the approval is to be given by the relevant planning authority, a specific consultation requirement does not seem necessary.
86	Requirement 10(5)(c)	Insertion - 'alternative access routes for otters'	The Panel consider it important that the fencing to be approved should not impede access for otters.
87	Requirement 11(2)(f)	Deletion	Deletion of 'for' due to repetition.
88	Requirement 11 (3)	Addition	The Panel consider that drainage scheme should not only be implemented but also subsequently maintained.
89	Requirement 12(5)	Insertion	Insertion of 'certified as such by the Secretary of State for the purposes of this order' as this is a document listed in schedule 7.
90	Requirement 13	Drafting change	Removal of reference to liquids in the Requirement title. Not all items mentioned

			in the requirement are liquids.
91	Requirement 15(1)and (2)	Drafting change	Change to Work nos. referenced to reflect description in recommended draft DCO.
92	Requirement 17(1)(a)	Deletion	Deletion of 'approximately' to provide certainty.
93	Requirement 18	clarification	References changed from 'relevant planning authority' to 'relevant planning authorities' to reflect the fact that the project straddles the county boundaries.
94	Requirement 21(1)	Insertion	The CPTMP should be substantially in accordance with the outline CPTMP as defined in Requirement 1.
95	Requirement 21(2)	Clarification	Drafting changed from 'make' to 'include' as the following list is not drafted to be exhaustive.
96	Requirement 23(1)	clarification	'until' has been replaced with 'unless' as the DCO is not encouraging such events but rather making provision for control of them.
97	Requirement 27	Drafting	Changes have been made because it would operate in tandem with the new requirement 34. Installation of acoustic, sonar imaging and collision recording devices feature within Requirement 34, and material has been transferred to that requirement. Requirement 27 sets out how such devices are to be operated.
98	Requirement 27(4)(a)	Drafting	Change 'migrators' to 'migratory' – drafting error.
99	Requirement 28(2)(b)	Drafting	Insert 'the' – drafting error.
100	Requirement 30(2)(e)	Clarification	The applicant's response (REP-952) to the Panel consultation draft [PD-020] (which included this provision) indicated that the amendment to this requirement had been made. As the amendment was not actually made – presumably by unintended omission – it has been reinstated in the recommended draft.
101	Requirement	Drafting	Changed 'works are' to 'development is' to ensure consistency with previous

	33(2)		paragraph.
102	Requirement 34	Deletion	The Panel considers that this requirement should be deleted because it relates to public facilities for the activities that are not recommended for approval as part of the NSIP.
103	New Requirement 34	New requirement relating to turbine design	The Panel has included an additional requirement relating to submission of details of design of turbines. This is put forward by the Panel for the following reasons: no detailed design for the turbines and sluices has been placed before the Panel; the Panel has concluded that AFDs should be installed from the outset to reduce numbers of fish becoming entrained in the turbines; and the Panel considers that devices to record collisions with turbine blades and high resolution sonar imaging are essential for monitoring of impacts on fish and should be an element of the scheme to be part of a scheme of works for installation with the turbines. Further background to this requirement is contained in section 4.9.
104	New Requirement 40	New requirement for a Marine Mammal Mitigation Strategy	This requirement was included in the Panel consultation draft but not accepted by the applicant. The Panel consider it is necessary for the reasons set out in Chapter 4. Following the receipt of comments on the draft Requirement in the Panel consultation draft DCO, the Panel has inserted an additional part into this requirement at 40(1)(c) explaining that if thresholds in relation to PBR are exceeded,, mitigation will not include cessation of the turbines for prolonged periods (where prolonged periods are over 24 hours).
105	Requirement 41	New requirement for a Seaward boundary line plan	This requirement is necessary to give effect to the Panel's proposed amendment to Article 53 (Planning etc. jurisdiction).
106	Schedule 5, Part 1 - ABP	Deletion of reference to Article 36 from paragraph 3((3)	The Panel has recommended deletion of Article 36 (Statutory Undertakers) so that this reference is no longer correct.
107	Schedule 5, Part 1 - NGET	Addition to paragraph 33	To reflect full heading of paragraph referred to.
108	Schedule 8	New Schedule	Referred to in Article 29 new paragraph (5).

7.7 EXPANSION OF REASONING FOR CHANGES TO DCO

ARTICLE 44 – APPLICATION OF THE ENERGY ACT 2004 IN RELATION TO DECOMMISSIONING

Consultation on decommissioning guidance

- 7.7.1 As set out in the decommissioning section of the report, the SoS has issued the consultation document 'Tidal Lagoons attached to land - addendum to guidance under the Energy Act 2004' (October 2014) during the examination of TLSB. The Panel brought this consultation to the attention of the applicant and all IPs through a hearing agenda and it was subsequently discussed at the ISH held on 22 October 2014. The consultation had not ended by the close of the examination. However, Article 44 of the recommended draft DCO has been amended to take account of the proposals in the consultation document and the Secretary of State will no doubt wish to consider the content of Article 44 in the context of the outcome of the consultation.

Submission of decommissioning programme

- 7.7.2 The timing of the submission of the decommissioning programme was discussed at length during the hearing on 22 October 2014 and a summary of the applicant's views can be found in its written submission of oral case [REP-842] at paragraph 20.7.14 et seq. The applicant considered that, given the 120 year life of the project, a decommissioning scheme would not need to be drafted before the mid-life of the project, and could then take advantage of technologies then in existence and reflect the then current uses and environment of the lagoon. However counter views were expressed by other IPs, as set out in section chapter 4 in relation to the differences between this and other renewable technologies, its connection to land and its location between two commercial ports.
- 7.7.3 During the examination the Panel had suggested that the programme should be approved prior to construction, as suggested by paragraph 2.6.54 of NPS EN-3. It continues to be of this view to provide comfort and certainty for those who use or have responsibilities in the area of and around the lagoon.

Timing of maintenance fund payments and scope of programme

- 7.7.4 The Panel have also concluded that independent of the timeframe within which the decommissioning scheme should be submitted, the timing of payment into the maintenance fund is matter for the scheme and should not be circumscribed by the DCO. Likewise, the DCO should not limit the programme in terms of what items should be removed on decommissioning, as proposed by the applicant. Furthermore, in light of the recent consultation, the Panel therefore

highlight to the SoS that this article should be drafted in line with the outcome of the consultation.

ARTICLE 47 - LICENCES RELATING TO WATER ETC.

- 7.7.5 The applicant has brought together under the heading, Licences relating to Water, 5 distinctly separate matters which each relate to the disapplication in one way or another of various requirements and regulations. All of these matters were added to the DCO draft during the course of the examination.
- 7.7.6 Article 47 (1) disappplies the need to obtain an impoundment licence under the Water Resources Act 1991 and NRW gave consent to inclusion of this item in the proposed DCO in a letter dated 25 November 2014 [REP-905].
- 7.7.7 Article 47(2) provides express confirmation that there is no requirement for discharge consent under the Environmental Permitting (England and Wales) Regulations 2010. NRW's view in the letter dated 25 November 2014 [REP-905] is that "NRW does not consider that an Environmental Permit is required under Regulation 12 of the EPR 2010 in respect of the proposal to discharge impounded seawater through the turbine house". This leads NRW to conclude that it "should be deleted as its inclusion is superfluous". The Panel understands that the point NRW has made is that a discharge from a tidal lagoon would be of a non-polluting nature. The wording of Regulation 12 is, however, expressed in general terms and does not make any specific reference to "impounded seawater" or "non-polluting discharges". The Panel consider that the passage of water through the turbines is in the engineering sense of the word properly described as a "discharge" and that inclusion of item (2) under the heading "Licences relating to water, etc" would provide a valuable degree of clarity that no environmental permit for a discharge in the environmental sense of the word would be required.
- 7.7.8 Articles 47(3), (4) and (5) all relate to migratory fish. The Panel consider that there is a legal basis for the inclusion of these items within a DCO on the basis that neither the SAFFA 1975 nor the Eels (England and Wales) Regulations 2009 are prescribed consents. The substance of the issue in relation to salmon (3) and eel screens (5), including the legal position in relation to prescribed consents, has been presented and discussed above in chapter 4.
- 7.7.9 The Panel recognises that the applicant requires certainty on whether the turbines would need salmon and/or eel screens. The Panel consider that it would be important for the operation of the project in respect of maintaining water flows through the turbines that the turbines should not be screened. The Panel therefore supports the disapplication of s14 SAFFA within the provisions of the DCO. NRW have agreed that there would be no requirement for eel screens [REP-1007] in relation to the Eels Regulations. However this was at a late stage in the examination and reflected a changed view of whether the

lagoon was or was not a diversionary structure. It is conceivable that NRW or some other party might take a different view on this in the future and there is consequently, in the Panel's view, merit in including both (4), relating to provision of an eel pass, and (5), relating to provision of eel screens within this article to achieve certainty that the generating capacity of the turbines will not be reduced by screens.

- 7.7.10 The Panel has given consideration to points made by NRW but considers that all the elements of Article 48 from the applicant's 4 December draft of the DCO [REP-1002] should be retained in the Panel's recommended DCO being submitted with this report.

7.8 WORKS

- 7.8.1 As has been noted in chapters 3 and 4 that examination discussed at some length the extent of works to be included in the DCO. These generic matters of principle will not be rehearsed here. This section however details works which, following the Panel's consultation draft and the review of subsequent representations, the Panel consider capable of being authorised by the DCO in Wales. The Panel consider that these changes were discussed in principle during the examination.

WORK 1A

- 7.8.2 The Panel consider that despite suggesting that work 1a be restricted and evidence provided by the applicant on the inclusion of its constituent parts, no justification for the inclusion of 'boating facilities and associated hardstanding' was provided. As such the Panel suggests that the SoS approves this work on the proviso that the boating facilities are limited to that which serves the operation and maintenance of the NSIP and not for unspecified uses which could include leisure facilities which would not be needed for the NSIP. This would accord with PA2008 and the view of WG.
- 7.8.3 The Panel have considered the views put forward by the applicant and WG among others in relation to the offshore building. The Panel acknowledge that the applicant has tried to address concerns raised in relation to the offshore building, however considers that the paragraph requires further refinement to bring it in line with PA2008. This includes the deletion of reference within the paragraph to the visitors centre and the clarification that foundations are to only be constructed with the lagoon wall.
- 7.8.4 To ensure clarity in the detail of the work for which the DCO is consenting, the Panel suggest the insertion of the reference to CD 14.0m for the height within which the foundations must be built. This height being the height of the lagoon wall.

WORK 2A

- 7.8.5 To provide clarity, the Panel consider that since the location of the turbine housing was reduced from two locations to one during the course of the examination the reference to co-ordinates in the DCO should read 'between' rather than 'at' XX and XX, which could indicate two locations.
- 7.8.6 Furthermore, the Panel upon further consideration of the ES deem that this 2a (e) should be clarified to permit one gantry crane as assessed in the ES. In addition, the reference to 'such infrastructure or plant' should be limited to relating to the operation and maintenance of work 2a and not the project as a whole.

WORKS RELATING TO 1A, 1B AND 2A VIEWING AREAS AND SITING LOCATIONS FOR PUBLIC ART

- 7.8.7 The Panel have considered the views put forward by the applicant and WG among others in relation these works. The applicant in its response to the Panel's action note following the ISH on 21 October 2014 [HE-53] described the viewing areas as merely being 'localised widening of the seawall'. The Panel recognises that this cannot easily be retrofitted and the recommended draft DCO therefore expressly refers to localised widening for those purposes. Mounting facilities for works of public art could be retrofitted and so they have been omitted.

WORK 6B

- 7.8.8 The Panel notes that there were few representations which demonstrated concerns over the onshore building as a structure. However, the Panel note that the ES clearly refers to the onshore building (referred to in the ES as the Western Landfall Building) as a single building with dimensions of 120mx18mx13.5m. However the Planning Drawings illustrate several buildings and the applicant's draft DCO seeks permission for 'one or more buildings', which lacks certainty. The reference to one or more buildings does not reflect that stated in the ES (see above) and raises enforcement issues. The Panel is therefore recommending the change in wording to clarify that one building is to be built within the dimensions set out the in ES. This also requires the Part 2 of Schedule 1 to be updated accordingly.
- 7.8.9 The Panel noted WG's concerns about the uses proposed for the building. The applicant sought to address these concerns by re-wording work 6b to refer to one of the planning drawings on which certain areas of the onshore building were not to be built. However, the Panel conclude that the applicant's proposal results in a somewhat confused position. As such, the Panel have considered the ES, land plans, works plans and planning drawings along with iterations of the DCOs throughout the examination. Instead, the Panel has sought to redraft work 6b to separate the indoor and outdoor elements of the Work and to limit the uses to those needed for the operation and maintenance of the generating station.

7.9 BUILDING HEIGHTS TABLE/DIMENSIONS OF STRUCTURES

- 7.9.1 The table has been updated to reflect the maximum dimensions that were assessed in the ES and any reductions that were put forward by the applicant and/or Panel as part of the examination. The removal of the limits of deviation for the seawall is discussed in chapter 4.

7.10 REQUIREMENT 34 - TURBINES

- 7.10.1 Details of the designs for turbines and of sluices to be accommodated within the turbine housing (Work 2a) were not before the Panel during the examination. Paragraph 4.3.2.7 of the Project Description, ES chapter 4, and [APP-181] stated that it had not been decided whether turbines would be fixed or variable speed and that "The preferred turbine design will be selected prior to implementation and following a tender process". There were also comments in paragraph 4.3.2.7, relating to sluices: "Between six and ten vertical lift metal sluice gates will be located in the turbine and sluice gate housing structure" and "the final dimensions will be refined as the turbine design is finalised".
- 7.10.2 At the ISH on 31 July [HE-12] the applicant explained that there was a need for flexibility in relation to turbine design for commercial and practical reasons, and followed this up in the following terms in the summary of oral submissions [REP-687]:
- "In the present case, TLSB has not yet decided upon the final contractor and turbine manufacturer. Therefore, some amendments may be required from what is shown on the drawings, in order to meet the contractors' specifications".
- 7.10.3 There is a need for flexibility in delivering turbines of this scale and nature because turbine manufacturers have to design them for this particular operation. If a manufacturer needs to change the dimensions of the crane in order to deliver the best design of turbine, TLSB will want to accommodate for this as far as possible within the constraints of the limits of deviation.
- 7.10.4 Within the 4 December draft of the DCO [REP-1002] the level of detail provided in relation to the turbines and sluices is very limited. The description of Work No. 2a, the turbine and sluice gate housing structure, includes the words "containing up to 16 variable speed hydro turbines with a combined nominal generating capacity of 320MW (continuous) and up to 10 sluice gates".
- 7.10.5 The Panel accept that there is a need for flexibility in the period during which a scheme is taken forward to final design as provided for in the wording of the 4 December draft of the DCO. The Panel however consider that the absence of any requirement relating to further approval of details of the turbines and sluice gates is a major omission which should be remedied in any DCO that the SOS may decide to issue.

- 7.10.6 The detailed design of the turbines and sluice gates is a matter of considerable importance. There will be a point at which the details of that design should be scrutinised and approved by the relevant planning authority. It is appropriate that a detailed submission should be made showing the numbers of turbines to be installed and the manner in which the array of turbines and the set of sluice gates are to be arranged. Approval of details of the turbines is of particular importance given the potential that turbines have for entraining, injuring and killing fish. This is covered in chapter 4 of this report where the Panel has concluded that AFDs to achieve mitigation by reducing entrainment and high resolution sonar imaging and turbine impact recording devices for monitoring passage of fish through the turbines should be included as an integral part of the installation of individual turbines within the turbine housing.
- 7.10.7 The Panel is aware that, as part of Article 7 (3) in the 4 December draft of the DCO [REP-1002], the authorised development must not be commenced until the undertaker has provided the City and County of Swansea Council (CCSC) with written evidence of “a contract for the procurement of hydro turbines for installation in Work No. 2a”. The Panel considers that the detailed design of turbines and sluices should also be submitted for approval by CCSC, in consultation with NRW, before development is commenced. A new requirement which relates to the details of turbines and sluices has accordingly been included in the Panel’s recommended DCO being submitted with this report.
- 7.10.8 This requirement has been drafted so that measures relating to mitigation and devices for monitoring of impacts on fish would be incorporated as part of the installation of turbines within the turbine housing. This element of the new requirement would overlap with parts of the fish and shellfish mitigation strategy related to AFDs and set out as requirement 27 of the 4 December draft DCO. The new requirement would, in the Panel’s view, be a more appropriate way of achieving both mitigation and monitoring. This would have benefits in ensuring that AFDs are mounted where they would be effective before the turbines start to operate. If the SoS were to determine that the Panel’s new requirement should be included there should be consequential changes to requirement 27. The Panel considers that these changes should include deletion of 27(3) (c) on the basis that it would be largely redundant, and modification of 27(4) so that it refers to sonar imaging and collision recording as well as acoustic devices and relates to calibration of AFDs to be effective on hearing generalist fish, including sea trout and herring, and to monitoring.

REQUIREMENT 40 – MARINE MAMMAL MITIGATION STRATEGY

- 7.10.9 At the end of the Examination, there remained questions about the adequacy of the content and uniformity of these documents in relation to marine mammal monitoring and mitigation.
- 7.10.10 The Panel accepts that the development, if consented could result in some residual adverse effects on marine mammals. It acknowledges

that not all impacts can be fully mitigated against. Any potential residual impacts upon marine mammals could however be minimised through mitigation.

- 7.10.11 The Panel concludes that whilst there may be some adverse residual impacts from the construction phase upon marine mammals, impacts from the piling operations would most likely result in behavioural responses, that is marine mammals would move away from the Bay area. In view of the mitigation proposed in the environmental management plans and with the additional DCO requirement for marine mammal mitigation that is proposed by the Panel within the DCO itself, the impacts upon marine mammals would be minimised. As noted in chapter 4, with that mitigation, the need for the facility would outweigh the remaining possible residual impact upon the marine mammal interests of Swansea Bay.

7.11 OTHER CONSENTS REQUIRED

- 7.11.1 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 licenses. These were originally listed on the application form [APP-172] and in a separate application document [APP-047]. The list of consents and licences were further updated during the examination [REP-499, REP-779 and REP-848].

7.12 OTHER MATTERS

- 7.12.1 The Panel considered all other representations received, including a number from non-interested parties to ensure fairness. The Panel has also considered all other important and relevant matters in its consideration of the application and has taken all representations and all these matters into account.

7.13 CONCLUSIONS ON DEVELOPMENT CONSENT

- 7.13.1 The Panel concludes that for the reasons set out in the chapters above and subject to the incorporation of the changes it has recommended to the applicant's final draft DCO, the recommended Order is acceptable having regard to all matters forming the application, the development sought and put before us during the examination and the items to which the SoS is referred in chapter 8.

8 SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

8.0 INTRODUCTION

- 8.0.1 The Project as applied for was a combined scheme with integrated design for a generating station and a major recreational facility. It has been necessary for the Panel to take a view on which elements of the scheme can appropriately be regarded as principal development that can be permitted under PA2008 and which elements cannot be so described to ensure compliance with PA2008 and the devolution settlement as discussed in chapters 3 and 4. Having considered representations alongside legislation, the Panel's view has been that it is for the local planning authorities to make formal decisions on those elements that relate directly and exclusively to development associated with visitor and leisure facilities and that could result in the emergence of a major recreational facility and visitor attraction.
- 8.0.2 The Panel has therefore limited its assessment to the potential benefits and disbenefits associated with the lagoon solely as a proposal for generation of tidal range energy. The proposal is for an energy generation plant including turbines with a combined notional installed capacity of 240MW and would qualify as an NSIP under s14, s15(3) and s15(4) for the generation of electricity from tidal range energy.

8.1 THE SECRETARY OF STATE'S POWERS TO MAKE A DCO FOR A REDUCED SCALE OF SCHEME

- 8.1.1 In the letter dated 28 November 2011 from Bob Neill MP, then Parliamentary Under-Secretary of State for Planning to the IPC, he stated that the view expressed by the Government during the passage of the Localism Act that s114(1) places the responsibility for making a Development Consent Order on the decision-maker, and does not limit the terms in which it can be made.
- 8.1.2 Taking account of the stages in the examination of evolution of the draft DCO, including the public advertisement of the Panel's consultation draft DCO, the Panel concludes that there has been an opportunity for public engagement on the amendments and that the changes to the project are material but are not so significant as to constitute a different project for an NSIP under the Planning Act 2008. The examination has been completed and these conclusions drawn on the basis of the reduced project.
- 8.1.3 In exercising his decision under s114(1) in relation to the recommendation from the Panel, the SoS may wish to take into account the following.
- 8.1.4 Significant elements of the applicant's vision to create a major visitor attraction and recreation facility would not be delivered by the DCO. Some of the extensive support from the local area has, it would

appear, arisen because of these aspects of the scheme that would not be authorised through the DCO. The delivery of the significant elements of the applicant's proposals for a major visitor attraction and recreation facility that have been removed from the draft DCO but which continue to enjoy the support of the LPAs is evidenced in the form of the s106 being shared at the close of the examination.

- 8.1.5 If limited jurisdiction is extended over the site of the lagoon as proposed in the Panel's recommended DCO, then the Panel considers that there is a reasonable prospect that the overall "Project" that has been the subject of EIA and of public consultation could be delivered. In writing this the Panel are not seeking to fetter the discretion of the relevant planning authorities that would have to take decisions on planning applications in relation to matters that lie outside the DCO. The SoS may wish to be informed on the position of the s106 agreement at the time of his decision.

8.2 APPRAISAL OF THE APPLICATION UNDER S105 OF THE PA2008

- 8.2.1 Chapter 3 of the report sets out the policy context against which this application has been examined. This is a case where there is no designated NPS in effect and in consequence the decision is to be made in line with s105 of the PA2008. The SoS in deciding the application is to have regard to LIRs submitted by local authorities, relevant prescribed matters, and any other matters which the SoS thinks are both important and relevant to his decision.

8.3 LOCAL IMPACT REPORTS

- 8.3.1 LIRs have been provided by CCSC and NPTCBC. They identify a range of policies from their development plans and other documents within the local framework that the Panel has taken into account in examining in particular the landward works in the application.
- 8.3.2 A majority of the project would require offshore works and the area would remain as tidally influenced water after being impounded. This unique situation has meant that the direct relevance of DPD policies is limited; nonetheless the Panel have considered these where appropriate.
- 8.3.3 Both NPTCBC and CCSC did not identify that the project would be in conflict with current local policy. Both LIRs provided the Panel with a number of issues that they deemed upon which the impacts should specifically be examined. The examination has been carried out in line with these and each section of the report has addressed comments made in the LIRs. The Panel has therefore had regard to these LIRs in this recommendation report to the SoS.

8.4 PRESCRIBED MATTERS

- 8.4.1 The only prescribed matter relevant to the issues raised by this application, identified through s105 of PA2008 is 'biological diversity'.

As such, the Panel has had regard to United Nations Environmental Programme Convention on Biological Diversity of 1992.

- 8.4.2 Chapter 4 of the report provides conclusions on the impacts in relation to biodiversity matters and considers the planning balance in relation to these. The Panel have examined and set out the potential and predicted impacts on designated sites, fish, mammals and birds, and taken into account the measures outlined in the AEMP. From the information submitted into the examination, the Panel concludes that the benefits from the project outweigh any possible direct or residual impacts in relation to biodiversity. The examination and conclusions relating to the Habitat Regulations and the Water Framework Directive are dealt with in a separate chapter and concluded on separately below.

8.5 RELEVANT AND IMPORTANT MATTERS

- 8.5.1 A range of policy documents have been identified in chapter 3 that are considered important and relevant matters. Whilst Tidal Lagoons are not directly covered by a designated NPS, the Energy and Ports NPSs were deemed relevant and important. Upon examination, the Panel conclude that the proposal accords with the objectives of the Overarching Energy NPS (EN-1) and the Renewable Energy Infrastructure NPS (EN-3). Furthermore, having considered the suite of Welsh National Policy and Guidance documents, as set out in chapter 3, the Panel concludes that the project would contribute to Welsh policy objectives in relation to securing a low carbon future and delivering reliable renewable energy from a marine source as set out in section 4.2 of the report. The Panel has considered the impacts of the project laid out in chapters 3, 4 and 5 as being matters which the SoS may find important and relevant and the conclusions following have been drawn from them.

SUMMARY OF RELEVANT AND IMPORTANT MATTERS

Reliable renewable energy

- 8.5.2 The examination sought to gain information on the technology, its reliability and its productivity and these are considered in Section 4.2. The Panel concluded that having considered the evidence before the examination there are strong underlying arguments for the development of tidal power energy infrastructure projects.

Habitats Directive

- 8.5.3 The Panel considers that while the SoS may consider it necessary to carry out an appropriate assessment of potential effects of the proposal on the European sites, listed in the RIES, the Panel's conclusion, based on the applicant's Updated Report to Inform Habitats Regulation Assessment July 2014 [REP-584] and the RIES [RIES-001] is that the proposal would have no adverse effect on any European site. In coming to the conclusion that there would be no

potential for an adverse effect on Kenfig SAC, the Panel has taken account of proposals for monitoring set out in the CEMP, OEMP and AEMP and changes put forward in the recommended DCO.

- 8.5.4 The Panel considers that it is not necessary for the SoS to undertake an appropriate assessment under the Habitats Directive of the impact of the proposal on harbour porpoise. If however the SoS takes a different view then regard should be had to the applicant's submitted HRA relating to Cetaceans and Pinnipeds [REP-661] and to proposals for mitigation for mammals in the AEMP [REP-883].

Water Framework Directive

- 8.5.5 It is accepted by the applicant that the proposal would require derogation under Article 4.7 of the WFD. The SoS will have to examine the case for such derogation which may be justified in the public interest in relation to sustainable development under conditions that are specified in Article 4.7 of the WFD.
- 8.5.6 The Panel consider that the four conditions required for derogation under Article 4.7 of the WFD are satisfied on the basis of the evidence available at the close of the examination. The panel also concludes that Articles 4.8 and 4.9 are satisfied as discussed in section 5.1.

8.6 EXTENSION OF LOCAL AUTHORITY JURISDICTION

- 8.6.1 As discussed in section 3.12 in the generality of cases, the panel recognise that with a devolution settlement in place, one could expect an extension of jurisdiction within Wales to be a matter for WG to put into effect. However the Panel conclude that the extension of jurisdiction is not precluded by PA2008 and that special circumstances exist which include the following:

- The extension of jurisdiction to the new land created by the lagoon walls to give control of the relevant matters to the local planning authorities in relation to pollution control and the discharge of requirements not related to marine issues,
- In relation to planning matters, it would enable the applicant to make planning applications, relating to geographical areas that are currently underwater at low tide,
- It would additionally, give legal effect to a signed s.106 agreement which is aimed at securing delivery of substantial and significant elements of the original scheme through locally determined planning applications.

- 8.6.2 Hence the Panel conclude that the inclusion of Article 53 in the recommendation DCO is justified.

8.7 OTHER LICENCE MATTERS

- 8.7.1 The Panel has considered EPS matters and has also addressed concerns raised by IPs, most notably Rhossilli Working Group and

Porthcawl Environmental Trust on matters relating to harbour porpoise. No EPS licence applications had been submitted to NRW by the end of the Examination in relation to harbour porpoise. The Panel has provided further mitigation through the DCO in relation to Marine Mammals but also notes the requirement for an EPS licence, the application for which was not before the Panel. Whilst the Panel is unable to conclude that the EPS licence would be forthcoming, it was not advised by NRW during the Examination of any significant reasons why such licences would be unlikely to be granted.

- 8.7.2 The applicant also submitted a summary of other consents required which was updated during the examination [REP-848]. These include the Marine Licence which will be considered by NRW. NRW updated the examination and there were no matters drawn to our attention as to why this may not ultimately be granted.

8.8 FINANCIAL VIABILITY

- 8.8.1 In view of the evidence presented by the applicant setting out the costs of the elements of the project [APP-084] and the reasons set out in section 4.25, the Panel concludes that financial viability has been properly assessed for any development consent application in relation to general financial viability. In particular the Panel concludes it should not be necessary to prove the existence of all necessary funds for the project before any work may commence as this may prevent first of a kind projects being delivered. The Panel concludes that it meets the test in EN-3.

8.9 CROWN LAND

- 8.9.1 Crown land is required for the construction of the seawalls of the proposed lagoon. Crown land is not subject to CA and a DCO may not include any other provision applying to Crown land or rights unless the appropriate Crown authority consents to its inclusion.
- 8.9.2 On 24 November 2014, the Crown Estate Commissioners, as the appropriate Crown authority, consented in accordance with s135 (2) of the PA2008, to the inclusion of provisions in the draft DCO, subject to an amendment of wording in the relevant article on Crown Rights. The Panel can confirm that that amendment has been made in the recommended draft of the DCO [REP-915].

8.10 MANAGING UNCERTAINTY: THE ROLE OF ADAPTIVE MANAGEMENT

- 8.10.1 The Project would be implemented in a dynamic coastal environment. The Panel considers that changes in coastal processes over the projected 120 year operational life of the lagoon would have to be regarded as inherently involving elements of uncertainty. The range of potential outcomes which may have more or less significant consequences would demand a flexible and responsive management approach. The Panel concludes that an approach involving adaptive

management as envisaged in related EC Guidance is an important part of an appropriate response to managing uncertain outcomes arising from the Project.

- 8.10.2 NRW have provided the Panel with their views on Adaptive Management and its use, which the Panel has taken into account in concluding on its implementation and how this is secured through the DCO. The Panel deem that the requirement in the DCO provides clarity on the outline content of an AEMP and secures its implementation.

8.11 EVALUATION OF THE PROJECT

CONSTRUCTION IMPACTS

- 8.11.1 The tidal lagoon is a major construction project and as such is not be without construction impacts. Impacts on mammals, fish and birds are concluded upon further in this chapter. In relation to human receptors, Bevan's Row, close to the junction of a new access road with the public highway, and the new SUBC are sensitive receptors adjoining the development. Under requirement 21 of the recommended DCO, the CPTMP which would include provisions such as limiting the effect of construction traffic on Fabian Way at peak travel times. This and all other matters in the CPTMP are to be approved by the LPAs.
- 8.11.2 Many potential construction traffic impacts would be avoided by bringing rock armour to the site by sea, which is specified in the draft DCO requirement on construction traffic. The Panel considers that the use of geotubes filled with material sourced from within the lagoon would also reduce construction impacts. Issues relating to contamination are concluded on below.
- 8.11.3 The Panel recognises that there would be an element of benthic ecology lost as a direct result of the construction of the scheme. Mitigation taking the form of an attempt to translocate Sabellaria has been put forward in requirement 29 of the recommended DCO but the Panel note that this is an untested mitigation. The Panel is recommending an addition to requirement 29 to make provision for further mitigation in the event of the translocation being unsuccessful. Other construction impacts, including the impact of piling on mammals, are to be minimised or mitigated by actions taken in accordance with the CEMP. For the reasons discussed in chapter 4 the Panel concludes that there is a residual risk of impacts on marine mammals. The Panel proposed a new requirement (40) to mitigate the impacts upon marine mammals from the development so as to be minimised to an acceptable level.
- 8.11.4 As such, the Panel conclude that there will be construction impacts but that these are minimised through mitigation of impacts which is secured in the DCO and in the environmental management plans.

OPERATIONAL IMPACTS

- 8.11.5 The Panel has examined the applicant's article in relation to Statutory Nuisance and conclude that the disapplication is appropriate.
- 8.11.6 The Panel concludes that the mitigation proposed in the DCO and the OEMP in relation to operational impacts upon community receptors is proportionate and deliverable. During the operational phase of the development there will not be any significant impacts upon local communities.

HEALTH SAFETY AND SECURITY

- 8.11.7 The Panel considers that the adoption of good practice in minimising noise, dust and other emissions during the construction phase through the CEMP, will minimise impacts on human health. The Panel concludes that there is no risk to human health arising from the development.
- 8.11.8 The Panel is satisfied that safety matters during the construction phase have been or would be adequately addressed through the requirements within the CEMP. Safety matters during the operational phase would be addressed in the OEMP. As a structure that will exist in a marine environment there are issues for the seawall in relation to safety and security but these have been addressed in the OEMP. The Panel considered representations made by Swansea University in relation to the safety of students but concluded that students attending the SUBC are adults who have a role in ensuring their own health and safety.
- 8.11.9 Matters relation to wider civil defence security and military and commercial aviation safety were not raised as issues in relation to the project.

NAVIGATION, SHIPPING, PORTS AND DREDGING

- 8.11.10 Due to the location of the project in between the approach channels of both the Neath and Port of Swansea, the Panel deem navigation and shipping an important and relevant matter in relation to the impact of the project. The Panel have reviewed the DCO to protect the users of the Ports and rivers surrounding the project and as such conclude that the Panel is satisfied that the safety of navigation in the approach channels to the River Neath and the Port of Swansea has been satisfactorily addressed in so far as they can be at the close of the examination without the results of the ship simulation before them.
- 8.11.11 Monkstone Sailing Club were particularly engaged in the examination and the Panel considered their concerns thoroughly, ensuring that a requirement to dredge was provided to protect their access as much as possible. The Panel are comfortable that the issues regarding capital and maintenance dredging have been resolved to the satisfaction of the parties involved and the Panel.

COASTAL PROCESSES AND ENVIRONMENTAL CONSIDERATIONS

- 8.11.12 Chapter 4 of the report addresses coastal processes; this was an area within which the Panel concluded that uncertainty existed. The Panel deemed it unavoidable that the tidal lagoon would create sub divisions in Swansea Bay. This would therefore also have impacts on coastal process. However, despite examining the issue in some depth, the Panel were not provided with any evidence that any change on coastal processes as a result of the project would be so detrimental in the balance as to prevent development consent being given.

CONTAMINATED SEDIMENTS AT SEA AND ON LAND

- 8.11.13 In relation to material dredged from the site of the proposed lagoon, the Panel concluded that the use of Cefas "action levels" is appropriate and the analysis results provided by the applicant are credible and reflect the situation that was sampled. The Panel concludes that, subject to the controls specified in the CEMP [REP-1107], use of material sourced from within the lagoon to fill geotubes would not have any significant effect on human or ecological receptors from the release of heavy metals or other contaminants.
- 8.11.14 The Panel considers that controls within the CEMP [REP-1107] regarding further survey works to identify sediment quality at sites proposed for construction works, together with the management and/or remediation of any contaminated areas under requirement 12, would ensure that there is no significant risk of contamination arising from the development. There is therefore no significant risk from the development to any sensitive receptors on land or off-shore from pollution arising from contaminated sediments.

FLOOD RISK

- 8.11.15 Changed conditions within Swansea Bay as a result of construction of the lagoon have been the subject of FRA which was updated during the examination. As a result of representations, further information to address a potential identified increased risk of marine flooding at Mumbles was provided to the Panel. An agreed SoCG with NRW has also been provided. The Panel notes the additional measures incorporated in the DCO at requirement 26 for flood risk mitigation and is satisfied that after mitigation there is no additional risk of flooding at Mumbles. It is satisfied that the flood risk to the wider Swansea Bay area can be managed and mitigated such that no significant impacts in relation to increased risk of flooding to receptors at the sea front at Mumbles, including residential and commercial properties, or any other part of Swansea Bay would be anticipated.

8.12 BIODIVERSITY

IMPACTS OF TURBINES ON FISH

- 8.12.1 The operation of turbines in the marine environment has the potential to have an effect on fish and on diving birds. The applicant has conducted extensive modelled assessments of injury to fish from turbines. The model runs demonstrate that only low percentages of fish entrained in the turbines would be injured. This is a result of the size of the turbines which are 7m in diameter and low rotation speeds of approximately 67 rpm which would mean that there are large gaps through which fish can pass. The ES chapter on fish [APP-186] concluded that the risk to fish populations and runs of migratory fish would be very low.
- 8.12.2 There is little evidence on the operation of turbines in the marine environment to draw on. There has been no systematic study of the effect of the turbines at La Rance scheme on fish mortality but there are no reports of extensive fish kill associated with the turbines that have operated for over 50 years.
- 8.12.3 The Panel concludes that the mitigation contained within the proposed new requirement discussed in section 4.9, combined with the requirement for fish and shellfish mitigation together with the mitigation for fish within the CEMP and AEMP are proportionate and justified to minimise the impacts of the turbines on fish populations.

MIGRATORY FISH

- 8.12.4 The effect of the scheme on diadromous fish (that is fish that migrate between the sea and rivers) was a subject that was examined in two contexts. First the effect of the scheme on salmon and sea trout migration up the River Tawe as a result of potential disruption of olfactory trails and second the question of provision of screens at the turbines in relation to SAFFA 1975 and the Eels Regulations 2007.
- 8.12.5 The development of the proposed lagoon would not directly obstruct fish passage up or down the River Tawe or the River Neath. Modelling reveals that there would be some disruption of olfactory trails from the Tawe but what effect that would have on the ability of salmon and sea trout to find the way back to their natal river is unknown. If a proper system of monitoring fish movements were put in place in the Neath and Tawe and a measurable effect on up-river migration by salmon and sea trout up were subsequently revealed, there would still be scope for in river offsetting measures to be put into effect. Such monitoring could be part of the proposed AEMP with offsetting measures to be worked up if required.
- 8.12.6 The applicant seeks disapplication of the SAFFA 1975 and the Eels Regulations in so far as they might require screens to be installed at the turbine intakes. This is on the basis that installation of such screens would have an effect on the potential to generate electricity.

The Panel agrees with the applicant's view that disapplication of both SAFFA 1975 and the Eels Regulations 2007 is within the SoS's power. Provisions to that effect are included in the article headed "Licences relating to water, etc" which appears as Article 48 in the Panel's recommended DCO being submitted with this report.

COMMERCIAL FISHING

- 8.12.7 During the examination, objections to the project were made by commercial fishermen. Evidence was provided to the Panel of the financial impact that the fishermen deemed that the project would have. However, these objections were later withdrawn. The Panel therefore concludes that the mitigation/enhancement measures proposed in relation to commercial fishing interests proposed in the DCO and in the AEMP/CEMP are deliverable and proportionate to the impacts that would result from the development on local commercial fishing interests. The Panel concludes that, after mitigation, the development would not result in any significant adverse impacts upon local commercial fishing interests.

SPECIFIC SITES

Blackspill SSSI

- 8.12.8 As noted previously, the Panel considers that some consequences of building the lagoon are particularly difficult to predict. While the applicant's modelling does not predict significant adverse impacts, there is a possibility raised by NRW that the development could result in unpredicted effects with an increased build-up of mud in the lower intertidal area and habitat change that would be less favourable to birdlife and threatening to features of interest of the SSSI. The Panel considers that this is a clear example of the uncertainty arising from the presence of the lagoon.
- 8.12.9 The Panel concludes that, after mitigation, there is a risk that sandy habitats may change to muddier ones and as the mitigation proposed if this situation arose is unproven, there is a further risk that the mitigation may not be effective. There is therefore a residual risk to the SSSI that it may be significantly affected by the development. However, the likelihood of this occurring has not been quantified. If these changes did occur and the mitigation was not effective there is a risk to the features of the SSSI as well as its integrity.

Crymlyn Burrows SSSI

- 8.12.10 The evidence presented to the Panel is that there would be a build-up of sandy sediment along the outer edge of the eastern lagoon seawall following Project construction. However, on the basis of material within the draft AEMP [REP-922], the Panel considers that adaptive management would give a credible and deliverable range of mechanisms for ensuring that any changes to the range of existing

qualifying features are minimised and the integrity of the SSSI is protected.

Kenfig SAC

- 8.12.11 NRW has agreed the wording of DCO requirement 35 in relation to Kenfig SAC. The Panel is satisfied that any potential for adverse effects on the integrity of Kenfig SAC have been addressed by the inclusion of that requirement in the recommended DCO.

Swansea Bay SINC

- 8.12.12 The Panel considers that the suite of mitigation which is agreed within the AEMP and the CEMP, together with the requirements relating to this area of Swansea Bay are adequate and proportionate for the impacts that are forecast as well as those that are not anticipated by the applicant. It is concluded that the development would give rise to a significant impact upon the SINC area, due to loss of habitat. Through mitigation, the overall impacts upon the SINC habitats will be minimised, as far as is practicable.

CONCLUSION ON BIODIVERSITY

- 8.12.13 The Panel's conclusions regarding the various biodiversity issues that would be impacted by the development are given in the relevant sections of chapter 4. The Panel considers that significant impacts are likely to occur in relation to Blackpill SSSI, Swansea Bay SINC, Sabellaria reef and other intertidal and sub tidal ecological interests. Furthermore, marine mammals would be likely to be impacted during the construction phase due to piling activity.
- 8.12.14 There also remain residual impacts after mitigation that could occur in relation to marine mammals, diving birds, migratory and non-migratory fish. The Panel has recommended additional requirements in relation to marine mammals, fish (in relation to turbines and AFDs) and additional parts of other requirements are also proposed by the Panel in relation to mitigation for Sabellaria reef translocation and otters. The Panel notes that the applicant is proposing mitigation for all of the ecological receptors that are likely to be impacted by the development, including provision of hatcheries and the re-introduction of oysters into Swansea Bay.
- 8.12.15 The Panel concludes that if these requirements are delivered, in conjunction with the mitigation within the CEMP, AEMP and OEMP, impacts upon ecological receptors will be minimised. The Panel have considered impacts on bats, reptiles and there are no significant impacts. In relation to otters, further requirements have been added to the DCO to ensure adequate mitigation would be secured.

HISTORIC ENVIRONMENT AND MARINE ARCHAEOLOGY

- 8.12.16 The Panel concludes that there are few impacts in relation to Historic Environment from the project. The Panel recommends the inclusion of requirements 16 and 17 in the DCO [REP-1002] and Article 47 (as amended) concerning the Ancient Monuments and Archaeological Areas Act 1979 to safeguard and enhance the historic environment and protect marine archaeology.

LANDSCAPE AND VISUAL IMPACTS

- 8.12.17 The assessment of the seascape impact is more negative than the applicant's assessment during construction and the overall impact is significant in relation to seascape for both construction and operational phases and is a negative impact of the project. There are minor negative impacts on some of the viewpoints.
- 8.12.18 There is insufficient evidence that the limits of deviation applied for in relation to the crest of the lagoon wall have been fully assessed in the ES. This could potentially have a significant adverse impact on some near views. Hence it is proposed that these are deleted from the recommended DCO. This has been discussed in chapter 7.

SOCIO-ECONOMIC IMPACTS

- 8.12.19 The Panel has examined the socio-economic impacts on the Project as consented through the DCO in line with PA2008. Evidence of minor and positive impacts on tourism and recreation during construction and operation respectively is fully set out in the ES and the Panel received no evidence to the contrary. The Panel concludes therefore that the tourism and recreation impacts of the revised project as would be consented by the recommended Order would be minor.
- 8.12.20 Furthermore, even without the generation of jobs arising from the additional facilities included in the applicant's DCO as submitted, the Panel concludes, that the Project consented through the DCO would represent a beneficial impact in socio-economic terms by generating employment in the construction and operational phases.

DECOMMISSIONING

- 8.12.21 Section 4.29 of the report sets out how the examination of the decommissioning of the scheme was conducted. The Panel has considered the guidance published for consultation by the SoS during the course of the examination and has made changes for the recommended DCO consistent with this draft guidance. The Panel concludes that the changes to the DCO made for the recommendation draft are necessary to allow the decommissioning strategy to be approved before the start of construction and to provide adequate arrangements for funding in line with the draft guidance from the SoS.

8.13 PLANNING BALANCE SUMMARY

- 8.13.1 The Panel has considered the issues that were examined during the hearings and also those raised by IPs in their various representations. The policy context and the findings on individual matters also summarised above were considered in the planning balance at the end of chapter 4. The overall planning balance is summarised below.
- 8.13.2 The Panel concludes that negative impacts after mitigation may occur in relation to:-
- Benthic ecology
 - Blackpill SSSI
 - Swansea Bay SINC
 - Marine Mammals, particularly in terms of impacts from piling operations during construction
 - Migratory Fish
 - Coastal Birds
 - Seascape, landscape and visual impact
 - Monkstone Sailing Club
- 8.13.3 The Panel considers that if the development is accompanied by the mitigation and management which would be secured by proposed requirements within the DCO and the CEMP, OEMP and AEMP, the risks of negative impacts on biodiversity issues would be mitigated to a certain extent but not eliminated.
- 8.13.4 In addition there would be a minor negative impact upon Monkstone Sailing Club, although mitigation would be secured in relation to dredging the access route through a requirement in the DCO. However the location of the lagoon walls in relation to navigation channels is unable to be mitigated against and therefore remains a negative impact for the sailing club.
- 8.13.5 In relation to seascape, landscape and visual impact the nature of the tidal lagoon is such that there would be a negative impact particularly on the seascape in Swansea Bay. Landscape and distant visual impacts are more limited but near visual impacts would be significant.
- 8.13.6 The Panel considers that in considering the planning balance, the SoS should take into account the tidal lagoon's contribution to reliable renewable energy generation as well as the positive impacts that it would have on the local economy including the generation of electricity for 120 years, as well as the investment and employment opportunities that the Project would offer.
- 8.13.7 The Panel judges that, having considered the planning balance, the direct benefits of the scheme as a source of reliable renewable energy outweigh the direct adverse consequences and the potential residual and indirect impacts of the project in terms of biodiversity impacts as well as those that may occur in relation to local communities during construction.

8.13.8 Having regard to all of the matters referred to in chapters 3 and 4, our conclusion is that, on balance, the matters weighing in favour of the development outweigh the matters weighing against. The Panel therefore finds that the case for development is made out.

8.13.9 The Panel has considered the impacts on European sites under the Habitats Regulations which has concluded no likely significant effects. The Panel has also considered a WFD assessment which has identified the requirement for a derogation under 4.7 of the WFD. The Panel considers that the tests under 4.7, 4.8 and 4.9 are met.

8.14 COMPULSORY ACQUISITION AND RELATED MATTERS

8.14.1 With regard to s122(2) of the PA2008, the Panel is satisfied that the legal interests in all plots described and set out in the Book of Reference [REP-903] and on the land plans as amended, save that of Crown land, temporary land and Plots 01135, 02055 and 05035 are required in order to implement the development.

8.14.2 With regard to s122(3) the Panel is satisfied in relation to the application that:

- Development consent for the development should be granted;
- The need for new reliable renewable power facilities is proven;
- There are no suitable sites which are alternatives to Swansea Bay;
- The funding is available; and
- The interference with human rights is proportionate and lawful in the public interest.

8.14.3 In relation to all objections and outstanding representations from APs considered by the Panel, we do not consider that the private losses suffered are such as to outweigh the public benefits that would accrue from the grant of the compulsory acquisition powers which are sought. In relation to land plots where there were no representations or representations were withdrawn during the Examination, the Panel does not consider that the private losses suffered are such as to outweigh the public benefits that would accrue from the grant of the compulsory acquisition powers which are sought.

8.14.4 In these circumstances, the Panel considers that there is a compelling case in the public interest for the grant of CA powers sought by the applicant in respect of the Order land as shown on the Land Plans and identified in the BoR except for plots 01135, 02055, 05035 and 04095.

8.14.5 Lastly, with regard to the incorporation of other statutory powers pursuant to s120 (5) (a) the DCO has been drafted in the form of a statutory instrument and further no provision in the DCO contravenes the provisions of s126 which precludes the modification of compensation provisions.

8.15 OTHER LAND MATTERS

S131

- 8.15.1 Plots 02042 and 03027 are listed in the BoR as open space satisfying s131(4B)(b). They would only be acquired for a temporary, albeit long-lived purpose, of landscaping use. This is a temporary power and as such, the Panel concludes does not amount to compulsory acquisition and does not engage s131.

S132

- 8.15.2 In respect of the remainder of open space plots listed in the BoR, excepting plots 02042 and 03027 discussed above, only section 132 applies for the compulsory acquisition of rights over land and not the land itself. The land is identified for the cable route and following installation, the land would revert to open space which the panel is satisfied is a no less advantageous than currently. The restoration of the open space is secured by landscaping requirements 7 and 8. The Panel therefore concludes that s132(3) applies and the compulsory acquisition of rights can be authorised without being subject to special parliamentary procedure.

S127

- 8.15.3 At the close of the examination only two objections remained in respect of Statutory Undertakers land. The Panel conclude that in respect of the ABP land, the requirements of s127(3) and s127(6) are met and recommends that the compulsory acquisition powers are granted. The Panel notes the provisions of Protective Provision 3 in the recommended order.
- 8.15.4 As Panel conclude that in respect of the Baglan land the requirements of s127(3) and s127(6) are met and recommends that the powers of compulsory acquisition are granted save for plot 04095 where the Panel have concluded above that the tests under s122 are not met.

S138

- 8.15.5 The Panel considers that in the case of the land identified on the land plans and in the BoR (save for plots 04095,02055,05035 and 01135), extinguishment of rights of statutory undertakers under Article 25 and Article 29 is necessary for the purpose of carrying out the development and s138(4) is met. Extinguishment of rights and removal of apparatus in the streets, listed in Schedule 2 of the recommended draft DCO, under Article 36, does not appear to meet the test in s138(4) and has been deleted from the recommended order.

8.16 OTHER MATTERS

- 8.16.1 In reaching a decision on which works can lawfully be included in a ~~DCO for a generating station in Wales, the Panel has removed certain~~

matters from the DCO including elements of the works and certain powers. The Panel has concluded that the changes to the draft DCO are material but do not constitute a new project under PA2008. The SoS may wish to satisfy himself on the interpretation of the PA2008 and the Government of Wales Act 2006 as discussed in chapter 3.

- 8.16.2 Extent of the works - the Panel is required to ensure that any recommendation only includes works which have been fully assessed in the ES. Where the evidence of such an assessment has not been provided, certain works have been reduced in the description in the recommendation DCO; most notably this relates to the onshore building which is discussed in chapter 7. The SoS may wish to satisfy himself on the evidence base for any amendments to the recommendation DCO.
- 8.16.3 Certified Plans – following the reduction in the works, the number of Plans to be certified has reduced. The Panel has identified those plans which remain relevant.
- 8.16.4 The Offshore building - during the examination the applicant reduced the size of the offshore building in the 4 December 2014 DCO, seeking consent to construct the foundations for the offshore building only. The Panel was not provided with evidence in relation to the accommodation for operational and maintenance facilities which are required to enable the generating station to operate and are also required for safety should the turbines need to be shut down. The Panel considers that there would be sufficient space within the widened section of the Western Lagoon wall to accommodate these facilities. The SoS may wish to satisfy himself on this view.
- 8.16.5 Limits of Deviation – the Panel was not with provided sufficient written evidence that the limits of deviations for some works had been fully assessed in the ES. Where evidence could not be found, the limit has been removed from the recommendation DCO. The SoS may wish to satisfy himself on the evidence base for any amendments to the DCO.
- 8.16.6 The Panel has included two consents in Article 47 of the DCO relating to Eels and Salmon. The legal justification for the inclusion of these is discussed in chapter 3. The SoS may wish to satisfy himself in relation to the arrangements for these consents under PA2008.
- 8.16.7 The Panel has included in the recommendation DCO powers to extend jurisdiction of CCSC and NPTCBC over the area created by the new seawalls in firstly relation to the TCPA 1990 to enable the discharge of requirements for the newly created land in the form of the seawalls and secondly in relation to the CPA and EPA1990 for the exercise of pollution controls by the relevant local authorities. To implement these specific extensions of jurisdiction, the recommendation DCO includes requirement 41 and has also recommended that a plan be produced to provide an authoritative delineation of the extended boundary between the two authorities for the exercise of these functions.

- 8.16.8 An outline s106 under TCPA 1990 agreement was provided to the examination at its close. The recommended DCO does not depend on the content of the s106 but it includes powers to implement the obligations if they are agreed (Article 44 et al). The outline s106 included most of the works which were removed from the application draft DCO and which relate to the applicant's wider scheme. The SoS may wish to be advised on the content of any s106 signed prior to his decision.
- 8.16.9 The applicant submitted that the project required derogation under Article 4.7 of the Water Framework Directive. The implications under Articles 4.8 and 4.9 also fall to be assessed. The Panel agrees that the derogation is necessary and this is discussed in chapter 5. NRW provided their advice on the derogation tests on the last day of the examination. The SoS may wish to satisfy himself on the application of the tests.
- 8.16.10 For the Ship Simulation study discussed in chapter 4, the applicant undertook to conduct a study with an agreed scope by the end of 2014 which was to be made available for the SoS. Through consultation with ABP, NRW, MCA and Trinity House the applicant agreed to implement any measures required as a result of the study. The SoS may wish to satisfy himself on the outcome of the study and the measures to be implemented, the arrangements for which are covered in Article 24 of the recommended DCO.
- 8.16.11 At the close of the examination the applicant had not yet submitted an application for a European Protected Species Licence. NRW have not advised the Panel of any reason why such a licence might not be forthcoming. Similarly a number of other consents were being sought by the applicant. The SoS may wish to satisfy himself of the position at the time of his decision.
- 8.16.12 The SoS published a consultation on decommissioning arrangements for Tidal Lagoons attached to land. The Panel has made amendments for the recommendation DCO which are consistent with the consultation guidance. The SoS may wish to satisfy himself that these amendments are consistent with any conclusion on the consultation.

8.17 RECOMMENDATION

- 8.17.1 The case for the development is set out in chapter 4 and summarised above. The Panel's conclusion is that the case for development is made in the form of the recommended Development Consent Order attached in Annex A. In reaching our recommendation, we have had full regard to the Local Impact Reports, the conclusion on biodiversity and matters which the SoS may consider to be important and relevant as set out in s105.
- 8.17.2 We have also taken into account all other matters raised and representations made during the examination. In considering these matters the Panel found no relevant matters of such importance that

they would individually or collectively lead us to a different recommendation to that set out above.

- 8.17.3 In relation to the request for compulsory acquisition powers within the order, the panel consider that, with the exception of plots 02055, 01135, 05035 and 04095 and land required for temporary possession and Crown Land, there is a compelling case in the public interest and that the request complies with s122(2) and s122(3). Consent for the inclusion of Crown Land has been received from the relevant authorities and the tests for land under s131(4) has been satisfied.
- 8.17.4 As identified throughout the report there were outstanding matters at the close of the examination. These matters have been weighed in the overall balance and are summarised above for the consideration of the SoS.

APPENDICES

Page intentionally left blank

APPENDIX A: RECOMMENDED DEVELOPMENT CONSENT ORDER

201[*] No.[***]**

INFRASTRUCTURE PLANNING

**The Tidal Lagoon Swansea Bay (Generating Station) Order
201[***]**

Made - - - - - ***

Coming into force - - - - - ***

CONTENTS

PART 1

Preliminary

1.	Citation and commencement	4
2.	Interpretation	4

PART 2

Principal powers

3.	Development consent etc. granted by the Order	7
4.	Maintenance of authorised development	7
5.	Operation of generating station, other uses and planning permission	7
6.	Benefit of the Order	8
7.	Guarantees in respect of payment of compensation	8
8.	Defence to proceedings in respect of statutory nuisance	9

PART 3

Streets

9.	Street works	10
10.	Temporary stopping up of streets	10
11.	Access to works	11
12.	Agreements with street authority	11

PART 4

Supplemental powers

13.	Discharge of water	11
14.	Protective work to buildings	12
15.	Authority to survey and investigate the land	13

PART 5

Tidal works

16.	Application of Marine and Coastal Access Act 2009	14
17.	Right to Dredge	14
18.	Tidal works not to be executed without approval of the Welsh Ministers	14
19.	Abatement of tidal works abandoned or destroyed	15
20.	Survey of tidal works	15
21.	Lights on tidal works etc. during construction	15
22.	Provision against danger to navigation	16
23.	Permanent lights on tidal works	16
24.	Safety of Navigation	16

PART 6

Powers of acquisition

25.	Compulsory acquisition of land	16
26.	Power to override easements and other rights	17
27.	Private rights of way	18
28.	Time limit for exercise of authority to acquire land compulsorily	18
29.	Compulsory acquisition of rights	19
30.	Application of the Compulsory Purchase (Vesting Declarations) Act 1981	19
31.	Acquisition of subsoil only	20
32.	Acquisition of part of certain properties	20
33.	Rights under or over streets	21
34.	Temporary use of land for carrying out the authorised development	22
35.	Temporary use of land for maintaining authorised development	23
36.	For the protection of the Coal Authority	24
37.	For the protection of riverine fisheries	24
38.	Special category land	24

PART 7

Miscellaneous and general

39.	Railway and navigation undertakings	24
40.	Application of landlord and tenant law	25
41.	Operational land for purposes of the 1990 Act	25
42.	Felling or lopping of trees	25
43.	Application of the Energy Act 2004 in relation to decommissioning	26
44.	Development consent obligation	26
45.	Development consent obligation - enforcement	26
46.	Ancient Monuments and Archaeological Areas Act 1979	26
47.	Licences relating to water, etc.	27
48.	Byelaws	27
49.	Procedure in relation to certain approvals etc.	28
50.	Certification of plans etc.	29
51.	Arbitration	29
52.	Planning, etc. jurisdiction	29
53.	Harbour jurisdiction	30

54.	Saving for Trinity House	30
55.	Protection of Interests	30
56.	Crown rights	30
57.	Provisions for effect of adaptive environmental management plan	31

SCHEDULES

SCHEDULE 1	— Authorised Development, Ancillary and Necessary Works, and Requirements	31
PART 1A	— Authorised Development	31
PART 1B	— Ancillary and necessary works	34
PART 2	— Dimensions of Structures	35
PART 3	— Requirements	35
SCHEDULE 2	— Streets Subject to Street Works	50
SCHEDULE 3	— Streets to be Temporarily Stopped Up	50
SCHEDULE 4	— Access to Works	50
SCHEDULE 5	— Protective Provisions	51
PART 1	— For the protection of Associated British Ports	51
PART 2	— For the protection of Neath Port Authority	55
PART 3	— For the protection of electricity protected persons	59
PART 4	— For the protection of electricity protected persons	66
PART 5	— For the protection of electricity protected persons	71
PART 6	— For the protection of gas protected persons	77
PART 7	— For the protection of electronic communications operators	84
PART 8	— For the protection of Dŵr Cymru Cyfyngedig	85
PART 9	— For the protection of the City and County of Swansea Council	90
SCHEDULE 6	— Land of which temporary possession may be taken	91
SCHEDULE 7	— Documents subject to certification	94
SCHEDULE 8	— Modification of compensation and compulsory purchase enactments for creation of new rights	97

The undertaker has applied to the Secretary of State for an order granting development consent in accordance with the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009^(a).

The application was examined by a Panel appointed as an examining authority by the Secretary of State under Chapter 4 of the Planning Act 2008 (the “Act”)^(b) and the Infrastructure Planning (Examination Procedure) Rules 2010.

The Panel, having considered the application together with the documents that accompanied it, and the representations made and not withdrawn, has, in accordance with section 74 of the 2008 Act made a report and recommendation to the Secretary of State.

The Secretary of State, having considered the report and recommendation of the Panel, is satisfied that open space comprised within the Order land, when burdened with the new rights authorised

^(a) S.I. 2009/2264 as amended by the Localism Act (Infrastructure Planning) (Consequential Amendments) Regulations 2012.
^(b) 2008 c. 29.

for compulsory acquisition under the terms of this Order, will be no less advantageous than it was before such acquisition, to the persons in whom it is vested, other persons, if any, entitled to rights of common or other rights, and the public and accordingly section 132(3) of the 2008 Act applies.

The Secretary of State, having considered the report and recommendation of the Panel, and decided the application, has determined to make an Order giving effect to the proposals comprised in the application with modifications which in his opinion do not make any substantial change to the proposals.

The Secretary of State in exercise of the powers conferred by sections 114, 115, 120, 122 and 123 of the 2008 Act makes the following Order—

PART 1

Preliminary

Citation and commencement

1. This Order may be cited as The Tidal Lagoon Swansea Bay (Generating Station) Order 201[*] and comes into force on [***] 201[*].

Interpretation

2.—(1) In this Order—

“the 1961 Act” means the Land Compensation Act 1961(a);

“the 1965 Act” means the Compulsory Purchase Act 1965(b);

“the 1980 Act” means the Highways Act 1980(c);

“the 1990 Act” means the Town and Country Planning Act 1990(d);

-
- (a) 1961 c. 33. Section 2(2) was amended by section 193 of, and paragraph 5 of Schedule 33 to, the Local Government Planning and Land Act 1990 (c.65). There are other amendments to the 1961 Act which are not relevant to this Order.
- (b) 1965 c. 56. Section 3 was amended by section 70 of, and paragraph 3 of Schedule 15 to, the Planning Compensation Act 1991 (c. 34). Section 4 was amended by section 3 of, and Part 1 of Schedule 1 to, the Housing (Consequential Provisions) Act 1985 (c. 71). Section 5 was amended by sections 67 and 80 of, and Part 2 of Schedule 18 to, the Planning and Compensation Act 1991 (c. 34). Subsection (1) of section 11 and sections 3, 31 and 32 were amended by section 34(1) of, and Schedule 4 to, the Acquisition of Land Act 1981 (c. 67) and by section 14 of, and paragraph 12(1) of Schedule 5 to, the Church of England (Miscellaneous Provisions) Measure 2006 (2006 No. 1). Section 12 was amended by section 56(2) of, and Part 1 to Schedule 9 to, the Courts Act 1971 (c. 23). Section 13 was amended by section 139 of the Tribunals Courts and Enforcement Act 2007 (c. 15). Section 20 was amended by section 70 of, and paragraph 14 of Schedule 15 to, the Planning and Compensation Act 1991 (c. 34). Sections 9, 25 and 29 were amended by the Statute Law (Repeals) Act 1973 (c.39). Section 31 was also amended by section 70 of, and paragraph 19 of Schedule 15 to, the Planning and Compensation Act 1991 (c. 34) and by section 14 of, and paragraph 12(2) of Schedule 5 to, the Church of England (Miscellaneous Provisions) Measure 2006 (2006 No. 1). There are other amendments to the 1965 Act which are not relevant to this Order.
- (c) 1980 c.66. Section 1(1) was amended by section 21(2) of the New Roads and Street Works Act 1991 (c. 22); sections 1(2), 1(3) and 1(4) were amended by section 8 of, and paragraph (1) of Schedule 4 to, the Local Government Act 1984 (c. 51); section 1(2A) was inserted, and section 1(3) was amended, by section 259(1), (2) and (3) of the Greater London Authority Act 1999 (c. 29); sections 1(3A) and 1(5) were inserted by section 22(1) of, and paragraph 1 of Schedule 7 to, the Local Government (Wales) Act 1994 (c. 19). Section 36(2) was amended by section 4(1) of, and paragraphs 47(a) and (b) of Schedule 2 to, the Housing (Consequential Provisions) Act 1985 (c. 71), by S.I. 2006/1177, by section 4 of, and paragraph 45(3) of Schedule 2 to, the Planning (Consequential Provisions) Act 1990 (c. 11), by section 64(1), (2) and (3) of the Transport and Works Act (c. 42) and by section 57 of, and paragraph 5 of Part 1 of Schedule 6 to, the Countryside and Rights of Way Act 2000 (c. 37); section 36(3A) was inserted by section 64(4) of the Transport and Works Act 1992 and was amended by S.I. 2006/1177; section 36(6) was amended by section 8 of, and paragraph 7 of Schedule 4 to, the Local Government Act 1985 (c. 51); and section 36(7) was inserted by section 22(1) of, and paragraph 4 of Schedule 7 to, the Local Government (Wales) Act 1994 (c. 19). Section 329 was amended by section 112(4) of, and Schedule 18 to, the Electricity Act 1989 (c. 29) and by section 190(3) of, and Part 1 of Schedule 27 to, the Water Act 1989 (c. 15). There are other amendments to the 1980 Act which are not relevant to this Order.
- (d) 1990 c. 8. Section 56(4) was amended by section 32 of, and paragraph 10(2) of Schedule 7 to, the Planning and Compensation Act 1991 (c. 34). Section 106 was substituted, and section 106A inserted, by section 12(1) of the Planning and Compensation Act 1991. Section 206(1) was amended by section 192(8) of, and paragraphs 7 and 11 of Schedule 8 to, the 2008 Act. Sections 272 to 274 and section 279 were amended by section 406(1) of, and paragraph 103 of Schedule 17

“the 1991 Act” means the New Roads and Street Works Act 1991(a);

“the 2004 Act” means the Energy Act 2004(b);

“the 2008 Act” means the Planning Act 2008(c);

“the 2009 Act” means the Marine and Coastal Access Act 2009(d);

“AB Ports” means Associated British Ports (Company Reference Number ZC00195) whose registered office is at Aldwych House, 71-91 Aldwych, London WC2B4HN being the harbour authority for the Ports of Swansea and Port Talbot;

“access and public rights of way plans” mean the plans certified by the Secretary of State as the access and public rights of way plans for the purposes of this Order;

“authorised development” means the works described in Part 1A Part 1B and Part 2 of Schedule 1 authorised by this Order,;

“book of reference” means the book of reference certified by the Secretary of State as the book of reference for the purposes of this Order;

“building” includes any structure or erection or any part of a building, structure or erection;

“carriageway” has the same meaning as in the 1980 Act;

“commence” means beginning to carry out any material operation (as defined in Section 56(4) of the 1990 Act) forming part of the authorised development other than operations consisting of site clearance, demolition work, investigations for the purpose of assessing ground conditions, diversion and laying of services, erection of any temporary means of enclosure, the temporary display of site notices or advertisements and “commencement” is to be construed accordingly;

“compulsory acquisition notice” means a notice served in accordance with section 134 of the 2008 Act;

“demolition plan” means the plans bearing reference 3513/Order/401, 402.1, 402.2 and 402.3 certified as the demolition plan by the Secretary of State for the purposes of this Order;

“design and access statement” means the document with that title submitted with the application for the Order and certified as the design and access statement by the Secretary of State for the purposes of this Order;

“environmental statement” means the environmental statement submitted with the application for the Order and certified as the environmental statement by the Secretary of State for the purposes of this Order;

“harbour authority” in relation to a harbour means the harbour authority which has a statutory duty to manage, maintain or improve the harbour;

“highway” and “highway authority” have the same meaning as in the 1980 Act;

“land plans” means the plans certified as the land plans by the Secretary of State for the purposes of this Order;

“local planning authority” has the same meaning as in the 1990 Act;

“limits of deviation” means the limits of deviation for the scheduled works comprised in the authorised development shown on the works plans;

“maintain” includes maintain, inspect, repair, refurbish, replace, adjust, alter, and further includes (in respect of any constituent part of any work but not the whole of any work)

to, the Communications Act (c. 21), and section 280 was amended by section 406(1) of, and paragraph 104 of Schedule 17 to, that Act. Sections 272 to 274 were also amended by S.I. 2011/741 and S.I. 2012/2590. Section 282 was amended by S.I. 2009/1307. There are other amendments to the 1990 Act which are not relevant to this Order.

- (a) 1991 c. 22. Section 48(3A) was inserted by section 124 of the Local Transport Act 2008 (c. 26). Part 3 of the 1991 Act was amended by Part 4 of the Traffic Management Act 2004 (c. 18). Section 74 was amended, and sections 74A and 74B inserted, by sections 255 and 256 of the Transport Act 2000 (c. 38). There are other amendments to the 1991 Act but they are not relevant to this Order.
- (b) 2004 c. 20.
- (c) 2008 c. 29.
- (d) 2009 c. 23.

remove, clear, refurbish, reconstruct, decommission, demolish, replace and improve any part of the authorised development, but is not to include any activity other than that authorised by or pursuant to this Order and which would be EIA development as defined in the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009(a), and “maintenance” is to be construed accordingly;

“offshore building” means a building centred on grid reference 266218E; 189338N ;

“Order land” means the land identified by plot numbers on the land plans which is within the Order limits and described in the book of reference;

“Order limits” means the limits shown on the land and works plans within which the authorised development may be carried out;

“owner”, in relation to land, has the same meaning as in section 7 of the Acquisition of Land Act 1981(b);

“planning drawings” means the drawings certified by the Secretary of State as the planning drawings for the purposes of this Order set out in Schedule 7;

“relevant planning authority” means the City and County of Swansea Council in relation to land for which it is the planning authority for the time being under the 1990 Act and Neath Port Talbot County Borough Council in relation to land for which it is the planning authority for the time being under the 1990 Act , and “relevant planning authorities” means both of them severally;

“requirements” means those matters set out in Part 3 of Schedule 1 (requirements) to this Order;

“scheduled works” means the works specified in part 1A and part 1B of Schedule 1 to this Order;

“sections” means works plans 2.2.11A to 2.2.16A (the Marine Works Seawall Sections) ;

“seaward boundary line plan” means the plan showing the seaward boundary line approved in accordance with the requirements;

“statutory undertaker” means any person falling within section 127(8) of the 2008 Act;

“street” means a street within the meaning of section 48 of the 1991 Act, together with land on the verge of a street or between two carriageways, and includes part of a street;

“street authority”, in relation to a street, has the same meaning as in Part 3 of the 1991 Act;

“Tidal Lagoon (Swansea Bay) plc” means Tidal Lagoon (Swansea Bay) plc (Company Registration Number 08141301) whose registered office is at Suite 6 J Shed, Kings Road, Swansea SA1 8PL;

“tidal work” means so much of any work authorised by this Order as is on, under or over tidal waters or tidal lands below the level of high water;

“the tribunal” means the Lands Chamber of the Upper Tribunal;

“Trinity House” means the Corporation of Trinity House of Deptford Strond;

“undertaker” means Tidal Lagoon (Swansea Bay) plc, or any other person who has the benefit of this Order under Article 6 or in accordance with section 156 of the 2008 Act for such time as that section applies to that person;

“watercourse” includes all rivers, streams, ditches, drains, canals, cuts, culverts, dykes, sluices, sewers and passages through which water flows except a public sewer or drain; and

“the works plans” means the plans certified as the works plans by the Secretary of State for the purposes of this Order.

(2) References in this Order to rights over land include references to rights to do or to place and maintain, anything in, on or under land or in the air-space above its surface.

(a) S.I. 2009 No. 2263.

(b) 1981 c. 67. Section 7 was amended by section 70 of, and paragraph 9 of Schedule 15 to, the Planning and Compensation Act 1991 (c. 34). There are other amendments to the 1981 Act which are not relevant to this Order.

(3) All points, distances, areas, directions and lengths referred to in this Order are approximate and distances between points on a work comprised in the authorised development are to be taken to be measured along that work.

(4) Reference points specified in this Order are to be construed as references to Ordnance Survey National Grid reference points.

(5) In this Order the expression “includes” shall be construed without limitation.

PART 2

Principal powers

Development consent etc. granted by the Order

3.—(1) Subject to the provisions of this Order and to the requirements the undertaker is granted development consent for the authorised development to be carried out within the Order limits.

(2) The development authorised by this Order must be constructed in the lines or situations shown on the works plans, subject to the provisions of the requirements,.

(3) The authorised development must be constructed within the Order limits and, in respect of limits of deviation applicable to specific works as shown on the Works plans, within those limits of deviation.

(4) In constructing or maintaining the scheduled works, the undertaker may—

- (a) deviate laterally from the lines or situations shown on the works plans within the limits of deviation and subject to the maximum dimensions stated in Part 2 of Schedule 1; and
- (b) deviate vertically from the levels shown on the sections to any extent downwards as may be found necessary or convenient

(5) In the case of conflict between the works plans or the plans or drawings listed in Schedule 7 and the works as described in Parts 1A and 1B or the maximum dimensions stated in Part 2 of Schedule 1, the description of the works in Schedule 1 shall prevail and the maximum dimensions shall not exceed those stated in Part 2 of Schedule 1.

Maintenance of authorised development

4.—(1) Subject to the other terms of this Order, including the requirements, the undertaker may at any time maintain the authorised development, except to the extent that this Order, or any scheme or agreement made under this Order, provides otherwise.

(2) This article only authorises the carrying out of maintenance of works within the Order limits.

Operation of generating station, other uses and planning permission

5.—(1) The undertaker is authorised to operate the generating station comprised in the authorised development.

(2) This article does not relieve the undertaker of any requirement to obtain any permit or licence under any other legislation that may be required to authorise the operation of a generating station.

(3) If planning permission is issued pursuant to the 1990 Act for development any part of which is within the Order limits following the publication of this Order that is—

- (a) not itself a nationally significant infrastructure project under the 2008 Act or part of such a project; or
- (b) required to complete or enable the use or operation of any part of the generating station authorised by this Order,

then the carrying out, use or operation of such development pursuant to the terms of that planning permission does not constitute a breach of the terms of this Order.

(4) Save as expressly provided in the requirements nothing in this Order shall prevent the use of the authorised development for cultural or sporting purposes.

Benefit of the Order

6.—(1) Subject to paragraph (2) the provisions of articles 9 to 11, 13 to 38 and 48 have effect only for the benefit of the undertaker and a person who is a transferee or lessee as defined in this article.

(2) The undertaker may, with the consent of the Secretary of State—

- (a) transfer to another person (the “transferee”) any or all of the benefit of the provisions of this Order and such related statutory rights as may be agreed between the undertaker and the transferee; or
- (b) grant to another person (the “lessee”) for a period agreed between the undertaker and the lessee any or all of the benefit of the provisions of this Order and such related statutory rights as may be agreed between the undertaker and the lessee.

(3) Where a transfer or grant has been made in accordance with paragraph (2), references in this Order to the undertaker, except in paragraph (4), include references to the transferee or lessee.

(4) The exercise by a person of any benefits or rights conferred in accordance with any transfer or grant under paragraph (2) shall be subject to the same restrictions, liabilities and obligations as would apply under this Order if those benefits or rights were exercised by the undertaker.

Guarantees in respect of payment of compensation

7.—(1) The authorised development must not be commenced and the undertaker must not begin to exercise the powers of articles 25 to 39 of this Order unless sufficient security (being £10.5 million subject to the provisions of paragraph (5) of this article) has been provided in respect of the liabilities of the undertaker to pay compensation under this Order, which has been approved in writing by the City and County of Swansea Council.

(2) The security referred to in paragraph (1) of this article may include without limitation any or a combination of—

- (a) deposit of a cash sum;
- (b) payment into court;
- (c) an escrow account;
- (d) a bond provided by a financial institution;
- (e) an insurance policy; and/or
- (f) a guarantee by a person of sufficient financial standing not being the undertaker.

(3) The authorised development must not be commenced until the undertaker has provided to the City and County of Swansea Council written evidence (which may comprise a written certificate or certificates given by a professional firm or firms) of—

- (a) the construction contracts in respect of Works No. 1a, 1b and 2a and a contract for the procurement of hydro turbines for installation in Work No. 2a; and
- (b) financial provision to secure the delivery of the works and procurement referred to in paragraph (a),

and the City and County of Swansea Council has provided its written confirmation that it is satisfied as to the sufficiency of such financial provision.

(4) The City and County of Swansea Council is to have no liability to pay compensation for compulsory acquisition of land or otherwise under this provision or any other provision of this Order.

(5) The City and County of Swansea Council may agree the substitution of a different sum to that of £10.5 million referred to in paragraph (1) having regard to the liability of the undertaker to pay compensation pertaining at the time of the approval under this article.

(6) The undertaker is to be liable to the City and County of Swansea Council for the reasonable and proper costs, charges and expenses that the City and County of Swansea Council reasonably may incur or have to pay or which it may sustain in the procurement of legal and/or financial advice in respect of the giving of the statement of satisfaction under paragraph (3) of this article.

Defence to proceedings in respect of statutory nuisance

8.—(1) Where proceedings are brought under section 82(1) of the Environmental Protection Act 1990^(a) (summary proceedings by person aggrieved by statutory nuisance) in relation to a nuisance falling within paragraphs (d), (e), (fb), (g), (ga) and (h) of section 79(1) of that Act no order is to be made, and no fine is to be imposed, under section 82(2) of that Act if—

- (a) the defendant shows that the nuisance—
 - (i) relates to premises used by the undertaker for the purposes of or in connection with the construction or maintenance of the authorised development and that the nuisance is attributable to the carrying out of the authorised development in accordance with a notice served under section 60 (control of noise on construction site), or a consent given under section 61 (prior consent for work on construction site) of the Control of Pollution Act 1974^(b); or
 - (ii) is a consequence of the construction or maintenance of the authorised development and that it cannot reasonably be avoided; or
- (b) the defendant shows that the nuisance—
 - (i) relates to premises used by the undertaker for the purposes of or in connection with the use of the authorised development and that the nuisance is attributable to the use of the authorised development which is being used in accordance with a scheme of monitoring and attenuation of noise agreed with the relevant planning authority as described in requirement 18 of Part 3 of Schedule 1; or
 - (ii) is a consequence of the use of the authorised development and that it cannot reasonably be avoided.

(2) Section 61(9) (consent for work on construction site to include statement that it does not of itself constitute a defence to proceedings under section 82 of the Environmental Protection Act 1990) of the Control of Pollution Act 1974, shall not apply where the consent relates to the use of premises by the undertaker for the purposes of or in connection with the construction or maintenance of the authorised development.

^(a) 1990 c. 43. There are amendments to this Act which are not relevant to this Order.

^(b) 1974 c. 40. Sections 61(9) and 65(8) were amended by section 162 of, and paragraph 15 of Schedule 3 to, the Environmental Protection Act 1990 (c. 25). There are other amendments to the 1974 Act which are not relevant to this Order.

PART 3

Streets

Street works

9.—(1) The undertaker may, for the purposes of the authorised development, enter on so much of any of the streets specified in Schedule 2 (streets subject to street works) as is within the Order limits between the numbered and lettered points shown on the access and public rights of way plans and may—

- (a) break up or open the street, or any sewer, drain or tunnel under it;
- (b) tunnel or bore under the street;
- (c) place apparatus in the street;
- (d) maintain apparatus in the street or change its position; and
- (e) execute any works required for or incidental to any works referred to in sub-paragraphs (a), (b), (c) and (d).

(2) The authority given by paragraph (1) is a statutory right for the purposes of sections 48(3) (streets, street works and undertakers) and 51(1) (prohibition of unauthorised street works) of the 1991 Act.

(3) The provisions of sections 54 to 106 of the 1991 Act apply to any street works carried out under paragraph (1).

(4) Nothing in this article authorises the breaking up or opening of the carriageway of the A483 Fabian Way without the prior written approval of the local highway authority.

(5) In this article “apparatus” has the same meaning as in Part 3 of the 1991 Act.

Temporary stopping up of streets

10.—(1) Subject to sub-paragraph (4) the undertaker, during and for the purposes of carrying out the authorised development, may temporarily stop up, alter or divert any street and may for any reasonable time—

- (a) divert the traffic from the street; and
- (b) subject to paragraph (2), prevent all persons from passing along the street.

(2) The undertaker must provide reasonable access for pedestrians and vehicular traffic going to or from premises abutting or served by a street affected by the temporary stopping up, alteration or diversion of a street under this article if there would otherwise be no such access.

(3) Without prejudice to the generality of paragraph (1), the undertaker may temporarily stop up, alter or divert the streets specified in columns (1) and (2) of Schedule 3 (streets to be temporarily stopped up) to the extent specified by reference to the letters and numbers shown on the access and public rights of way plans in column (3) of that Schedule.

(4) The undertaker must not temporarily stop up, alter or divert—

- (a) the streets specified as mentioned in paragraph (3) without first consulting the local highway authority; and
- (b) any other street without the consent of the local highway authority which may attach reasonable conditions to any consent including as to notice to be given.

(5) Any person who suffers loss by the suspension of any private rights of way under this article is entitled to compensation to be determined, in case of dispute, under Part 1 of the 1961 Act.

(6) Nothing in this article authorises the stopping up of the carriageway of the A483 Fabian Way without the prior written approval of the highway authorities responsible for the maintenance and control of that highway.

Access to works

11. The undertaker may, for the purposes of carrying out the authorised development—

- (a) form and lay out means of access, or improve existing means of access, in the location specified in columns (1) and (2) of Schedule 4 (access to works); and
- (b) with the approval of the relevant planning authority after consultation with the 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.

Agreements with street authority

12.—(1) A street authority and the undertaker may enter into agreements with respect to—

- (a) any stopping up, alterations or diversion of a street authorised by this Order; or
- (b) the carrying out in the street of any of the works referred to in article 9(1) (street works).

(2) Such an agreement may, without prejudice to the generality of paragraph (1)—

- (a) make provision for the street authority to carry out any function under this Order which relates to the street in question;
- (b) include an agreement between the undertaker and street authority specifying a reasonable time for the completion of the works; and
- (c) contain such terms as to payment and otherwise as the parties consider appropriate.

PART 4

Supplemental powers

Discharge of water

13.—(1) Subject to requirement 5, requirement 6 and to requirement 11 of Part 3 of Schedule 1, the undertaker may use any watercourse or any public sewer or drain for the drainage of water in connection with the carrying out, operation or maintenance of the authorised development and for that purpose may lay down, take up and alter pipes and may, on any land within the Order limits, make openings into, and connections with, the watercourse, public sewer or drain.

(2) Any dispute arising from the making of connections to or the use of a public sewer or drain by the undertaker pursuant to paragraph (1) is to be determined as if it were a dispute under section 106 of the Water Industry Act 1991^(a) (right to communicate with public sewers).

(3) The undertaker must not discharge any water into any watercourse, public sewer or drain except with the consent of the person to whom it belongs and the relevant drainage body; and such consent may be given subject to such terms and conditions as that person may reasonably impose, but must not be unreasonably withheld.

(4) The undertaker must not make any opening into any public sewer or drain except—

(a) 1991 c. 56. Section 106 was amended by sections 36(2) and 99 of the Water Act 2003 (c. 37). There are other amendments to this section which are not relevant to this Order.

- (a) in accordance with plans approved by the person to whom the sewer or drain belongs, but such approval shall not be unreasonably withheld; and
- (b) where that person has been given the opportunity to supervise the making of the opening.

(5) The undertaker must not, in carrying out or maintaining works pursuant to this article, damage or interfere with the bed or banks of any watercourse.

(6) The undertaker must take such steps as are reasonably practicable to secure that any water discharged into a watercourse or public sewer or drain pursuant to this article is as free as may be practicable from gravel, soil or other solid substance, oil or matter in suspension.

(7) This article does not authorise any groundwater activity or water discharge activity within the meaning of Regulation 12(1)(b) and Schedule 21 of the Environmental Permitting (England and Wales) Regulations 2010^(a) (water discharge activities).

(8) In this article—

- (a) “public sewer or drain” means a sewer or drain which belongs to Natural Resources Wales, an internal drainage board, a local authority or a sewerage undertaker; and
- (b) other expressions, excluding watercourse, used both in this article and in the Water Resources Act 1991^(b) have the same meaning as in that Act.

Protective work to buildings

14.—(1) Subject to the following provisions of this article, the undertaker may at its own expense carry out such protective works to any building lying within the Order limits as the undertaker considers necessary or expedient.

(2) Protective works may be carried out—

- (a) at any time before or during the carrying out in the vicinity of the building of any part of the authorised development; or
- (b) after the completion of that part of the authorised development in the vicinity of the building at any time up to the end of the period of 5 years beginning with the day on which that part of the authorised development is first opened for use.

(3) For the purpose of determining how the functions under this article are to be exercised the undertaker may enter and survey any building falling within paragraph (1) and any land within its curtilage.

(4) For the purposes of carrying out protective works under this article to a building the undertaker may (subject to paragraphs (5) and (6))—

- (a) enter the building and any land within its curtilage; and
- (b) where the works cannot be carried out reasonably conveniently without entering land which is adjacent to the building but outside its curtilage, enter the adjacent land (but not any building erected on it).

(5) Before exercising—

- (a) a right under paragraph (1) to carry out protective works to a building;
- (b) a right under paragraph (3) to enter a building and land within its curtilage;
- (c) a right under paragraph (4)(a) to enter a building and land within its curtilage; or
- (d) a right under paragraph (4)(b) to enter land,

the undertaker must, except in the case of emergency, serve on the owners and occupiers of the building or land not less than 14 days’ notice of its intention to exercise that right and, in a case falling within sub-paragraph (a) or (c), specifying the protective works proposed to be carried out.

^(a) S.I. 2010/675.

^(b) 1991 c. 57. Amended by sections 100(1) and 120(1) of, paragraph 128 of Schedule 22 to, and Schedule 24 to the Environment Act 1995 (c. 25).

(6) Where a notice is served under paragraph (5)(a), (5)(c) or (5)(d) the owner or occupier of the building or land concerned may, by serving a counter-notice within the period of 10 days beginning with the day on which the notice was served, require the question whether it is necessary or expedient to carry out the protective works or to enter the building or land to be referred to arbitration under article 51 (arbitration).

(7) The undertaker must compensate the owners and occupiers of any building or land in relation to which rights under this article have been exercised for any loss or damage arising to them by reason of the exercise of those rights.

(8) Where—

- (a) protective works are carried out under this article to a building; and
- (b) within the period of 5 years beginning with the day on which the part of the authorised development carried out in the vicinity of the building is first opened for use it appears that the protective works are inadequate to protect the building against damage caused by the carrying out or use of that part of the authorised development,

the undertaker shall compensate the owners and occupiers of the building for any loss or damage sustained by them.

(9) Nothing in this article relieves the undertaker from any liability to pay compensation under section 10(2) of the 1965 Act (compensation for injurious affection).

(10) Any compensation payable under paragraph (7) or (8) is to be determined, in case of dispute, under Part 1 of the 1961 Act (determination of questions of disputed compensation).

(11) In this article “protective works” in relation to a building means—

- (a) underpinning, strengthening and any other works the purpose of which is to prevent damage which may be caused to the building by the carrying out, maintenance or use of the authorised development; and
- (b) any works the purpose of which is to remedy any damage which has been caused to the building by the carrying out, maintenance or use of the authorised development.

Authority to survey and investigate the land

15.—(1) The undertaker may for the purposes of this Order enter on any land shown within the Order limits or which may be affected by the authorised development and—

- (a) survey or investigate the land;
- (b) without prejudice to the generality of sub-paragraph (a), make trial holes in such positions on the land as the undertaker thinks fit to investigate the nature of the surface layer and subsoil and remove soil samples;
- (c) without prejudice to the generality of sub-paragraph (a), carry out ecological or archaeological investigations on such land; and
- (d) place on, leave on and remove from the land apparatus for use in connection with the survey and investigation of land and making of trial holes.

(2) No land may be entered or equipment placed or left on or removed from the land under paragraph (1) unless at least 14 days’ notice has been served on every owner and occupier of the land.

(3) Any person entering land under this article on behalf of the undertaker—

- (a) must, if so required on entering the land, produce written evidence of their authority to do so; and
- (b) may take with them such vehicles and equipment as are necessary to carry out the survey or investigation or to make the trial holes.

(4) No trial holes are to be made under this article—

- (a) in land located within the highway boundary without the consent of the highway authority; or
- (b) in a private street without the consent of the street authority,

but such consent must not be unreasonably withheld.

(5) The undertaker must compensate the owners and occupiers of the land for any loss or damage arising by reason of the exercise of the authority conferred by this article, such compensation to be determined, in case of dispute, under Part 1 (determination of questions of disputed compensation) of the 1961 Act.

PART 5

Tidal works

Application of Marine and Coastal Access Act 2009

16.—(1) The provisions of articles 17 to 20 of this Order are subject to the provisions of Part 4 of the 2009 Act and any licence granted pursuant to that part and are without prejudice to the powers of the Welsh Ministers under that part.

(2) No provision of this Order obviates the need to obtain a marine licence under Part 4 of the 2009 Act or to comply with the conditions of any marine licence.

Right to Dredge

17.—(1) The undertaker may, for the purposes of constructing, operating and maintaining the authorised development, from time to time deepen, dredge, scour, cleanse, alter and improve so much of the bed, shores and channels of the land within the Order limits as adjoin or are near to the authorised development and may use, appropriate or dispose of the materials (other than wreck within the meaning of Part 9 of the Merchant Shipping Act 1995) from time to time dredged by it.

(2) No such materials are to be laid down or deposited in contravention of the provisions of any enactment as respects the disposal of waste or dredged arisings.

(3) The undertaker must consult with AB Ports before exercising the rights conferred on it by this article.

(4) This provision does not confer any power upon the undertaker to deposit dredged arisings in any place and is subject always to the provisions of article 16 of this Order.

Tidal works not to be executed without approval of the Welsh Ministers

18.—(1) Unless its construction has commenced within 5 years of the coming into effect of this Order, no tidal work is to be constructed, reconstructed, extended, enlarged, replaced or relaid except in accordance with plans and sections approved by the Welsh Ministers and subject to any conditions and restrictions imposed by the Welsh Ministers before that work is begun.

(2) Any request for the approval of the Welsh Ministers under paragraph (1) shall be accompanied by written evidence to demonstrate to the satisfaction of the Welsh Ministers that Schedule 5 (protective provisions) have been complied with as respects the tidal work for which approval is being requested.

(3) If a tidal work is constructed, reconstructed, extended, enlarged, replaced or relaid in contravention of paragraph (1) or of any condition imposed under that paragraph—

- (a) the Welsh Ministers may by notice in writing require the undertaker at its own expense to remove the tidal work or any part of it and restore the site to its former condition; and, if on the expiration of 30 days beginning with the date when the notice is served on the undertaker, it has failed to take reasonable steps to comply with the requirements of the

notice, the Welsh Ministers may take whatever steps the Secretary of State considers appropriate to achieve the result required by the notice; or

- (b) if it appears to the Welsh Ministers urgently necessary to do so, the Welsh Ministers may remove the tidal work, or part of it, and restore the site to its former condition,

and any expenditure incurred by the Welsh Ministers in doing so is to be recoverable from the undertaker.

(4) This article shall not have effect so far as a marine licence under Part 4 of the 2009 Act licences the construction, reconstruction, extension, enlargement, replacement or relaying of the tidal work.

Abatement of tidal works abandoned or destroyed

19.—(1) Where a tidal work is abandoned, or suffered to fall into decay, the Welsh Ministers may by notice in writing require the undertaker at its own expense either to repair and restore that work or any part, or to remove that work and restore the site to its proper condition, to such an extent and within such limits as the Welsh Ministers think proper.

(2) Where a work consisting partly of a tidal work and partly of works on or over the land above the level of high water is abandoned or suffered to fall into decay and that part of the work on or over land above the level of high water is in such condition as to interfere or to cause reasonable apprehension that it may interfere with the right of navigation or other public rights over the foreshore, the Welsh Ministers may include that part of the work, or any portion of it, in any notice under this article.

(3) If the undertaker fails to comply in any respect with a notice served under this article within the period of 30 days beginning with the date of service of the notice, the Welsh Ministers may take whatever steps the Welsh Ministers consider appropriate to achieve the result required by the notice; and any expenditure incurred by the Welsh Ministers is to be recoverable from the undertaker.

Survey of tidal works

20.—(1) If the Welsh Ministers or the harbour authority for the Ports of Swansea or Neath consider it expedient to do so, the Welsh Ministers may order or the harbour authority for the Ports of Swansea or Neath may undertake a survey and examination of a tidal work or of the site on which it is proposed to construct the work, and any expenditure incurred by the Welsh Ministers or the harbour authority for the Ports of Swansea or Neath in any such survey and examination is to be recoverable from the undertaker.

(2) Where either party referred to in paragraph (1) of this article proposes to make any such survey it is to do so in compliance with such reasonable stipulations relating to health, safety, security and/or confidentiality as the undertaker may impose.

Lights on tidal works etc. during construction

21. The undertaker must at or near—

- (a) a tidal work, including any temporary work; or
- (b) any plant equipment or other obstruction placed in connection with the authorised development within the area of seaward construction activity,

during the whole time of construction, reconstruction, extension, enlargement, replacement or relaying, exhibit every night from sunset to sunrise and in periods of restricted visibility such lights, if any, and take such other steps for the prevention of danger to navigation as the Welsh Ministers and the harbour authorities for the Ports of Swansea or Neath may from time to time direct.

Provision against danger to navigation

22. In case of damage to, or destruction or decay of, a tidal work or any part of it, the undertaker must as soon as reasonably practicable notify Trinity House and the harbour authorities of the Ports of Swansea or Neath and must lay down such buoys, exhibit such lights and take such other steps for preventing danger to navigation as Trinity House or the harbour authorities for the Ports of Swansea or Neath within their areas may from time to time direct.

Permanent lights on tidal works

23. After the completion of a tidal work the undertaker must at the outer extremity of it exhibit every night from sunset to sunrise and in periods of restricted visibility such lights, if any, and must take such steps, if any, for the prevention of danger to navigation as Trinity House and/or the harbour authority for the Ports of Swansea or Neath within their areas may from time to time direct.

Safety of Navigation

24.—(1) No marine works comprised in the authorised development are to be commenced until a scheme to secure safety of navigation has been submitted to and approved in writing by the harbour authority for the Port of Swansea in consultation with Trinity House, the Maritime and Coastguard Agency, the harbour authority for the Port of Neath and the City and County of Swansea Council.

(2) The approved scheme must make provision for—

- (a) promulgation of notice to mariners;
- (b) additional aids to navigation;
- (c) retention of safety vessels during construction;
- (d) installation of protective dolphin piles comprised in Work No. 2c;
- (e) the relocation of any pilot station affected by the authorised development;
- (f) reasonable marine access to be maintained into and out of the rivers Neath and Tawe including for small craft at high tides;
- (g) circumstances where HM Coastguard should be notified of any matter; and
- (h) an emergency response and co-operation plan.

(3) The authorised development is to be carried out in accordance with the approved scheme from time to time in force unless the harbour authority for the Port of Swansea agrees otherwise.

PART 6

Powers of acquisition

Compulsory acquisition of land

25.—(1) The undertaker may acquire compulsorily so much of the Order land as is required for the authorised development or to facilitate it, or is incidental to it excluding plot numbers 02055, 04095, 05035, and 01135.

(2) As from the date on which a compulsory acquisition notice under section 134(3) of the 2008 Act is served or the date on which the Order land, or any part of it, is vested in the undertaker, whichever is the later, that land or that part of it which is vested (as the case may be) is to be discharged from all rights, trusts and incidents to which it was previously subject.

(3) Any person who suffers loss by the extinguishment of any private right under this article is entitled to compensation to be determined, in case of dispute, under Part 1 of the 1961 Act.

(4) This article is subject to article 27 (private rights of way), article 29 (compulsory acquisition of rights), article 34 (temporary use of land for carrying out the authorised development) and article 35 (temporary use of land for maintaining authorised development).

(5) This article is subject to article 31 (acquisition of subsoil only), article 33 (rights under or over streets) and article 56 (Crown rights).

Power to override easements and other rights

26.—(1) Any authorised activity which takes place on land or which is a tidal work within the Order limits (whether the activity is undertaken by the undertaker, by its successor pursuant to a transfer or lease under article 6 (benefit of the Order) of this Order, by any person deriving title under them or by any of their servants or agents) can be undertaken, notwithstanding that it involves—

- (a) an interference with an interest or right to which this article applies; or
- (b) a breach of a restriction as to the user of land arising by virtue of a contract.

(2) In this article “authorised activity” means—

- (a) the erection, construction or carrying out, or maintenance of any building or work on land or over, in or under tidal waters or tidal lands;
- (b) the erection, construction, or maintenance or anything in, on, over or under land or over, in or under tidal waters or tidal lands; or
- (c) the use of any land and/or tidal waters and/or tidal lands,

which is authorised under any other provision of this Order and done in accordance with its terms.

(3) The interests and rights to which this article applies are any easement, liberty, privilege, right or advantage annexed to land and adversely affecting other land, including any natural right to support (and include restrictions as to the user of land arising by the virtue of a contract having that effect).

(4) Where any interest or right to which this article applies is interfered with or any restriction breached by any authorised activity in accordance with the terms of this article the interest or right is abrogated or discharged at the time that the interference or breach in respect of the authorised activity in question commences but only to the extent required for or necessary or incidental to the authorised development.

(5) In respect of any interference, breach, abrogation or discharge in pursuance of this article, compensation shall be payable under section 152 of the 2008 Act (compensation in case where no right to claim in nuisance), to be determined in case of dispute under Part 1 of the 1961 Act.

(6) Nothing in this article shall be construed as authorising any act or omission on the part of any person which is actionable at the suit of any person on any grounds other than such an interference or breach as is mentioned in paragraph (1) of this article.

(7) This article shall not apply—

- (a) in respect of any agreement, restriction, obligation or other provision contained in a deed made pursuant to section 106 of the 1990 Act, or section 278 of the 1980 Act; or
- (b) where any agreement expressly excludes its application.

(8) This article does not apply in relation to any right to which section 138 of the 2008 Act (extinguishment of rights, and removal of apparatus, of statutory undertakers) applies .

Private rights of way

27.—(1) Subject to the provisions of this article, all private rights of way over land subject to compulsory acquisition under this Order are extinguished—

- (a) as from the date of acquisition of the land by the undertaker, whether compulsorily or by agreement; or
- (b) on the date of entry on the land by the undertaker under section 11(1) of the 1965 Act (power of entry),

whichever is the earlier, but only to the extent required for or necessary or incidental to the authorised development.

(2) Subject to the provisions of this article, all private rights of way over land owned by the undertaker which, being within the limits of land which may be acquired shown on the land plans, is required for the purposes of this Order are extinguished on the appropriation of the land by the undertaker for any of those purposes.

(3) Subject to the provisions of this article, all private rights of way over land of which the undertaker takes temporary possession under this Order are suspended and unenforceable for as long as the undertaker remains in lawful possession of the land.

(4) Any person who suffers loss by the extinguishment or suspension of any private right of way under this article shall be entitled to compensation to be determined, in case of dispute, under Part 1 of the 1961 Act.

(5) This article does not apply in relation to any right of way to which section 138 of the 2008 Act (extinguishment of rights, and removal of apparatus, of statutory undertakers etc.) applies.

(6) Paragraphs (1) to (3) have effect subject to—

- (a) any notice given by the undertaker before—
 - (i) the completion of the acquisition of the land;
 - (ii) the undertaker's appropriation of it;
 - (iii) the undertaker's entry onto it; or
 - (iv) the undertaker taking temporary possession of it,

that any or all of those paragraphs shall not apply to any right of way specified in the notice; and

- (b) any agreement made at any time between the undertaker and the person in or to whom the right of way in question is vested or belongs.

(7) If any such agreement as is referred to in paragraph (6)(b)—

- (a) is made with a person in or to whom the right of way is vested or belongs; and
- (b) is expressed to have effect also for the benefit of those deriving title from or under that person,

it shall be effective in respect of the persons so deriving title, whether the title was derived before or after the making of the agreement.

Time limit for exercise of authority to acquire land compulsorily

28.—(1) After the end of the period of 5 years beginning on the day on which this Order comes into effect—

- (a) no notice to treat is to be served under Part 1 of the 1965 Act; and

- (b) no declarations are to be executed under section 4 of the Compulsory Purchase (Vesting Declarations) Act 1981 as applied by article 30 (application of the Compulsory Purchase (Vesting Declarations) Act 1981)(a).

(2) The authority conferred by article 34 (temporary use of land for carrying out the authorised development) ceases at the end of the period referred to in paragraph (1), save that nothing in this paragraph prevents the undertaker remaining in possession of land after the end of that period, if the land was entered and possession was taken before the end of that period.

Compulsory acquisition of rights

29.—(1) The undertaker may acquire compulsorily the existing rights and create and acquire compulsorily the new rights described in the book of reference and shown on the land plans excluding those rights described as temporary rights in the book of reference.

(2) As from the date on which a compulsory acquisition notice is served or the date on which a new right is vested in the undertaker, whichever is the later, the land over which any new rights is acquired is discharged from all rights trusts and incidents to which it was previously subject so far as their continuance would be inconsistent with the exercise of that new right.

(3) Subject to section 8 of the 1965 Act as substituted by article 32 (acquisition of part of certain properties), where the undertaker acquires an existing right over land under paragraph (1), the undertaker is not required to acquire a greater interest in that land.

(4) Any person who suffers loss as a result of the extinguishment of any private right under this article shall be entitled to compensation to be determined, in case of dispute, under Part 1 of the 1961 Act.

(5) Schedule 8 (modification of compensation and compulsory purchase enactments for creation of new rights) has effect for the purpose of modifying the enactments referred to in that Schedule in their application in relation to the compulsory acquisition under this Order of a right over land by the creation of a new right.

Application of the Compulsory Purchase (Vesting Declarations) Act 1981

30.—(1) The Compulsory Purchase (Vesting Declarations) Act 1981(b) applies as if this Order were a compulsory purchase order.

(2) The Compulsory Purchase (Vesting Declarations) Act 1981, as so applied, has effect with the following modifications.

(3) In section 3 (preliminary notices), for subsection (1) substitute—

“(1) Before making a declaration under section 4 with respect of any land which is subject to a compulsory purchase order, the acquiring authority shall include the particulars specified in subsection (3) in a notice which is—

- (a) given to every person with a relevant interest in the land with respect to which the declaration is to be made (other than a mortgagee who is not in possession); and

(a) 1981 c. 66. Sections 2(3), 6(2) and 11(6) were amended by section 4 of, and paragraph 52 of Schedule 2 to, the Planning (Consequential Provisions) Act 1990 (c. 11). Section 15 was amended by sections 56 and 321(1) of, and Schedules 8 and 16 to, the Housing and Regeneration Act 2008 (c. 17). Paragraph 1 of Schedule 2 was amended by section 76 of, and Part 2 of Schedule 9 to, the Housing Act 1988 (c. 50); section 161(4) of, and Schedule 19 to, the Leasehold Reform, Housing and Urban Development Act 1993 (c. 28); and sections 56 and 321(1) of, and Schedule 8 to, the Housing and Regeneration Act 2008. Paragraph 3 of Schedule 2 was amended by section 76 of, and Schedule 9 to, the Housing Act 1988 and section 56 of, and Schedule 8 to, the Housing and Regeneration Act 2008. Paragraph 2 of Schedule 3 was repealed by section 277 of, and Schedule 9 to, the Inheritance Tax Act 1984 (c. 51). There are other amendments to the 1981 Act which are not relevant to this Order.

(b) 1981 c. 66. Sections 2 and 116 were amended by section 4 of, and paragraph 52 of Schedule 2 to, the Planning (Consequential Provisions) Act 1990 (c. 11). There are other amendments to the 1981 Act which are not relevant to this Order.

(b) published in a local newspaper circulating in the area in which the land is situated.

(4) In that section, the subsection (2), for “(1)(b)” substitute “(1)” and after “given” insert “and published”.

(5) In that section for subsections (5) and (6) substitute—

“(5) For the purposes of this section, a person has a relevant interest in land if—

- (a) that person is for the time being entitled to dispose of the fee simple of the land, whether in possession or in reversion; or
- (b) that person holds, or is entitled to the rents and profits of, the land under a lease or agreement, the unexpired term of which exceeds one month.”

(6) In section 5 (earliest date for execution of declaration)—

- (a) in subsection (1), after “publication” insert “in a local newspaper circulating in the area in which the land is situated”; and
- (b) omit subsection (2).

(7) In section 7 (constructive notice to treat), in subsection (1)(a), omit the words “(as modified by section 4 of the Acquisition of Land Act 1981)”.

(8) References to the 1965 Act in the Compulsory Purchase (Vesting Declarations) Act 1981 shall be construed as references to that Act as applied by section 125 of the 2008 Act to the compulsory acquisition of land under this Order.

Acquisition of subsoil only

31.—(1) The undertaker may acquire compulsorily so much of, or such rights in, the subsoil of the land referred to in article **Error! Reference source not found.** (compulsory acquisition of land) as may be required for any purpose for which that land may be acquired under that provision instead of acquiring the whole of the land.

(2) Where the undertaker acquires any part of, or rights in, the subsoil of land under paragraph (1), the undertaker is not required to acquire an interest in any other part of the land.

(3) Paragraph (2) does not prevent article 32 (acquisition of part of certain properties) from applying where the undertaker acquires a cellar, vault, arch or other construction forming part of a house, building or manufactory.

Acquisition of part of certain properties

32.—(1) This article applies instead of section 8(1) of the 1965 Act (other provisions as to divided land) (as applied by section 125 of the 2008 Act) where—

- (a) a notice to treat is served on a person (“the owner”) under the 1965 Act (as so applied) in respect of land forming only part of a house, building or manufactory or of land consisting of a house with a park or garden (“the land subject to the notice to treat”); and
- (b) a copy of this article is served on the owner with the notice to treat.

(2) In such a case, the owner may, within the period of 21 days beginning with the day on which the notice was served, serve on the undertaker a counter-notice objecting to the sale of the land subject to the notice to treat which states that the owner is willing and able to sell the whole (“the land subject to the counter-notice”).

(3) If no such counter-notice is served within that period, the owner must sell the land subject to the notice to treat.

(4) If such a counter-notice is served within that period, the question whether the owner is required to sell only the land subject to the notice to treat, is to be referred to the tribunal unless the undertaker agrees to take the land subject to the counter-notice.

(5) If on such a reference the tribunal determines that the land subject to the notice to treat can be taken—

- (a) without material detriment to the remainder of the land subject to the counter-notice; or
- (b) where the land subject to the notice to treat consists of a house with a park or garden, without material detriment to the remainder of the land subject to the counter-notice and without seriously affecting the amenity and convenience of the house,

the owner must sell the land subject to the notice to treat.

(6) If on such a reference the tribunal determines that only part of the land subject to the notice to treat can be taken—

- (a) without material detriment to the remainder of the land subject to the counter-notice; or
- (b) where the land subject to the notice to treat consists of a house with a park or garden, without material detriment to the remainder of the land subject to the counter-notice and without seriously affecting the amenity and convenience of the house,

the notice is to be deemed to be a notice to treat for that part.

(7) If on such a reference the tribunal determines that—

- (a) the land subject to the notice to treat cannot be taken without material detriment to the remainder of the land subject to the counter-notice; but
- (b) the material detriment is confined to a part of the land subject to the counter-notice,

the notice to treat is to be deemed to be a notice to treat for the land to which the material detriment is confined in addition to the land already subject to the notice, whether or not the additional land is land which the undertaker is authorised to acquire compulsorily under this Order.

(8) If the undertaker agrees to take the land subject to the counter-notice, or if the tribunal determines that—

- (a) none of the land subject to the notice to treat can be taken without material detriment to the remainder of the land subject to the counter-notice or, as the case may be, without material detriment to the remainder of the land subject to the counter-notice and without seriously affecting the amenity and convenience of the house; and
- (b) the material detriment is not confined to a part of the land subject to the counter-notice,

the notice to treat is to be deemed to be a notice to treat for the land subject to the counter-notice whether or not the whole of that land is land which the undertaker is authorised to acquire compulsorily under this Order.

(9) Where, by reason of a determination by the tribunal under this article, a notice to treat is deemed to be a notice to treat for less land or more land than that specified in the notice, the undertaker may, within the period of 6 weeks beginning with the day on which the determination is made, withdraw the notice to treat; and, in that event, must pay the owner compensation for any loss or expense occasioned to the owner by the giving and withdrawal of the notice, to be determined in case of dispute by the tribunal.

(10) Where the owner is required under this article to sell only part of a house, building or manufactory or land consisting of a house with a park or garden, the undertaker must pay the owner compensation for any loss sustained by the owner due to the severance of that part in addition to the value of the interest acquired.

Rights under or over streets

33.—(1) The undertaker may enter upon and appropriate so much of the subsoil of, or air space over, any street within the Order limits as may be required for the purposes of the authorised development and may use the subsoil or air-space for those purposes or any other purpose ancillary to the authorised development.

(2) Subject to paragraph (3), the undertaker may exercise any power conferred by paragraph (1) in relation to a street without being required to acquire any part of the street or any easement or right in the street.

(3) Paragraph (2) does not apply in relation to—

- (a) any subway or underground building; or
- (b) any cellar, vault, arch or other construction in, on or under a street which forms part of a building fronting onto the street.

(4) Subject to paragraph (5), any person who is an owner or occupier of land appropriated under paragraph (1) without the undertaker acquiring any part of that person's interest in the land, and who suffers loss as a result, is to be entitled to compensation to be determined, in case of dispute, under Part 1 of the 1961 Act.

(5) Compensation is not payable under paragraph (4) to any person who is an undertaker to whom section 85 of the 1991 Act (sharing cost of necessary measures) applies in respect of measures of which the allowable costs are to be borne in accordance with that section.

Temporary use of land for carrying out the authorised development

34.—(1) The undertaker may, in connection with the carrying out of the authorised development—

- (a) enter on and take temporary possession of the land specified in columns (1) and (2) of Schedule 6 (land of which temporary possession may be taken) for the purpose specified in relation to that land in column (3) of that Schedule;
- (b) remove any buildings and vegetation from that land;
- (c) construct temporary works or permanent works comprised within the authorised development (including the provision of means of access) and temporary buildings on that land; and
- (d) construct any works specified in relation to that land in column (3) of Schedule 6.

(2) Not less than 14 days before entering on and taking temporary possession of land under this article the undertaker must serve notice of the intended entry on the owners and occupiers of the land specifying the purpose of the temporary possession.

(3) The undertaker may not, without the agreement of the owners of the land, remain in possession of any land under this article after the end of the period of one year beginning with the date of completion of the part of the authorised development specified in relation to that land in column (3) of Schedule 6 unless and to the extent that it is authorised to do so by the acquisition of rights over land or the creation of new rights over land pursuant to article 29 of this Order.

(4) Before giving up possession of land of which temporary possession has been taken under this article, the undertaker shall remove all temporary buildings and works and restore the land to the reasonable satisfaction of the owners of the land; but the undertaker shall not be required to replace a building removed under this article or restore the land on which any works have been constructed under paragraph (1)(d).

(5) The undertaker must pay compensation to the owners and occupiers of land of which temporary possession is taken under this article for any loss or damage arising from the exercise in relation to the land of the provisions of any power conferred by this article.

(6) Any dispute as to a person's entitlement to compensation under paragraph (5), or as to the amount of the compensation, is to be determined under Part 1 of the 1961 Act.

(7) Nothing in this article affects any liability to pay compensation under section 10(2) of the 1965 Act (further provisions as to compensation for injurious affection) or under any other enactment in respect of loss or damage arising from the carrying out of the

authorised development, other than loss or damage for which compensation is payable under paragraph (5).

(8) The undertaker may not compulsorily acquire under this Order the land referred to in paragraph (1) except that the undertaker is not to be precluded from—

- (a) acquiring new rights over any part of that land under article 29 (compulsory acquisition of rights); or
- (b) acquiring any part of the subsoil (or rights in the subsoil) of that land under article 31 (acquisition of subsoil only).

(9) Where the undertaker takes possession of land under this article, the undertaker must not be required to acquire the land or any interest in it.

(10) Section 13 of the 1965 Act (refusal to give possession to acquiring authority) applies to the temporary use of land pursuant to this article to the same extent as it applies to the compulsory acquisition of land under this Order by virtue of section 125 of the 2008 Act (application of compulsory acquisition provisions).

(11) Subject to paragraph (3), nothing in this article shall prevent the taking of temporary possession more than once in relation to any land specified in Schedule 6.

Temporary use of land for maintaining authorised development

35.—(1) Subject to paragraph (2), at any time during the maintenance period relating to any part of the authorised development, the undertaker may—

- (a) enter on and take temporary possession of any land within the Order limits if such possession is reasonably required for the purpose of maintaining the authorised development; and
- (b) construct such temporary works (including the provision of means of access) and temporary buildings on the land as may be reasonably necessary for that purpose.

(2) Paragraph (1) shall not authorise the undertaker to take temporary possession of—

- (a) any house or garden belonging to a house; or
- (b) any building (other than a house) if it is for the time being occupied.

(3) Not less than 28 days before entering on and taking temporary possession of land under this article the undertaker shall serve notice of the intended entry on the owners and occupiers of the land.

(4) The undertaker may only remain in possession of land under this article for so long as may be reasonably necessary to carry out the maintenance of the part of the authorised development for which possession of the land was taken.

(5) Before giving up possession of land of which temporary possession has been taken under this article, the undertaker shall remove all temporary buildings and works and restore the land to the reasonable satisfaction of the owners of the land.

(6) The undertaker shall pay compensation to the owners and occupiers of land of which temporary possession is taken under this article for any loss or damage rising from the exercise in relation to the land of the provisions of this article.

(7) Any dispute as to a person's entitlement to compensation under paragraph (6), or as to the amount of compensation, shall be determined under Part 1 of the 1961 Act.

(8) Nothing in this article shall affect any liability to pay compensation under section 10(2) of the 1965 Act (further provisions as to compensation for injurious affection) or under any other enactment in respect of loss or damage arising from the maintenance of the authorised development, other than loss or damage for which compensation is payable under paragraph (6).

(9) Where the undertaker takes possession of land under this article, the undertaker shall not be required to acquire the land or any interest in it.

(10) Section 13 of the 1965 Act (refusal to give possession to acquiring authority) shall apply to the temporary use of land pursuant to this article to the same extent as it applies to the compulsory acquisition of land under this Order by virtue of section 125 of the 2008 Act (application of compulsory acquisition provisions).

(11) In this article “the maintenance period”, in relation to any part of the authorised development, means the period of 5 years beginning with the date on which that part of the authorised development is first opened for use.

For the protection of the Coal Authority

36. This Order does not confer any powers to acquire any coal measures or land in which the Coal Authority has any proprietary estate or interest.

For the protection of riverine fisheries

37.—(1) The undertaker is to pay to the owners, occupiers or persons otherwise having a proprietary right of fishing in streams injuriously affected by the construction, operation or maintenance of the authorised development, or otherwise by the exercise of the powers conferred upon the undertaker by this Order compensation for any damage sustained by such persons by reason of the exercise of the powers conferred upon the undertaker by this Order.

(2) Any person who suffers injurious affection as set out in paragraph (1) above is to be entitled to compensation to be determined, in case of dispute, under Part 1 of the 1961 Act.

Special category land

38.—(1) Upon entry by the undertaker upon the special category land pursuant to either article 25 (compulsory acquisition of land) or article 29 (compulsory acquisition of rights), so much of the special category land as may be required for the purposes of the exercise by the undertaker of the Order rights is to be discharged from all rights, trusts and incidents to which it was previously subject.

(2) In this article—

“Order rights” means powers or rights exercisable over the special category land by the undertaker under article 25 (compulsory acquisition of land) or article 29 (compulsory acquisition of rights); and

“special category land” means the land identified as forming part of a common, open space, or fuel or field garden allotment in the Book of Reference.

PART 7

Miscellaneous and general

Railway and navigation undertakings

39.—(1) Subject to the following provisions of this article, the undertaker may not under article 9 (street works) break up or open a street where the street, not being a highway maintainable at public expense (within the meaning of the 1980 Act)—

- (a) is under the control or management of, or is maintainable by, railway undertakers or a navigation authority; or
- (b) forms part of a level crossing belonging to any such undertakers or such an authority or to any other person,

except with the consent of the railway undertakers or navigation authority or, as the case may be, of the person to whom the level crossing belongs.

(2) Paragraph (1) does not apply to the carrying out under this Order of emergency works, within the meaning of Part 3 of the 1991 Act.

(3) A consent given for the purpose of paragraph (1) may be made subject to such reasonable conditions as may be specified by the person giving it but must not be unreasonably withheld or delayed.

(4) In this paragraph “navigation authority” means any person who has a duty or power under any enactment to work, maintain, conserve, improve or control any canal or other inland navigation, navigable river, estuary or harbour.

Application of landlord and tenant law

40.—(1) This article applies to—

- (a) any agreement for leasing to any person the whole or any part of the authorised development or the right to operate the same; and
- (b) any agreement entered into by the undertaker with any person for the construction, maintenance, use or operation of the authorised development, or any part of it,

so far as any such agreement relates to the terms on which any land which is the subject of a lease granted by or under that agreement is to be provided for that person’s use.

(2) The operation of any agreement to which this article applies is not prejudiced by enactment or rule of law regulating the rights and obligations of landlords and tenants.

(3) Accordingly, no such enactment or rule of law shall apply in relation to the rights and obligations of the parties to any lease granted by or under any such agreement so as to—

- (a) exclude or in any respect modify any of the rights and obligations of those parties under the terms of the lease, whether with respect to the termination of the tenancy or any other matter;
- (b) confer or impose on any such party any right or obligation arising out of or connected with anything done or omitted on or in relation to land which is the subject of the lease, in addition to any such right or obligation provided for by the terms of the lease; or
- (c) restrict the enforcement (whether by action for damages or otherwise) by any party to the lease of any obligation of any other party under the lease.

Operational land for purposes of the 1990 Act

41. Development consent granted by this Order is to be treated as specific planning permission for the purposes of section 264(3)(a) of the 1990 Act (cases in which land is to be treated as operational land for the purposes of that Act).

Felling or lopping of trees

42.—(1) The undertaker may fell or lop any tree or shrub near any part of the authorised development or the Order land, or cut back its roots, if it reasonably believes it to be necessary to do so to prevent the tree or shrub from obstructing or interfering with the construction, maintenance or operation of the authorised development or any apparatus used in connection with the authorised development.

(2) In carrying out any activity authorised by paragraph (1), the undertaker must not cause unnecessary damage to any tree or shrub and must pay compensation to any person for any loss or damage arising from such activity.

(3) Any dispute as to a person’s entitlement to compensation under paragraph (2), or as to the amount of compensation, is to be determined under Part 1 of the 1961 Act.

Application of the Energy Act 2004 in relation to decommissioning

43.—(1) Notwithstanding the provisions of section 104(4)(b) of the 2004 Act the authorised development is to be treated as comprising a renewable energy installation for the purposes of that Act.

(2) Irrespective of any other requirement to do so, prior to construction of any tidal works a programme for decommissioning shall be submitted to the Secretary of State for his approval in writing and shall provide for the regular review of its terms.

(3) The programme for decommissioning the authorised development under the 2004 Act shall provide for the management and maintenance of remaining elements of the authorised development following cessation of operation.

(4) The programme of decommissioning submitted to the Secretary of State shall make provision for establishment of a fund for maintenance of the authorised development and payments into that fund, together with—

- (a) the purposes for which the contents of that fund shall be applied after decommissioning; and
- (b) the security provided to ensure the availability of the fund and its contents for those purposes.

(5) Construction of the authorised development must not be commenced until the Secretary of State has approved the decommissioning programme.

(6) The undertaker must comply with the provisions of section 109, 110, 112 and 112A of the 2004 Act.

Development consent obligation

44.—(1) The undertaker may enter into an obligation relating to the authorised development under section 106 of the 1990 Act in respect of any land within the Order limits notwithstanding that the undertaker may not be the owner of such land or any interest in it.

(2) From the date of acquisition of any land that is subject to an obligation to which paragraph (1) applies, the provisions of section 106 of the 1990 Act apply as if the undertaker had been the owner of the land at the date of that obligation.

(3) Any obligation by the undertaker prior to the date of the Order and expressed to be subject to the terms of these provisions shall have effect as if they were in force at its date.

(4) In this article and article 45 (development consent obligation - enforcement), “obligation” has the same meaning as in section 106 of the 1990 Act, referred to in that section as a 'planning obligation.

Development consent obligation - enforcement

45.—(1) Where the undertaker has entered into any obligation, notwithstanding the provisions or effect of sections 1, 106(3) and 106(9)(d) of the 1990 Act the document recording the obligation may specify that a local planning authority, other than the local planning authority within whose area the land bound by the obligation is situated, may enforce the relevant obligation.

(2) The provisions of this article may apply to all or some of the obligations contained in any document entered into by the undertaker under section 106 of the 1990 Act in relation to the authorised development.

Ancient Monuments and Archaeological Areas Act 1979

46. This Order has effect as a consent under the Ancient Monuments and Archaeological Areas Act 1979 in respect of the authorised development in respect of the

pillboxes shown on planning drawings ref. 2.4.42 and 2.4.43 and tank trap(s) located on the existing Swansea Port sea wall irrespective of the date upon which any such features are included in a schedule under that Act.

Licences relating to water, etc.

47.—(1) The requirement under section 25 of the Water Resources Act 1991^(a) to obtain a licence before constructing, altering, repairing or removing any impoundment works does not apply to the authorised development.

(2) No requirement for a permit applies in relation to the discharge of water through the turbines and sluices comprised in the authorised development notwithstanding the effects of regulation 12 of the Environmental Permitting (England and Wales) Regulations 2010^(b).

(3) No requirement to provide screens under section 14 of the Salmon and Freshwater Fisheries Act 1975^(c) applies in respect of the authorised development.

(4) No requirement to construct, alter or operate an eel pass, remove an obstruction or take any other action under regulation 14 of the Eels (England and Wales) Regulations 2009^(d) applies in respect of the authorised development.

(5) No requirement to place an eel screen under regulation 17 of the Eels (England and Wales) Regulations 2009 applies in respect of the authorised development.

Byelaws

48.—(1) The undertaker may from time to time make and enforce byelaws regulating the use and operation of the authorised development, the maintenance of order on and about the authorised development and the conduct of all persons including employees of the undertaker while on and about the authorised development.

(2) Without prejudice to the generality of paragraph (1) byelaws made under this article may provide for—

- (a) regulating the admission and access to the seawall(s) forming part of the authorised development in particular in the vicinity of the Swansea University Bay Campus;
- (b) preventing and removing obstructions or impediments within the authorised development;
- (c) preventing damage or injury to any goods, vehicles, plant, machinery, property or person within the authorised development;
- (d) regulating the activities of divers, surfers, water skiers and other persons engaged in recreational pursuits within the authorised development;
- (e) prohibiting persons in or entering the authorised development from smoking in open spaces; and
- (f) with respect to the prevention of nuisances on the authorised works.

(3) Byelaws made under this article may—

- (a) provide for imposing upon persons found guilty on summary conviction of offending against them, or against any condition, requirement or direction imposed, made or given under them, fines not exceeding level 3 on the standard scale;
- (b) relate to the whole or to any part of the authorised development; and
- (c) make different provision for different parts of the authorised development or in relation to different classes of vehicles.

(a) 1991 c.57

(b) S.I. 2010 No. 675.

(c) 1975 c. 51.

(d) S.I. 2009 No. 3344.

(4) Byelaws made by the undertaker under this Order shall only come into operation when they have been confirmed by the Welsh Ministers.

(5) At least 28 days before applying for any byelaws to be confirmed under this article the undertaker must publish a notice of its intention to apply for the byelaws to be confirmed and the place at which and the time during which a copy of the byelaws is to be open to public inspection—

- (a) once in the London Gazette; and
- (b) once in each of two successive weeks in a local newspaper circulating in the area,

and any person affected by any of the byelaws may make representation on them to the Secretary of State within a period specified in the notice being a period of not less than 28 days.

(6) For at least 28 days before an application is made under this article for byelaws to be confirmed a copy of the byelaws must be kept at the principal office of the undertaker in the area of the authorised development and must at all reasonable hours be open to public inspection without payment.

(7) The undertaker must supply a copy of the byelaws or of part of the byelaws to a person who applies for it on payment of a reasonable charge.

(8) During the period of one month after completion of the publication of any notice required by paragraph (5), any person may make in writing to the Welsh Ministers any objection to or representation respecting the byelaws to which the notice relates.

(9) The Welsh Ministers may confirm with or without modification or may refuse to confirm any of the byelaws submitted under this article for confirmation and may fix a date on which any byelaws so confirmed are to come into effect and if no date is so fixed the byelaws are to come into effect after the expiry of 28 days after the date on which they were confirmed.

(10) The Welsh Ministers may charge the undertaker such fees in respect of any byelaws submitted for confirmation under this article as the Welsh Ministers may consider appropriate for the purpose of defraying any administrative expenses incurred by the Welsh Ministers in connection with such confirmation.

(11) A copy of the byelaws when confirmed must be printed and deposited at the principal office of the undertaker and must at all reasonable hours be open to public inspection without payment, and the undertaker must at the request of any person supply that person with a copy of any such byelaws on payment of such reasonable sum as the undertaker shall determine.

(12) Byelaws made under this article may be varied or revoked by subsequent byelaws and byelaws made under this article may also vary or revoke any byelaws made under any other provision in respect of the authorised development at any time.

Procedure in relation to certain approvals etc.

49.—(1) Where an application is made to the relevant planning authorities or either of them for any consent, agreement or approval required by a requirement, the following provisions apply, so far as they relate to a consent, agreement or approval of a local planning authority required by a condition imposed on a grant of planning permission, as if the requirement was a condition imposed on the grant of planning permission—

- (a) sections 78 and 79 of the 1990 Act (right of appeal in relation to planning decisions); and
- (b) any orders, rules or regulations which make provision in relation to a consent, agreement or approval of a local planning authority required by a condition imposed on the grant of planning permission insofar as those provisions are not inconsistent with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 and any other orders, rules or regulations made under the 2008 Act.

(2) For the purposes of paragraph (1), a provision relates to a consent, agreement or approval of a local planning authority required by a condition imposed on a grant of

planning permission in so far as it makes provision in relation to an application for such a consent, agreement or approval, or the grant or refusal of such an application, or a failure to give notice of a decision on such an application.

(3) For the purposes of the application of section 262 of the 1990 Act (meaning of “statutory undertaker”) to appeals pursuant to this article, the undertaker is deemed to be a holder of a licence under section 6 of the Electricity Act 1989.

Certification of plans etc.

50.—(1) The undertaker must, as soon as practicable after the making of this Order, submit to the Secretary of State copies of the documents listed in Schedule 7 for certification that they are true copies of the plans or documents referred to in this Order.

(2) A plan or document so certified is admissible in any proceedings as evidence of the contents of the document of which it is a copy.

Arbitration

51. Any difference under any provision of this Order, unless otherwise provided for, is to be referred to and settled by a single arbitrator to be agreed between the parties or, failing agreement, to be appointed on the application of either party (after giving notice in writing to the other) by the Secretary of State.

Planning, etc. jurisdiction

52.—(1) During the period beginning with the date when this Order comes into effect and ending on the accretion date the area west of the county borough boundary within the Order limits and seaward of mean low water for the purposes of the Control of Pollution Act 1974^(a), the Environmental Protection Act 1990^(b) and the 1990 Act is annexed to and incorporated within the administrative area of the City and County of Swansea Council but is not so annexed or incorporated for any other purpose.

(2) During the period beginning with the date when this Order comes into effect and ending on the accretion date the area east of the county borough boundary and seaward of mean low water for the purposes of the Control of Pollution Act 1974, the Environmental Protection Act 1990 and the 1990 Act is annexed to and incorporated within the administrative area of the Neath Port Talbot County Borough Council but is not so annexed and incorporated for any other purpose.

(3) On the accretion date—

- (a) the area of the lagoon created by and of the works themselves so far as completed or substantially commenced west of the seaward boundary line from mean low water is annexed to and incorporated within the administrative area of the City and County of Swansea Council; and
- (b) the area of the lagoon created by and of the works themselves east of the seaward boundary line from mean low water is annexed to and incorporated within the administrative area of the Neath Port Talbot County Borough Council,

in each case for the purposes of the 1990 Act but is not so annexed or incorporated for any other purpose.

(4) In this article—

- (a) “accretion date” means the date when the works authorised by the Order have been completed or, if earlier, the date when the benefits and rights granted by this Order cease to have effect;

(a) 1974 c. 40.

(b) 1990 c. 43.

- (b) “county borough boundary” means the boundary between the administrative areas of the City and County of Swansea Council and the Neath Port Talbot County Borough Council; and
- (c) “seaward boundary line” means a line seaward of the county borough boundary from mean low water springs extending to the Order limits and to be shown on the seaward boundary line plan

Harbour jurisdiction

53.—(1) Following completion of construction of Works Nos. 1a, 1b, 2a and 2c the area of those works and the area within and including the tidal lagoon enclosed within those works is to cease to be part of—

- (a) the area of jurisdiction of the harbour authority for the Port of Swansea and the harbour authority for the Port of Neath; and
- (b) the Port of Swansea and the Port of Neath for the purpose of the Port Security Regulations 2009,

and any enactments conferring powers or duties on the harbour authorities for the Ports of Neath and Swansea ceases to apply to those areas excluded from the jurisdiction of a harbour authority under this article.

(2) Where the jurisdiction of a harbour authority abuts any tidal work the tidal waters for the time being abutting that tidal work are comprised within the jurisdiction of that harbour authority.

(3) Where any land within the jurisdiction of the harbour authority for the Port of Swansea is subject to a lease to the undertaker, the jurisdiction of that harbour authority is suspended for the period from the commencement of the authorised development until the determination of that lease.

(4) Nothing contained in this Order authorises the obstruction or the closure to navigation of the River Tawe or the River Neath.

Saving for Trinity House

54. Nothing in this Order prejudices or derogates from any of the rights, duties or privileges of Trinity House.

Protection of Interests

55. Schedule 5 to this Order has effect.

Crown rights

56.—(1) Nothing in this Order affects prejudicially any estate, right, power, privilege, authority or exemption of the Crown and in particular nothing in this Order authorises the undertaker or any licensee to—

- (a) take, use, enter upon or in any manner interfere with any land or rights of any description (including any portion of the shore or bed of the sea or any river, channel, creek, bay or estuary)—
 - (i) belonging to Her Majesty in right of the Crown and forming part of the Crown Estate without the consent in writing of the Crown Estate Commissioners; or
 - (ii) belonging to Her Majesty in right of the Crown and not forming part of the Crown Estate without the consent in writing of the government department having the management of that land; or

- (iii) belonging to a government department or the Welsh Government or held in trust for Her Majesty for the purposes of a government department without the consent in writing of that government department; or
- (b) to exercise any right under this Order compulsorily to acquire an interest in any land which is Crown land (as defined in the 2008 Act) which is for the time being held otherwise than by or on behalf of the Crown without the consent in writing of the appropriate Crown authority (as defined in the 2008 Act).

(2) A consent under paragraph (1) may be given unconditionally or subject to terms and conditions, and is deemed to have been given in writing where it is sent electronically.

Provisions for effect of adaptive environmental management plan

57.—(1) Where any requirement provides for an adaptive environmental management plan and any provision of that plan makes matters of dispute between the undertaker, any relevant planning authority and Natural Resources Wales subject to arbitration under this Order then article 51 (Arbitration) shall apply.

(2) Where under the terms of an adaptive environmental management plan it is necessary for the officers of any relevant planning authority or Natural Resources Wales to attend any meetings of any group or to review any documents the undertaker is liable for the reasonable and proper costs of those officers in respect of those activities.

Signed by authority of the Secretary of State for Energy and Climate Change

Address	<i>Name</i> Parliamentary Under Secretary of State
Date	Department for Energy and Climate Change

SCHEDULES

SCHEDULE 1

Article 3

Authorised Development, Ancillary and Necessary Works, and Requirements

PART 1A

Authorised Development

A nationally significant infrastructure project being an offshore generating station as defined in sections 14(1)(a) and 15(3) of the 2008 Act comprising—

In Swansea Bay and the City and County of Swansea and the County Borough of Neath Port Talbot

Work No. 1a A western seawall crested by a road and footway commencing at 266417E; 189134N as shown on Works Plans 1, 4, 7 and 9 approximately 2700 metres in length and incorporating—

- (a) a low voltage substation;
- (b) provision of and for lighting;
- (c) one or more slipways, jetties, access points and associated hardstanding for boats used in connection with the operation and maintenance of the generating station ;

- (d) a landscaped area where the seawall makes landfall; and
- (e) operation and maintenance facilities within the seawall together with sufficient foundation areas and pilings to enable construction of an offshore building centred on grid reference 266218E; 189338N containing an administration and engineering suite.

Work No. 1b An eastern seawall crested by a road and footway commencing at 266420E; 189131N approximately 6800 metres in length and incorporating provision of and for lighting.

Work No. 2a A turbine and sluice gate housing structure located between 266417E; 189134N and 266410E; 189131N as shown on Works Plans 2, 6, 8 and 9, measuring approximately 410 metres in length and 67.5 metres in width containing up to 16 variable speed hydro turbines with a combined nominal generating capacity of 320MW (continuous) and up to 10 sluice gates and incorporating—

- (a) a switch room;
- (b) scour protection;
- (c) associated electrical equipment and transformer(s);
- (d) dividing structure(s) and wingwalls; and
- (e) a maximum of four external gantry cranes and such infrastructure works or plant as may be necessary for the purposes of operating and maintaining the sluices and turbines.

The above Works Nos. 1a, 1b and 2a are also to incorporate localised widening of the seawall to provide—

- (a) viewing areas; and
- (b) siting location(s) for works of public art.

Work No. 5a A 275kV grid connection laid underground consisting of three single phase cables and other electric cables connecting Work No. 2a (266120E; 189499N) to 266970E; 191821N;

Work No. 5b A 275kV grid connection laid underground consisting of three single phase cables and other electric cables from Work No. 5a (266970E; 191821N) to the boundary between the administrative areas of the County and City of Swansea and Neath Port Talbot County Borough (269508E, 192884N);

Work No. 5c A 275kV grid connection laid underground consisting of three single phase cables and other electric cables from Work No. 5b at the boundary between the administrative areas of the County and City of Swansea and Neath Port Talbot County Borough (269508E; 192884N) along and/or parallel to Fabian Way to 271434E; 193302N;

Work No. 5d A 275kV grid connection laid underground consisting of three single phase cables from Work No. 5c (271434E; 193302N) to 272209E; 193140N;

Work No. 5e A 275kV grid connection consisting of three single phase cables passing under the River Neath by means of horizontal directional drilling and connecting Work No. 5d (272209E; 193140N) with Work No. 5f (272865E, 192988N); and

Work No. 5f A 275kV grid connection laid underground of three single phase cables from 272865E; 192988N to the existing Baglan Bay substation (273174E; 192477N).

Work No. 6a A work consisting of the construction of a jetty or mole and floating pontoons and piles or dolphins, located from 267494E; 191898N to 266998E; 191498N;

Work No. 6b A work consisting of construction of onshore operation and maintenance facilities comprising—

- (a) an onshore building centred on 267129E; 191741N comprising—
 - (i) a hatchery(ies) and laboratory(ies);
 - (ii) maintenance workshop(s) and spares store(s);
 - (iii) garaging for operation and maintenance vehicles;

- (iv) storage for boats associated with the operation and maintenance of the generating station;
- (v) a control room;
- (vi) staff office accommodation; and
- (vii) staff welfare facilities; and
- (b) provision to allow construction within the area of Work 6b of—
 - (i) outdoor parking spaces for operation and maintenance vehicles and essential visitors to the generating station;
 - (ii) outdoor emergency access facilities to enable rapid access to the authorised works;

Work No. 7a A new internal access road comprising two carriageways together with a fence in between running in a north easterly direction from 267048E; 191928N to 269035E; 192887N;

Work No. 7b A new internal access road comprising two carriageways together with a fence in between running in a westerly direction from Work No. 7a (269035E; 192887N) to 268575E; 192877N;

Work No. 7c A new internal access road comprising two carriageways together with a fence in between running in a north westerly direction from Work No. 7b (268640E; 192886N) to 268088E; 193003N;

Work No. 7d A new internal access road comprising two carriageways, one for the purposes of the Port of Swansea and one for the purposes of the authorised development together with fence in between running in a north westerly direction from Work No. 7c (268088E; 193003N) to 267984E; 193046N;

Work No. 7e A work comprising improvements to the public highway along Langdon Road from 267984E; 193046N to 267975E; 193044N;

Work No. 7f A work comprising improvements to the public highway from Work No. 7e (267975E; 193044N) to the junction of Langdon Road and Fabian Way (267804E; 192987N); and

Work No. 7g A work for a new access track at the eastern seawall landfall running in an easterly direction from 269016E; 192826N to 270275E; 192496N.

and in connection with such works and to the extent that they do not otherwise form part of any such work, further development including mitigation, being part of the nationally significant infrastructure project comprising—

- (a) temporary construction works, including workshops and stores, storage areas for rock armour, working areas, laydown areas, construction sites, internal site roads and vehicle parking facilities;
- (b) to the extent required for mitigation, the landscaping elements of the Broad Seaward Park, Narrow Seaward Park, and Landward Ecological Park as described in the design and access statement, including works to existing wave protection walls;
- (c) habitat creation (including mariculture);
- (d) navigational aids;
- (e) bunds, embankments, swales, landscaping and boundary treatments and fencing;
- (f) to the extent shown on the demolition plan, the alteration, removal, clearance, refurbishment, reconstruction, decommissioning and demolition of any buildings and structures within the Order limits;
- (g) the provision of footpaths;
- (h) lighting columns and lighting; and
- (i) safety/emergency points.

PART 1B

Ancillary and necessary works

Works within the Order limits to the extent necessary and ancillary to the construction, operation and maintenance of a nationally significant infrastructure project and forming part of that project being an offshore generating station as defined in sections 14(1)(a) and 15(3) of the 2008 Act comprising—

Work No. 2b A temporary offshore work consisting of a sediment berm cofferdam for the purposes of constructing Work No. 2a as shown on works plan 2.2.8B and having wall heights not exceeding 16.5 metres above Chart Datum;

Work No. 2c An offshore work comprising up to 15 dolphin piles with lights, cable booms and/or floating buoys in between located up to 500m seaward from the outer edge of Work No. 2a (266113E; 189484N) for the purposes of demarcating a safety zone as shown on works plan 2.2.8B and works section 2.2.16A; and

Work No. 2d An offshore work comprising buoys (with or without lights) with or without floating boom(s) located up to 500m landward from the outer edge of Work No. 2a (266123E; 189494N) for the purposes of demarcating a safety zone as shown on works plan 2.2.8B and works section 2.2.16A.

Work No. 3 An offshore work consisting of a buried pipeline the uppermost surface of which shall be below the level of the surrounding sea bed for the extension of the existing long sea sewage outfall from 268408E; 189407N to 268030E; 187224N and replacement of diffuser apparatus.

Work No. 4 An offshore work consisting of a new eastern channel training wall in the River Neath providing for the relocation of Monkstone light(s) from 270138E; 190336N to 271033E; 191419N which work must not exceed the heights shown on works section 2.2.15A.

Work No. 9 reclamation of land to establish a saltmarsh habitat area of up to 5ha. and coastal grassland habitat area of up to 3ha including pedestrian and cycle routes and structures as shown on works plans 2.2.2B and 2.2.3B.

Work No. 10 reclamation of land to establish a new coastal grassland and dune area of up to 11 ha. close to the landfall of Work No. 1b as shown on works plan 2.2.3B incorporating—

- (a) a beach area;
- (b) a visitor/information point to serve Crymlyn Burrows SSSI as shown on planning drawing 2.4.58; and
- (c) extension of the existing surface drainage outfalls serving Fabian Way,

and to the extent that they do not otherwise form part of any numbered work, further ancillary works comprising—

- (a) oyster spatting ponds;
- (b) installation of services along eastern and western seawalls, including electricity and telecommunications;
- (c) buoys, beacons, fenders and other navigational aids, warning or ship impact protection works;
- (d) temporary land places, moorings and other means of accommodating vessels in the construction of the scheduled works; and
- (e) works to alter the position of apparatus on, over or under tidal waters or tidal lands within the Order limits.

PART 2

Dimensions of Structures

(1) <i>Structure</i>	(2) <i>Maximum (metres) Height above ordnance datum</i>	(3) <i>Maximum Width/length</i>
Seawall	9 (14m chart datum)	N/A
Turbine and sluice gate housing structure	11.5 (16.5m chart datum)	128m/410m
Operation and maintenance facilities within seawall and foundations and pilings for offshore building	(14m chart datum)	
Onshore building	13.5m	18m/120m
Crymlyn Burrows SSSI visitor information point	12m	Refer to drawing 2.4.58
Gantry cranes	22.5 (27.5m chart datum)	N/A

PART 3

Requirements

Interpretation

1.—(1) In this Part of this Schedule—

“AEMP” means the adaptive environmental management plan to be submitted and approved pursuant to requirement 6 below;

“CEMP” means the construction environmental management plan to be submitted and approved pursuant to requirement 5 below;

“CPTMP” means the construction phase traffic management plan to be submitted and approved pursuant to requirement 21 below;

“DCWW” means Dŵr Cymru Cyfyngedig (Company Reference Number: 2366777) whose registered office is at Pentwynn Road, Nelson, Treharris CF46 6LY;

“major event” means an event likely to generate vehicular traffic capable of occupying more than the aggregate number of visitor parking spaces within the authorised development;

“NRW” means the Natural Resources Body for Wales;

“OEMP” means the operational environmental management plan to be submitted and approved pursuant to requirement 5 below;

“OPTMP” means the operational phase travel management plan to be submitted and approved pursuant to requirement 22 below;

“operate” means operate the authorised development for generation of electricity for transmission to the national electricity grid following completion of wet commissioning and “operation” and “operating” is to be construed accordingly;

“outline Adaptive Environmental Management Plan” means the outline Adaptive Environmental Management Plan dated 25 November 2014 certified as such by the Secretary of State for the purposes of this Order;

“outline Construction Environmental Management Plan” means the outline Construction Environmental Management Plan dated 4 December 2014 certified as such by the Secretary of State for the purposes of this Order;

“outline construction phase traffic management plan” means the outline construction phase traffic management plan annexed to the outline Construction Environmental Management Plan;

“outline Operational Environmental Management Plan” means the outline Operational Environmental Management Plan dated 4 December 2014 certified as such by the Secretary of State for the purposes of this Order;

“outline operational phase traffic management plan” means the outline operational phase traffic management plan submitted with the application certified as such by the Secretary of State for the purposes of this Order;

Time limits, etc.

2. The authorised development must commence no later than the expiration of five years beginning with the date that this Order comes into effect.

3.—(1) The authorised development must not commence until a construction phasing scheme for the authorised development has been submitted to and approved in writing by the relevant planning authorities. The phasing scheme must set out the sequence of construction of the authorised development and under which requirements approvals are to be sought in whole or in part depending on the contents of the construction phasing scheme.

(2) Where a construction phasing scheme has been submitted to and approved by the relevant planning authorities the details to be submitted to the relevant planning authorities to discharge any requirement may relate to a particular construction phase only, in order that the construction and/or operation of that phase may commence in accordance with the approved details for that phase alone. Where details have not been submitted in relation to any particular construction phase, then construction of that phase must not commence until the relevant part of any requirement has been discharged in relation to that phase. Construction must then be carried out in accordance with any relevant approval.

Detailed design

4.—(1) —(2) The authorised development comprised in works numbered 2b, 2c, 2d, 3, 4, 5a-5f, and 7a-7g, must be carried out in accordance with the relevant works plans and planning drawings in Schedule 7;

(3) The authorised development seaward of mean low water springs comprised in Work numbered 1a must be carried out in accordance with the relevant works plans and planning drawings in Schedule 7 so far as those drawings refer to works that are within the description of Work No 1a in Part 1 of Schedule 1;

(4) The authorised development seaward of mean low water springs comprised in Work numbered 1b must be carried out in accordance with the relevant works plans and planning drawings in Schedule 7 so far as those drawings refer to works that are within the description of Work No 1b in Part 1 of Schedule 1;

(5) The authorised development comprised in Work numbered 2a must be carried out in accordance with the relevant works plans and planning drawings in Schedule 7 so far as those drawings refer to works that are within the description of Work No 2a in Part 1 of Schedule 1;

(6) No authorised development is to commence until the reserved details of the landward parts above mean low water springs of Works 1a and 1b and of all other works referred to in Parts 1A and 1B of Schedule 1 have been submitted to and approved by the relevant planning authorities;

(7) Where reserved details have been approved by the relevant planning authorities, the authorised development must be carried out in accordance with those details;

(8) In this requirement “reserved details” means details of layout, scale, siting, design, dimensions and external appearance;

Construction and Operation Environmental Management Plans

5.—(1) No authorised development is to commence until a CEMP, substantially in accordance with the outline Construction Environmental Management Plan, has been submitted to and approved by the relevant planning authorities in consultation with NRW.

(2) All construction work must be carried out in accordance with the approved CEMP.

(3) No operation of the authorised development is to commence until an OEMP, substantially in accordance with the outline Operational Environmental Management Plan, has been submitted to and approved by the relevant planning authorities.

(4) Operation of the authorised development must be in accordance with the approved OEMP.

(5) The CEMP and OEMP must include, but not be limited to, mechanisms for the provision and implementation of the following mitigation matters -

- (a) Lagoon wardens during the operational phase, whose responsibilities include (but are not limited to) securing the delivery of the OEMP and managing public access;
- (b) A Reptile Strategy which provides for their habitat retention and management, and where necessary, their translocation to suitable receptor sites;
- (c) Access for otters, which is to be maintained at all times between the Docks, River Tawe and the coastline;
- (d) Reversing alarms which are not audible beyond the development site boundaries, must be fitted on any Heavy Goods Vehicles (HGVs) and mobile plant that are active during the construction phase during hours of darkness, weekends (Saturdays and Sundays) and bank holidays.

Adaptive Environmental Management Plan

6.—(1) No authorised development is to commence until an AEMP, substantially in accordance with the outline Adaptive Environmental Management Plan, has been submitted to and approved by the relevant planning authorities in consultation with NRW.

(2) The approved AEMP must contain provision for the revision from time to time of the monitoring and management measures that it contains in order to achieve the objectives set out in the outline Adaptive Environmental Management Plan.

(3) Construction and operation of the authorised development must be carried out in accordance with the approved AEMP as it subsists from time to time.

(4) The undertaker is to be responsible for the implementation of measures contained in or determined pursuant to the AEMP.

(5) The AEMP must include mechanisms for the delivery of mitigation to manage restoratively any adverse impacts resulting from the development, to habitats, species and sediment distributions on the Swansea Bay seafront arising from—

- (a) increases in mud deposition within the lagoon;
- (b) increases in windblown sand hazards; and
- (c) increases in saltmarsh vegetation.

(6) The AEMP must include a scheme for the monitoring and management of siltation in the Monkstone Marina

(7) The AEMP must provide for the appointment of a Core Review Group to include representatives of the undertaker, Natural Resources Wales and the two relevant

planning authorities and to be chaired by an independent person selected by the Core Review Group.

Provision of landscaping

7.—(1) The authorised development is not to be commenced until a detailed landscaping scheme and associated working programme for the authorised development reflecting the principles of the design and access statement has been submitted to and approved by the relevant planning authorities.

(2) The landscaping scheme must include details of—

- (a) works to existing wave protection walls;
- (b) the location, number, species, size and planting density of proposed planting;
- (c) a planting design on and in the vicinity of works 6a and 6b within the Order land;
- (d) any importation of materials and other operations to ensure plant establishment;
- (e) proposed finished ground levels;
- (f) planting and hard landscaping within the operational areas of the authorised development and the vehicular and pedestrian access, parking and circulation areas;
- (g) the new beaches, saltmarshes and dunescapes to be constructed as part of the authorised development, including the method of construction, plant types, sizing and spacing, and the measures proposed for maintenance of areas;
- (h) minor structures such as signage, refuse or other units, and furniture;
- (i) signage and cycle parking facilities on the access roads proposed as part of the authorised development;
- (j) proposed and existing functional services above and below ground, including power and communications cables and pipelines, manholes and supports;
- (k) the specified standard to which the works will be undertaken maintained and managed;
- (l) the proposed term for which long term management is to be undertaken pursuant to requirement 8(4); and
- (m) a timetable for the implementation of all hard and soft landscaping works.

(3) All planting undertaken pursuant to the landscaping scheme is to comprise:

- (a) species that would also enhance biodiversity and connect habitats; and
- (b) stock of local provenance, where available.

(4) The details to be submitted under paragraph (2) must not include any development or works that are not within the descriptions of the authorised development contained in Schedule 1.

Implementation and maintenance of landscaping

8.—(1) All landscaping works must be carried out in their entirety, maintained and managed in accordance with the detailed written landscaping scheme approved under requirement 7 and to the specified standard.

(2) Any tree or shrub planted as part of the approved detailed landscaping scheme above that is removed, dies or becomes, in the opinion of the relevant planning authority, seriously damaged or diseased, must be replaced in accordance with the specified standard of maintenance and management in the first available planting season with a specimen of the same species and size as that originally planted, unless otherwise approved by the relevant planning authority.

(3) If any boundary shrub or vegetation is the subject of localised clearance for the purpose of construction of the authorised development, replacement planting will be undertaken to replace the extent of vegetation lost using locally occurring species to

retain the existing vegetation pattern, unless otherwise approved by the relevant planning authority.

(4) Within two years from the commencement of operation of the authorised development a long term management plan for the period of operation of the development for the area of the authorised development within the jurisdiction of the City and County of Swansea Council prepared in accordance with the principles set out in the landscaping scheme shall be submitted for the approval of that Council, and all planting and landscaping must then be managed in accordance with the approved plan.

(5) Within two years from the commencement of operation of the authorised development a long term management plan for the period of operation of the development for the area of the authorised development within the jurisdiction of the Neath Port Talbot Borough Council prepared in accordance with the principles set out in the landscaping scheme shall be submitted for the approval of that Council, and all planting and landscaping must then be managed in accordance with the approved plan.

Highway works

9.—(1) No phase of the authorised development affecting an existing public highway is to commence until details of the siting, design and layout of the highway works have after consultation and highway authority for the works in question been submitted to and approved by the relevant planning authority.

(2) The highway works must be carried out in accordance with the approved details.

(3) The submitted details are to provide for—

- (a) reinstatement of temporary works upon their completion;
- (b) a site survey to identify pre-existing defects;
- (c) remedy of defects caused during and resulting from the works upon completion; and
- (d) construction of permanent works to adoptable standards.

(4) At any time prior to or in default of the adoption of Work No. 7c or 7d as highway maintainable at the public expense the undertaker is to permit the owners of land abutting such works to make road connections to and use those works for the purpose of developing and occupying such land subject only to—

- (a) securing planning permission for such connections; and
- (b) payment by such owners to the undertaker of a reasonable proportion of the cost of maintaining and repairing these works until such time as they become highway maintainable at the public expense.

(5) In this requirement “the highway works” means the highway works comprised in Work Nos. 7a, 7b, 7c, 7d, 7e and 7f and any works for provision of a grid connection affecting a highway.

Fencing and other means of site perimeter enclosure

10.—(1) Prior to commencement of each phase of the authorised development, written details of all proposed permanent or temporary fences, walls or other means of enclosure within that phase of the authorised development must be submitted to and approved by the relevant planning authorities.

(2) All construction sites must remain securely fenced at all times during construction of the authorised development in accordance with the approved scheme or schemes.

(3) All temporary fencing must be removed on completion of construction of the authorised development.

(4) All perimeter fences, walls or other means of site perimeter enclosure for the authorised development approved in accordance with paragraph (1) must be completed prior to commencement of operation in accordance with the approved details.

- (5) Such fencing must make provision for—
- (a) the secure fencing of the Port of Swansea; and
 - (b) fencing and means of access as is required to secure the proper management of access to Crymlyn Burrows Site of Special Scientific Interest from the authorised development.
 - (c) alternative access routes for otters

Operational surface and foul water drainage

11.—(1) No part of the authorised development shall commence until a written scheme to deal with the details of the surface water drainage system and the sewage system (together, the “operational drainage scheme”) incorporating a sustainable urban drainage system so far as appropriate has been submitted to and approved by the relevant planning authority in consultation with the relevant drainage authority.

(2) The operational drainage scheme shall provide for—

- (a) prior to commencement of development a survey to be undertaken to identify existing site drainage within the Order limits including old surface water boreholes, disused draining networks from earlier developments and part-demolished sections of existing drainage and the decommissioning of any surface water drainage network and/or exposed boreholes so identified to the satisfaction of NRW;
- (b) a rainwater harvesting system to be included in the authorised development;
- (c) surface water that has the potential for oil contamination to be passed through oil interceptors;
- (d) measures to avoid risk of spillage of contaminating material;
- (e) the discharge of all aqueous effluents via the drainage system comprised in the authorised development;
- (f) a system to collect and treat run off from stock piles prior to discharge to the surface water drainage system; and
- (g) the avoidance of any tie-in to drains serving the A483 Fabian Way.

(3) The scheme must be implemented in accordance with the approved details prior to operation of the authorised development and maintained during the operation of the authorised development.

Contamination and groundwater

12.—(1) Prior to the commencement of each phase of the authorised development a scheme to assess the nature and extent of any contamination on the Order land, and confirmation of whether or not it originates on the Order land must be submitted to and approved by the relevant planning authority in consultation with NRW. The investigation and risk assessment must be undertaken by competent persons in accordance with Land Contamination: A Guide for Developers and the EA/DeFRA Report CLR11 - Model Procedures for Management of Land Contamination and must be submitted as a written report. The written report is to include—

- (a) a desktop study to identify all previous uses on the Order land and potential contaminants on land and controlled waters. The desktop study must establish a “conceptual site mode” (CSM) identifying all plausible pollutant linkages to be assessed;
- (b) a survey of the extent, scale and nature of contamination;
- (c) an assessment of the potential risks to—
 - (i) human health;
 - (ii) ground waters and surface waters;
 - (iii) adjoining land;

- (iv) property (existing or proposed) including buildings, crops, livestock, pets, woodland and service lines and pipes;
- (v) ecological systems; and
- (vi) archaeological sites and ancient monuments;
- (d) an appraisal of remedial options, and proposal of the preferred remedial option(s); and
- (e) so far as relevant to land which is the subject of the written report in question, details of how the scheme has taken account of remediation works secured by an agreement under section 106 of the 1990 Act dated 20th November 2009 and made between Neath Port Talbot County Borough Council (1), St Modwen Developments Limited (2), St Modwen Properties PLC (3), BP Chemicals Limited (4) and BP Oil Llandarcy Refinery Limited (5) as well as consultation carried out with Baglan Bay Company Limited (company number 638328).

(2) Prior to the commencement of each phase of the authorised development a remediation scheme to bring the Order land to a condition suitable for the intended use by removing any unacceptable risks to human health, buildings, other property and the natural and historical environment must be submitted to and approved by the relevant planning authority. The remediation scheme must include all relevant works to be undertaken, proposed remediation objectives, remediation criteria and site management procedures. The measures proposed within the remediation scheme must be implemented in accordance with an approved programme of works contained in that scheme.

(3) Prior to operation of the relevant phase of authorised development commencing, a verification report which demonstrates the effectiveness of the agreed remediation works carried out in accordance with this requirement must be submitted to and approved by the relevant planning authority.

(4) In the event that contamination is found at any time when carrying out the authorised development that was not previously identified, work on the affected area must cease immediately and shall be reported in writing to the relevant planning authority. A Desk Study, Site Investigation, Risk Assessment and where necessary a Remediation Strategy must be undertaken in accordance with Land Contamination: A Guide for Developers. The Desk Study, Site Investigation, Risk Assessment and any Remediation Strategy must be submitted to and approved by the relevant planning authority. Prior to operation of the development, a verification report which demonstrates the effectiveness of the approved remediation must be submitted to and approved by the relevant planning authority.

(5) In this requirement “Land Contamination - A Guide for Developers” means the document entitled Land Contamination: A Guide for Developers (WLGA, WAG & EAW, 2012) certified as such by the Secretary of State for the purposes of this Order.

Storage of materials on site

13.—(1) No part of the authorised development is to be brought into use until a written scheme to deal with handling and onsite storage of process chemicals, cleaning substances, fuels, oils and lubricants on site has been submitted to and approved by the relevant planning authorities.

(2) All such materials must be stored in accordance with the approved scheme.

Construction water supply

14. No part of the authorised development is to be commenced until a building water supply licence has been granted by DCWW for construction of the authorised development.

Electrical grid connection works

15.—(1) No part of Works No. 5a to 5f is to be commenced until—

- (a) details of the buried depths of the cable comprised in those works according with the recommendations contained in the ERA report; and
- (b) a scheme and programme for the works, including necessary construction details and locations of laydown areas, with details of specific ecological mitigation; and
- (c) a scheme for the restoration monitoring and aftercare of areas of land disturbed by the construction of those works upon their completion including providing for the areas to be suitable for access by the public,

has been submitted to and approved by the relevant planning authority in consultation with NRW.

(2) Works No. 5a to 5f must be carried out in accordance with the approved details and scheme.

(3) In this requirement, the “ERA report” means ERA report 2015 - 0265 certified as such by the Secretary of State for the purposes of this Order.

Archaeology

16.—(1) No part of the authorised development in any phase is to commence until a programme of archaeological work including a written scheme of investigation has been submitted to and approved by the relevant planning authorities following consultation with Cadw. The written scheme of investigation is to include an assessment of significance and research questions appropriate for investigation; and—

- (a) a programme and methodology of site investigation and recording having regard to the on- and offshore nature of the authorised development;
- (b) a programme for post investigation assessment;
- (c) provision for analysis of the site investigation and recording, as well as retention of historic assets *in situ* where reasonably practicable;
- (d) provision for publication and dissemination of the analysis and records of the site investigation;
- (e) provision to be made for archive deposition of the analysis and records of the site investigation; and
- (f) nomination of a competent person or persons/organisation to undertake the works set out within the written scheme of investigation.

(2) No part of the authorised development is to take place other than in accordance with the written scheme of investigation approved under paragraph (1) of this requirement.

(3) The site investigation and post investigation assessment are to be completed in accordance with the programme set out in the written scheme of investigation approved under paragraph (1) and provision is to be made in the written scheme of investigation for analysis, publication and dissemination of results and archive deposition.

Retention of historic assets

17.—(1) No part of the authorised development is to commence until a written scope of work required for the retention (where reasonably practicable), or (as the case may be in relation to item (b) below) relocation, and enhancement of identified historic assets, including in particular—

- (a) the standing pill boxes, gun emplacement and tank traps situated seaward of Queen’s Dock Swansea, with a buffer zone of 5 metres, together with suitable landscape treatment; and
- (b) the navigation light situated on the existing Swansea Harbour East Pier,

has been submitted to and approved by the relevant planning authority in consultation with Cadw and the Glamorgan-Gwent Archaeological Trust Ltd.

(2) The authorised development is to be carried out in accordance with the approved details.

Monitoring of noise during construction

18. No part of the authorised development is to commence until a written scheme providing for the monitoring of noise generated during the construction of the authorised development has been submitted to and approved by the relevant planning authorities. The scheme must specify the locations at which noise will be monitored, the method of noise measurement (which shall accord with BS 5228 or, an equivalent successor standard or other agreed noise measurement methodology appropriate to the circumstances) and the frequency of submission of data to the relevant planning authorities. The authorised development must be carried out in accordance with the approved scheme.

Piling

19.—(1) No piling activities relating to those works shown on drawing TLP - SWANSEA BAY - 141003 - VO.2 as certified by the Secretary of State are to commence until a piling method statement according with the annotations of that drawing has been submitted to and approved by the relevant planning authorities in consultation with NRW.

(2) Piling must be carried out in accordance with the approved method statement.

Site waste management plan

20. No part of the authorised development is to be constructed until a plan for the management and disposal of waste produced as a result of the construction of the authorised development has been submitted to and approved by the relevant planning authorities. The construction of the authorised development must be carried out in accordance with the approved details.

Construction traffic

21.—(1) No part of the authorised development is to commence until a construction phase traffic management plan (CPTMP) substantially in accordance with the outline construction phase traffic management plan has been submitted to and approved in writing by the relevant planning authorities.

(2) The CPTMP must include provision for—

- (a) importation of rock armour and sediment for the authorised works only by sea;
- (b) the public dissemination of contact details for any co-ordinator appointed in respect of the CPTMP;
- (c) avoidance of access via junctions A9 or A10; and
- (d) avoidance of Heavy Goods Vehicles entering and leaving the development site between the hours of 0800-0900 and 1600-1730.

(3) All construction work must be carried out in accordance with the approved CPTMP.

Operational traffic

22.—(1) The authorised development must not be operated until a OPTMP, substantially in accordance with the outline operational phase traffic management plan, including identification of a travel plan co-ordinator, has been submitted to and approved by the relevant planning authorities.

(2) The approved OPTMP must make provision for the installation of and collection of data from a suitably located automatic traffic counter provided by the undertaker.

(3) The authorised development must be operated in accordance with the approved OPTMP.

Major events

23.—(1) No major event is to be held at the authorised development unless an overarching Major Event Strategy (“MES”) including identification of a strategy co-ordinator has been submitted to and approved by the relevant planning authorities.

(2) The MES must also make provision for—

- (a) prior consultation with the relevant planning authority, highway authority, Welsh Ministers and Police as well as the Maritime and Coastguard Agency and RNLI, so far as appropriate;
- (b) submission of subsidiary event-specific Major Event Plans;
- (c) management of pressures on Swansea Beaches and Crymlyn Burrows SSSI (to the extent appropriate);
- (d) any co-ordination of other licensing requirements;
- (e) management of travel and traffic; and
- (f) responsibility for provision of off-site parking and transport between any off-site parking and the authorised development.

(3) Any event-specific Major Event Plan must include:

- (a) an explanation of why the event constitutes a major event;
- (b) expected number of attendees, participants, competitors, exhibitors and spectators and their expected mode(s) of travel;
- (c) proposed arrangements for the management of vehicular and pedestrian access, including details of off-site parking, any proposed temporary provision of park and ride facilities, drop off and pick up arrangements together with amenity facilities at such locations;
- (d) details of any proposed temporary road closures or other traffic management required;
- (e) proposed car and coach parking arrangements;
- (f) details of liaison proposed to be or held with the police and other relevant first responder services;
- (g) details of measures to control visitor movement and other activity with respect to Crymlyn Burrows SSSI and any designated quiet bird area; and
- (h) the proposed access signage and advertising strategy for each event.

(4) All major events held at the authorised development must be held in accordance with the approved MES and any event-specific Major Event Plan.

Construction and security lighting scheme

24.—(1) No phase of the authorised development is to commence until a detailed written construction and security lighting scheme in accordance with the design and access statement has been submitted to and approved by the relevant planning authorities.

(2) The construction and security lighting scheme must provide for—

- (a) appropriate lighting of any safety zone in place and/or dredging activity taking place during construction;
- (b) the avoidance of direct light spill onto open water within the authorised development including the use of fencing to minimise light spill and avoidance of the use of white mercury lamps;

- (c) the minimisation of light spill, including the use of directional lighting and positioning of lights, baffles, cowls and hoods; and
- (d) measures to ensure that any such lighting will be directional and sensitive to relevant ecological receptors.

(3) Construction of the authorised development must be carried out in accordance with the approved scheme.

Permanent lighting

25.—(1) No permanent lighting forming part of the authorised development is to be installed in any phase until a detailed written and illustrated permanent lighting scheme substantially in accordance with the principles contained in the design and access statement has been submitted to and approved by the relevant planning authorities.

(2) The permanent lighting scheme must provide for—

- (a) details of how the lighting design will minimise trespass, glare and spillage;
- (b) development of appropriate lighting to render the authorised development appropriate to Swansea Bay and its setting; and
- (c) details of how, where possible, operational lighting will be designed to minimise impacts on relevant ecological receptors as described in the environmental statement.

(3) The approved scheme must be implemented as part of the authorised development.

Flood risk mitigation

26.—(1) No tidal works comprised in the authorised development are to commence until a scheme of mitigation works for the flood risk area at Mumbles has been submitted to and approved in writing by the relevant local planning authority following consultation with Natural Resources Wales.

(2) Construction of Works No. 1a, 2a, and 2b must not commence until the approved scheme of mitigation works for the flood risk area at Mumbles, as referred to in paragraph (1) above, has been completed.

Fish and shellfish mitigation strategy

27.—(1) No part of the authorised development is to commence until a written strategy for the mitigation of the impacts of the authorised development on fish and shellfish has been submitted to and approved by the relevant local planning authority in consultation with NRW and the relevant Port Health Authority.

(2) The fish and shellfish mitigation strategy must provide for—

- (a) fish spawning enhancements by introduction of spawning media at locations including the western face of Work No. 1a; and
- (b) targeted oyster dredge trawls to be undertaken of the proposed dredging area(s) prior to commencement of construction and the translocation of native oysters;

(3) In relation to herring the approved scheme shall provide:

- (a) for the placing of spawning media under paragraph (2)(a) above in the first year of construction of the Project; and
- (b) for the monitoring of the areas where spawning media are placed in the second and third year of construction and thereafter in accordance with frequencies determined under the AEMP;

(4) In relation to the acoustic, sonar imaging and collision recording devices to be installed in association with the turbines. The scheme shall include—

- (a) monitoring of turbine impacts upon fish species, including migratory fish and clupeids;

- (b) calibration of acoustic fish deterrent devices (“AFDs”) prior to commencement of operation to be effective on hearing generalist fish species including sea trout and herring;
- (c) monitoring to test the effectiveness of AFDs;
- (d) measures to be taken when AFDs are non-operational; and
- (e) provision for review and adaptation of AFDs during the life of the authorised development.

(5) The provisions of this requirement are to take precedence over the provisions of the AEMP except where an iteration of the AEMP in accordance with the terms of this Order permits.

(6) The approved fish and shellfish mitigation strategy and any measures thereunder are to be implemented and maintained during construction and operation of the authorised development.

Avian enhancement strategy

28.—(1) No part of the authorised development is to commence until a written strategy of enhancement measures for avian species has been submitted to and approved by the relevant planning authorities in consultation with NRW.

(2) The bird enhancement strategy shall provide for—

- (a) provision of an artificial roost within a less disturbed area of the authorised development; and
- (b) provision of kittiwake ledges on north eastern front of the new turbine and sluice gate housing structure.

(3) The approved strategy and any measures thereunder are to be implemented and maintained during construction and operation of the authorised development.

Habitats creation strategy

29.—(1) No phase of the authorised development is to commence until a written strategy for the creation, monitoring and management of onshore habitats in that phase has been submitted and approved by the relevant planning authorities in consultation with NRW.

(2) The habitats creation scheme is to provide for—

- (a) creation of artificial dunescape at the base of existing coastal defences and management to reduce impact through public access;
- (b) creation of an artificial sandy beach at eastern landfall of the authorised development;
- (c) beach landscaping and design on western side of the eastern landfall of the authorised development to reduce wind effect;
- (d) vegetation management to create areas of bare sand and physical intervention to create blow-outs;
- (e) retention of habitat strips of at least 3 metres in width associated with the grassland in the lea of existing seawall(s) south east of Queen’s Dock;
- (f) creation of grassland along the landward side of the new saltmarsh area comprised in the authorised development following removal of the existing seawall;
- (g) encouraging colonisation of existing rock armoured sea defences through infilling of large gaps with aggregate and localised topping with sandy spoil/topsoil;
- (h) creation of a dedicated coastal grassland plot to the seaward side at the south-eastern end of the docks estate with a transition to saltmarsh habitat as well as connectivity to dune habitat towards the east;
- (i) creation of grassland at the periphery of parking bays at the western end of the authorised development;

- (j) translocation of grassland turves and reuse of topsoil from areas of species-rich sward to encourage the establishment of coastal grassland habitat in the newly created areas with plants of local provenance;
- (k) translocation of robust plants or substrates containing target species seeds to holding areas where they can be relocated to newly created habitats on new seawalls; and
- (l) creation of purpose-designed artificial rocky shore habitat on new seawalls.

(3) The approved habitats creation strategy and any measures thereunder is to be implemented in its entirety and maintained during the entirety operation of the authorised development.

Honeycomb worm translocation strategy

30.—(1) No part of the authorised development shall be commenced until a written strategy for the translocation of the honeycomb worm (*Sabellaria alveolata*) has been submitted to and approved by the relevant planning authority in consultation with NRW.

(2) The honeycomb worm translocation strategy is to provide for—

- (a) a method statement for the translocation effort;
- (b) identification of temporary and/or permanent receptor sites;
- (c) translocation of casts to encourage future settlement to locations around the new seawalls; and
- (d) provision of rockpools and features similar to bio-blocks to provide biodiversity offset.
- (e) further remedial action to be implemented in the event of an unsuccessful translocation programme or a detrimental effect upon the adjacent undisturbed honeycomb worm reef.

(3) The approved honeycomb worm translocation strategy and any measures thereunder are to be implemented and maintained during construction and operation of the authorised development.

Other ecological matters

31.—(1) No part of the authorised development is to be commenced until a written strategy to secure the removal and/or management of Japanese Knotweed and other invasive non-native species within areas affected by the authorised development has been submitted to and approved by the relevant planning authorities.

(2) The approved measures are to be implemented during construction and operation of any part of the authorised development.

Protected canal route

32.—(1) No authorised development is to commence in respect of Works No.7c, 7d and/or 7f until a written scope of work required for the protection, or accommodation, of the proposed canal route corridor linking from the Tennant Canal to the navigable section of the River Tawe has been submitted to and approved by the relevant planning authority.

(2) All construction work in respect of Works No.7c, 7d and/or 7f is to be carried out in accordance with the approved scope of work.

Passive provision for western link

33.—(1) No authorised development is to commence in respect of Work No. 6b until a scheme for safeguarding a future access to the Order land via the eastern bank of the River Tawe has been submitted to and approved by the relevant local planning authority

(2) The authorised development is to be carried out in accordance with the approved scheme.

Turbines

34.—(1) No authorised development is to commence in respect of Work No.2a until a scheme of works showing

- (a) details of the turbine and sluice gate housing structure, including associated gantry cranes
- (b) details of the variable speed hydro turbines to be installed in the turbine housing and the depth relative to OD at which the turbines are to operate
- (c) details for installation with the turbines of acoustic fish deterrents and of high resolution sonar imaging and collision recording devices

has been submitted to and approved by the relevant local planning authority in consultation with NRW.

(2) The authorised works are to be carried out in accordance with the approved scheme.

Disposal of dredged arisings and protection of Kenfig SAC

35.—(1) Operation of the authorised development is not to commence until a scheme for the disposal of dredged arisings relating to maintenance of depths within the lagoon formed by the authorised works (“maintenance arisings”) has been submitted to the relevant planning authorities, in consultation with NRW, and approved in writing.

(2) Following commencement of the dredging referred to in paragraph (1) of this requirement, disposal of maintenance arisings must not take place except in accordance with a scheme approved under paragraph (1) and/or a marine licence for such disposal granted by NRW (or equivalent).

(3) Any scheme approved under this requirement may provide for—

- (a) disposal of maintenance arisings at Swansea Outer disposal ground (LU130); or
- (b) disposal of maintenance arisings at another disposal ground.

(4) Where the scheme approved under this requirement relates to disposal of maintenance arisings at Swansea Outer disposal Ground, the approved scheme is to make provision for—

- (a) the collection or augmentation of baseline data for a period of 2 years prior to the commencement of disposal of maintenance arisings in relation to the presence of sand, mud and muddy sand adjacent to the Kenfig shoreline between the Northern Edge of Margam Moors and Sker Point (“Kenfig Shoreline”);
- (b) a programme of monitoring designed to predict and/or to identify departure from predicted change to the Kenfig Shoreline as a result of the deposit of maintenance arisings;
- (c) mitigation by the undertaker to prevent or remedy adverse change to the Kenfig Shoreline (which could lead to adverse effects on the Kenfig Special Area of Conservation) as a result of the deposit of maintenance arisings by the undertaker, which may include but need not be limited to the use of an alternate disposal ground in parallel with or in substitution for the use of Swansea Outer disposal ground particularly where other mitigation measures are not available or appropriate for preventing such effects; and
- (d) triggers in response to which mitigation will be secured by the undertaker in the event of change to the Kenfig Shoreline in relation to—
 - (i) erosion rate of the sand dune toe;
 - (ii) the profiles of the sand body in frontal dunes (between the seaward toe and a fixed line twenty metres inland) at intervals identified in the scheme as well as sedimentary characteristics; and
 - (iii) volumes of sand in the area from mean low water to the dune toe, and position of tidal contours on the beach.

- (e) the review of the scheme and the triggers described above in light of the results of monitoring and other events in accordance with the AEMP referred to in requirement 6 of this Order.

(5) Nothing in paragraph (3) of this requirement is to prevent the undertaker from using or relying upon any scheme of that nature promoted by others relating in whole or in part to the protection or monitoring of the Kenfig SAC.

Beach mitigation management

36.—(1) Operation of the authorised development is not to commence until a beach mitigation management strategy for North West Swansea Bay has been submitted to and approved by the relevant planning authority following consultation with NRW.

(2) The approved strategy, which may comprise part of the AEMP is to include provision for—

- (a) continued regular monitoring of beaches in North West Swansea Bay throughout the operational, decommissioning and post-decommissioning of the authorised development;
- (b) identification of thresholds for the application of mitigation measures; and
- (c) flexibility to select the most appropriate mitigation measures from identified options which may include sediment nourishment, sand or mud removal, vegetation removal or spraying, and construction of sand fencing or other form of physical barrier to control wind-blown sand.

(3) The approved scheme is to be implemented by the undertaker during the operation, decommissioning and post-decommissioning phases of the authorised development.

Requirement for written approval

37. Where under any of the above requirements the approval or agreement of the relevant planning authority or any other party is required, that approval or agreement must be provided in writing.

38. Where approval or agreement is sought in relation to requirements 26, 27, 35 and 36 approval must only be given by the relevant planning authority following consultation with NRW.

Amendments to approved details

39. With respect to any requirement which requires the authorised development to be carried out in accordance with the details approved by the relevant planning authority or authorities the approved details are to be taken to include any amendments that may subsequently be approved by the relevant planning authority or authorities.

Marine Mammal Mitigation Strategy

40.—(1) No part of the development is to commence until a written strategy for the monitoring and mitigation of the impacts of the authorized development on marine mammals has been submitted to the relevant planning authorities, and in consultation with NRW, approved in writing. The marine mammal mitigation strategy must provide for:-

- (a) monitoring and mitigation to minimise the potential for disturbance to marine mammals during construction and operation;
- (b) monitoring and mitigation measures to minimise the potential for marine mammal collision with the turbines during operation; and
- (c) agreement of thresholds of mortality of marine mammals (potential biological removal), and action to be taken if those thresholds are exceeded (other than cessation of operation of the turbines for periods in excess of 24 hours), for any given year during the operation of the project.

(2) The approved strategy must be implemented throughout the construction and operation of the development.

(3) The strategy must be reviewed annually unless otherwise agreed in writing by the relevant planning authorities.

(4) No changes to the strategy are to be implemented unless they have been approved in writing by the relevant planning authorities.

Seaward boundary line plan

41.—(1) Within one month of the date of this Order a plan showing the seaward boundary line referred to in Article 52 must be submitted to the relevant planning authorities for approval.

(2) No authorised development is to commence until the plan has been approved by the relevant planning authorities

SCHEDULE 2

Streets Subject to Street Works

<i>(1)</i> <i>Area</i>	<i>(2)</i> <i>Street subject to street work</i>
City and County of Swansea	Langdon Road between X1 and X2 Port access road between X3 and X4 Port access road between X4 and X5 Port access road from X4 to Baldwin's Bridge off slip and link road and Fabian Way eastwards from the junction between the two to X6
Neath Port Talbot County Borough	Fabian Way between X6 and X7 Fabian Way between X7 and X8

SCHEDULE 3

Article 10

Streets to be Temporarily Stopped Up

<i>(1)</i> <i>Area</i>	<i>(2)</i> <i>Street to be temporarily stopped up</i>	<i>(3)</i> <i>Extent of temporary stopping up</i>
Neath Port Talbot County Borough	Fabian Way	Between X6 and X7
	Fabian Way	Between X7 and X8
	Wales Coast Path footpath	Between X9 and X10

SCHEDULE 4

Article 11

Access to Works

<i>(1)</i> <i>Area</i>	<i>(2)</i> <i>Access reference on Works Plans</i>
City and County of Swansea	Access A1 (permanent) Access A2 (permanent)

	Access A3 (permanent)
	Access A4 (construction)
	Access A5 (construction)
	Access A6 (permanent)
	Access A7 (permanent)
	Access A8 (permanent)
Neath Port Talbot County Borough	Access A9 (permanent)
	Access A10 (construction)
	Access A11 (construction)
	Access A12 (construction)
	Access A13 (construction)

SCHEDULE 5

Article 31

Protective Provisions

PART 1

For the protection of Associated British Ports

Interpretation

1. In this part of this Schedule—

“accumulation” means any accumulation of silt or other material (including any materials used to construct the authorised development) which constitutes an impediment to navigation at or in the approaches to the harbours;

“construction” includes execution and placing, maintenance, extension, enlargement, alteration, replacement, relaying, and removal, or the carrying out of an operation and “construct” and “constructed” are to be construed accordingly;

“erosion” means any erosion of the bed or banks of the sea or of any jetty or other structure of whatever nature within the harbours or the approaches to the harbours;

“the harbours” means the ports of Swansea and Port Talbot;

“plans” includes sections, descriptions, drawings, specifications, proposed method statements and hydraulic information;

“port land” means any land held by AB Ports for the purpose of its statutory undertaking;

“specified work” means any tidal work and any work or operation authorised by the Order on port land or which may affect port land or navigation in respect of the harbours and/or the functions of AB Ports in relation to the operation of the harbours; and

“tidal work” includes dredging authorised by this Order or any marine licence granted under the 2009 Act relating to the authorised works.

General

2. For the protection of AB Ports in relation to the harbours the following provisions have effect unless otherwise agreed in writing between the undertaker and AB Ports.

Acquisition or use of port land

3.—(1) The undertaker must not under the powers of this Order acquire or use, or acquire new rights over, port land without the consent of AB Ports.

(2) The undertaker must not exercise powers conferred by article 15 (authority to survey and investigate the land) or the powers conferred by section 11(3) of the 1965 Act (powers of entry) in respect of any port land without the consent of AB Ports.

(3) Article 26 (Power to override easements and other rights) does not apply to any rights held by AB Ports for the purpose of its statutory undertaking, except with the consent of AB Ports.

(4) The consent of AB Ports under this paragraph must not be unreasonably withheld but may be given subject to reasonable conditions.

Approval of plans and arrangements

4.—(1) Before commencing the construction of any specified work the undertaker must furnish to AB Ports plans of that work for its approval.

(2) Before decommissioning the generating station comprised in the authorised development the undertaker must furnish to AB Ports for its approval proposed arrangements for the removal or retention of the authorised development and for making it safe and managing it after it has ceased to be used for the generation of electricity.

(3) Any approval of AB Ports under this paragraph—

- (a) must not be unreasonably withheld;
- (b) may be given subject to such reasonable requirements as AB Ports may make for the protection of the harbours and navigation within the harbours and the approaches to the harbours, including requirement for the undertaker to carry out protective works at its own expense.

(4) The undertaker must—

- (a) carry out any specified work and any protective works required under sub-paragraph (3) in accordance with the plans approved under sub-paragraph (1) or settled under article 51 (arbitration); and
- (b) comply with any arrangements approved under sub-paragraph (2) or settled under article 51 (arbitration).

(5) If AB Ports fails to express its disapproval of any plans or arrangements within 56 days after they have been delivered to it under sub-paragraph (1) or (2), it is deemed to have approved them.

Notice of works

5. The undertaker must give to AB Ports not less than 56 days' written notice of its intention to commence the construction of the specified work and, not more than 14 days after completion of such construction, must give to AB Ports written notice of such completion.

Inspection

6. The undertaker must at all reasonable times during construction of a specified work and thereafter allow AB Ports, its servants and agents, access to such work and all reasonable facilities for inspection of any such work subject always to the reasonable stipulations of the undertaker relating to health, safety, security and confidentiality.

Temporary works

7.—(1) After the purpose of any temporary works has been accomplished the undertaker must with all reasonable dispatch, or after a reasonable period of notice in writing from AB Ports requiring the undertaker so to do, remove any such temporary works or any materials relating thereto which may have been placed on port land or below the level of

high water within the harbours or the approaches to the harbours by or on behalf of the undertaker.

(2) If the undertaker fails to do so within a reasonable period after receiving such notice, AB Ports may remove the same and may recover the reasonable costs of doing so from the undertaker.

Erosion or accumulation

8.—(1) If during the construction of a tidal work or after the completion of that work and wholly or partly in consequence of its construction there is caused or created an accumulation or erosion the undertaker, if so requested by AB Ports acting reasonably, shall remedy such accumulation or erosion to the extent attributable to such construction and, if it refuses or fails to do so, AB Ports may itself cause the work to be done and may recover the reasonable cost of doing so from the undertaker.

(2) For the purposes of sub-paragraphs (1) above—

- (a) in the case of an accumulation, the remedy shall be its removal; and
- (b) in the case of erosion, the remedy shall be the carrying out of such reconstruction works and other protective works or measures as AB Ports reasonably requires.

(3) In the event that surveys, inspection, tests and sampling carried out pursuant to paragraph 12(1)(b) of this Part of this Schedule establish that such accumulation or erosion would have been caused in any event by factors other than the construction of a tidal work, the undertaker shall be liable to remedy such accumulation or erosion only to the extent that the same is attributable to such construction or exercise.

Lighting etc

9. The undertaker shall pay to AB Ports the reasonable costs of such alterations to the marking and lighting of the harbours and the approaches to the harbours as may be necessary in consequence of the construction of a tidal work.

Abandoned or decayed works

10.—(1) If any tidal work or any other work of which the undertaker is in possession in exercise of any of the powers conferred by this Order is abandoned or falls into decay, insofar as it affects or otherwise impacts upon the operation of the harbours or navigation in the approaches to the harbours, AB Ports may by notice in writing require the undertaker to take such reasonable steps as may be specified in the notice either to repair or restore the work, or any part of it, or to remove the work and (to such extent as AB Ports reasonably requires) to restore the site to its former condition.

(2) If any tidal work is in such condition that it is, or is likely to become, a danger to or an interference with navigation, AB Ports may by notice in writing require the undertaker to take such reasonable steps as may be specified in the notice—

- (a) to repair and restore the work or part of it; or
- (b) if the undertaker so elects, to remove the tidal work and (to such extent as AB Ports reasonably requires) to restore the site to its former condition.

(3) If after such reasonable period as may be specified in a notice under this paragraph the undertaker has failed to begin taking steps to comply with the requirements of the notice, or after beginning has failed to make reasonably expeditious progress towards their implementation, AB Ports may carry out the works specified in the notice and any expenditure reasonably incurred by it in so doing is recoverable from the undertaker.

(4) This provision shall not apply where any work is being managed and operated in accordance with any approval given by AB Ports or by any programme approved by the Secretary of State to which article 43 (application of the Energy Act 2004) applies.

(5) In the event of a difference or dispute between the undertaker and AB Ports as to the necessity of any steps or works specified in a notice by AB Ports under this paragraph such difference or dispute shall be determined by arbitration in accordance with article 51 (arbitration).

Byelaws

11. The undertaker must consult AB Ports not less than 42 days before making any byelaw under article 48 (byelaws) and shall not make any byelaw which in the reasonable opinion of AB Ports conflicts with any byelaws made by AB Ports or with any powers exercisable by AB Ports or a harbour master of AB Ports for the regulation of navigation at the harbours or the approaches to the harbours.

Indemnity

12.—(1) Without prejudice to the other provisions of this part of this Schedule, the undertaker is to be responsible for, and make good to AB Ports, all losses, costs, charges, damages and expenses however caused which may reasonably be incurred by or occasioned to AB Ports by reason of or arising from or in connection with—

- (a) the perusal of plans and navigation schemes and the inspection of the specified work by AB Ports or its duly authorised representative;
- (b) the carrying out of surveys, inspections, tests and sampling within the harbours and the approaches to the harbours —
 - (i) to establish the marine conditions prevailing prior to the construction of any of the tidal work in such area of the river as AB Ports has reasonable cause to believe may subsequently be affected by any accumulation or erosion which the undertaker is liable to remedy under paragraph 8; and
 - (ii) where AB Ports has reasonable cause to believe that the construction of any of the tidal work is causing or has caused any such accumulation or erosion;
- (c) the construction or failure of the specified work, or the undertaking by AB Ports of works or measures to prevent or remedy danger or impediment to navigation or damage to any property of AB Ports arising from such construction or failure including—
 - (i) any additional costs of dredging incurred by AB Ports as a result of contamination of the seabed caused by the construction of the specified work; and
 - (ii) any damage to the lock gates or damage from flooding caused by increased wave reflection as a result of the construction of the specified works;
- (d) any act or omission of the undertaker or their servants or agents whilst engaged in the construction of any of the specified work.

(2) Without prejudice to the generality of sub-paragraph (1), the undertaker must indemnify AB Ports from and against all claims and demands arising out of, or in connection with, such construction, or failure or act or omission as is mentioned in that sub-paragraph.

(3) Nothing in this paragraph imposes any liability on the undertaker to the extent that any losses, costs, charges, damages, expenses, claims or demands referred to in sub-paragraph (1) or (2) are attributable to negligence on the part of AB Ports or of any person in its employ or of its contractors or agents.

(4) AB Ports must give to the undertaker notice in writing of any claim or demand for which the undertaker may be liable under this paragraph and no settlement or compromise of any such claim or demand may be made without the consent in writing of the undertaker.

13. The fact that any work or thing has been executed or done with the consent of AB Ports and in accordance with any conditions or restrictions prescribed by AB Ports or in accordance with any plans approved or deemed to be approved by AB Ports or to its

satisfaction or in accordance with any directions or award of any arbitrator or in accordance with any plans approved by the Welsh Ministers and any conditions or restrictions imposed by him, does not relieve the undertaker from any liability under the provisions of this part of this Schedule.

14. With the exception of any duty owed by AB Ports to the undertaker expressly provided for in the foregoing provisions of this part of this Schedule, nothing in this Order is to be construed as imposing upon AB Ports, either directly or indirectly, any form of duty or liability to which AB Ports would not otherwise be subject which is enforceable by proceedings before any court.

Statutory functions

15. Save to the extent expressly provided for nothing in this Order affects prejudicially any statutory or other rights, powers or privileges vested in, or enjoyed by, AB Ports at the commencement of this Order.

Arbitration

16. Any difference or dispute arising under this Part of this Schedule shall, unless otherwise agreed in writing between the undertaker and AB Ports, be determined by arbitration in accordance with article 51 (arbitration).

PART 2

For the protection of Neath Port Authority

Interpretation

17.—(1) In this part of this Schedule—

“accumulation” means any accumulation of silt or other material (including any materials used to construct the authorised development) which constitutes an impediment to navigation at or in the approaches to the harbour including but not limited to accumulations against work No. 1b;

“construction” includes execution and placing, maintenance, extension, enlargement, alteration, replacement, relaying, and removal, or the carrying out of an operation and “construct” and “constructed” are to be construed accordingly;

“erosion” means any erosion of the bed or banks of the sea or of any jetty or other structure of whatever nature within the harbours or the approaches to the harbours;

“the harbour” means the Port of Neath;

“plans” includes sections, descriptions, drawings, specifications, proposed method statements, hydraulic and bathymetric survey information and risk assessment;

“protected person” means the Neath Port Authority;

“specified work” means any tidal work and any work or operation authorised by the Order which is likely to affect navigation in respect of the harbour and/or the functions of Neath Port Authority in relation to the operation of the harbour; and

“tidal work” includes dredging authorised by this Order or any licence granted under the 2009 Act relating to the authorised works.

General

18. For the protection of Neath Port Authority in relation to the harbour the following provisions shall have effect unless otherwise agreed in writing between the undertaker and Neath Port Authority .

Approval of plans and arrangements

19.—(1) Before commencing the construction of any specified work the undertaker must furnish to Neath Port Authority plans of that work for its approval.

(2) Any approval of Neath Port Authority under this paragraph—

- (a) must not be unreasonably withheld or delayed;
- (b) may be given subject to such reasonable requirements as Neath Port Authority may make for the protection of the harbour and navigation within the harbour and the approaches to the harbour, including requirement for the undertaker to carry out protective works at its own expense.

(3) The undertaker must—

- (a) carry out any specified work and any protective works required under sub-paragraph (2) in accordance with the plans approved under sub-paragraph (1) or settled under article 51 (arbitration); and
- (b) comply with any arrangements approved under sub-paragraph (2) or settled under article 51 (arbitration).

(4) If Neath Port Authority fails to express its disapproval of any plans or arrangements within 56 days after they have been delivered to it under sub-paragraph (1) or (2), it will be deemed to have approved them.

Notice of works

20. The undertaker must give to Neath Port Authority not less than 56 days' written notice of its intention to commence the construction of the specified work and, not more than 14 days after completion of such construction, must give to Neath Port Authority written notice of such completion.

Inspection

21. The undertaker must at all reasonable times during construction of a specified work and thereafter allow Neath Port Authority, its servants and agents, access to such work and all reasonable facilities for inspection of any such work subject always to the reasonable stipulations of the undertaker relating to health, safety, security and confidentiality.

Temporary works

22.—(1) After the purpose of any temporary works has been accomplished the undertaker must with all reasonable dispatch, or after a reasonable period of notice in writing from Neath Port Authority requiring the undertaker so to do, remove any such temporary works or any materials relating thereto which may have been placed below the level of high water within the harbour or the approaches to the harbour by or on behalf of the undertaker.

(2) If the undertaker fails to do so within a reasonable period after receiving such notice, Neath Port Authority may remove the same and may recover the reasonable costs of doing so from the undertaker.

Erosion or accumulation

23.—(1) If during the construction of a tidal work or after the completion of that work and wholly or partly in consequence of its construction there is caused or created an accumulation or erosion within the harbour or approaches to the harbour that is likely to be detrimental to navigation, the undertaker, if so requested by Neath Port Authority acting reasonably, shall remedy such accumulation or erosion to the extent attributable to such construction and, if it refuses or fails to do so, Neath Port Authority may itself cause the work to be done and may recover the reasonable cost of doing so from the undertaker.

- (2) For the purposes of sub-paragraphs (1) above—
- (a) in the case of an accumulation, the remedy shall be its removal; and
 - (b) in the case of erosion, the remedy shall be the carrying out of such reconstruction works and other protective works or measures as Neath Port Authority reasonably requires.

(3) In the event that surveys, inspection, tests and sampling carried out pursuant to paragraph 26(1)(b) of this Part of this Schedule establish that such accumulation or erosion would have been caused in any event by factors other than the construction of a tidal work, the undertaker shall be liable to remedy such accumulation or erosion only to the extent that the same is attributable to such construction or exercise.

Lighting etc

24. The undertaker shall pay to Neath Port Authority the reasonable costs of such alterations to the marking and lighting of the harbour and the approaches to the harbour as may be necessary in consequence of the construction of a tidal work.

Abandoned or decayed works

25.—(1) If any tidal work or any other work of which the undertaker is in possession in exercise of any of the powers conferred by this Order is abandoned or falls into decay, insofar as it affects or otherwise impacts upon the operation of the harbour or navigation in the approaches to the harbours, Neath Port Authority may by notice in writing require the undertaker to take such reasonable steps as may be specified in the notice either to repair or restore the work, or any part of it, or to remove the work and (to such extent as Neath Port Authority reasonably requires) to restore the site to its former condition.

(2) If any tidal work is in such condition that it is, or is likely to become, a danger to or an interference with navigation, Neath Port Authority may by notice in writing require the undertaker to take such reasonable steps as may be specified in the notice—

- (a) to repair and restore the work or part of it; or
- (b) if the undertaker so elects, to remove the tidal work and (to such extent as Neath Port Authority reasonably requires) to restore the site to its former condition.

(3) If after such reasonable period as may be specified in a notice under this paragraph the undertaker has failed to begin taking steps to comply with the requirements of the notice, or after beginning has failed to make reasonably expeditious progress towards their implementation, Neath Port Authority may carry out the works specified in the notice and any expenditure reasonably incurred by it in so doing is recoverable from the undertaker.

(4) This provision shall not apply where any work is being managed and operated in accordance with any approval given by Neath Port Authority or by any programme approved by the Secretary of State to which article 43 (decommissioning) applies.

(5) In the event of a difference or dispute between the undertaker and Neath Port Authority as to the necessity of any steps or works specified in a notice by Neath Port Authority under this paragraph such difference or dispute shall be determined by arbitration in accordance with article 51 (arbitration).

Indemnity

26.—(1) Without prejudice to the other provisions of this part of this Schedule, the undertaker is to be responsible for, and make good to Neath Port Authority, all losses, costs, charges, damages and expenses however caused which may reasonably be incurred by or occasioned to Neath Port Authority by reason of or arising from or in connection with—

- (a) the perusal of plans and navigation schemes and the inspection of the specified work by Neath Port Authority or its duly authorised representative;

- (b) the carrying out of surveys, inspections, tests and sampling within the harbour and the approaches to the harbours —
 - (i) to establish the marine conditions prevailing prior to the construction of any tidal work in such area as Neath Port Authority has reasonable cause to believe may subsequently be affected by any accumulation or erosion which the undertaker is liable to remedy under paragraph 23 and
 - (ii) where Neath Port Authority has reasonable cause to believe that the construction of any of the tidal work is causing or has caused any such accumulation or erosion;
- (c) the construction or failure of a specified work, or the undertaking by Neath Port Authority of works or measures to prevent or remedy danger or impediment to navigation or damage to any property of Neath Port Authority arising from such construction or failure;
- (d) any act or omission of the undertaker or their servants or agents whilst engaged in the construction of any of the specified work.

(2) Without prejudice to the generality of sub-paragraph (1), the undertaker shall indemnify Neath Port Authority from and against all claims and demands arising out of, or in connection with, such construction, or failure or act or omission as is mentioned in that sub-paragraph.

(3) Nothing in this paragraph imposes any liability on the undertaker to the extent that any losses, costs, charges, damages, expenses, claims or demands referred to in sub-paragraph (1) or (2) are attributable to negligence on the part of Neath Port Authority or of any person in its employ or its contractors or agents.

(4) Neath Port Authority must give to the undertaker notice in writing of any claim or demand for which the undertaker may be liable under this paragraph and no settlement or compromise of any such claim or demand may be made without the consent in writing of the undertaker.

27. The fact that any work or thing has been executed or done with the consent of Neath Port Authority and in accordance with any conditions or restrictions prescribed by Neath Port Authority or in accordance with any plans approved or deemed to be approved by Neath Port Authority or to its satisfaction or in accordance with any directions or award of any arbitrator or and any conditions or restrictions imposed by him, does not relieve the undertaker from any liability under the provisions of this part of this Schedule.

28. With the exception of any duty owed by Neath Port Authority to the undertaker expressly provided for in the foregoing provisions of this part of this Schedule, nothing in this Order is to be construed as imposing upon Neath Port Authority, either directly or indirectly, any form of duty or liability to which Neath Port Authority would not otherwise be subject which is enforceable by proceedings before any court.

Statutory functions

29. Save to the extent expressly provided for nothing in this Order affects prejudicially any statutory or other rights, powers or privileges vested in, or enjoyed by, Neath Port Authority at the commencement of this Order.

Arbitration

30. Any difference or dispute arising under this Part of this Schedule shall, unless otherwise agreed in writing between the undertaker and Neath Port Authority, be determined by arbitration in accordance with article 51 (arbitration).

PART 3

For the protection of electricity protected persons

National Grid Electricity Transmission Plc

Application

31. For the protection of the persons referred to in this part of this Schedule the following provisions shall, unless otherwise agreed in writing between the protected person and the persons concerned, have effect.

Interpretation

32. In this Part of this Schedule—

“alternative apparatus” means appropriate alternative apparatus to the satisfaction of the protected person to enable the protected person in question to fulfil its statutory functions in a manner no less efficient than previously;

“apparatus” means in the case of an electricity protected person, electric lines or electrical plant as defined in the Electricity Act 1989, belonging to or maintained by that protected person;

“authorised development” has the same meaning as in Schedule 1 of this Order and for the purposes of this Schedule include the use and maintenance of the authorised development;

“commence” has the same meaning as in article 2 but for the purposes of this Schedule 6 any works whatsoever which are near to or may affect apparatus of the protected person shall be included within this definition and for the avoidance of doubt this includes works for the diversion or laying of services and commencement shall be construed to have the same meaning;

“functions” includes powers and duties;

“ground mitigation scheme” means a scheme approved by the protected person (such approval not to be unreasonably withheld or delayed) setting out the necessary measures (if any) for a ground subsidence event;

“ground monitoring scheme” means a scheme for monitoring ground subsidence which sets out the apparatus which is to be subject to such monitoring, the extent of land to be monitored, the manner in which ground levels are to be monitored, the timescales of any monitoring activities and the extent of ground subsidence which, if exceeded, shall require the undertaker to submit for the protected person’s approval a ground mitigation scheme;

“ground subsidence event” means any ground subsidence identified by the monitoring activities set out in the ground monitoring scheme that has exceeded the level described in the ground monitoring scheme as requiring a ground mitigation scheme;

“in” in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over, across, along or upon such land;

“maintain” and “maintenance” shall include the ability and right to do any of the following in relation to any apparatus or alternative apparatus of the protected person including construct, use, repair, alter, inspect, renew or remove the apparatus;

“plan” or “plans” include all designs, drawings, specifications, method statements, soil reports, programmes, calculations, risk assessments and other documents that are reasonably necessary properly and sufficiently to describe and assess the works to be executed; and

“protected person” means National Grid Electricity Transmission plc.

33. Except for paragraphs 34 (apparatus of protected persons in stopped up streets), 39 (retained apparatus: protection: electricity protected persons), 40 (expenses) and 41 (indemnity) this Schedule does not apply to apparatus in respect of which the relations

between the undertaker and the protected person are regulated by the provisions of Part 3 of the 1991 Act.

Apparatus of protected persons in stopped up streets

34.—(1) Where any street is stopped up under article 10 (temporary stopping up of streets), any protected person whose apparatus is in the street or accessed via that street shall be entitled to the same rights in respect of such apparatus as it enjoyed immediately before the stopping up and the protected person will grant to the protected person legal easements reasonably satisfactory to the specified protected person in respect of such apparatus and access to it prior to the stopping up of any such street or highway.

(2) Notwithstanding the temporary stopping up or diversion of any highway under the powers of article 10 (temporary stopping up of streets), a protected person shall be at liberty at all times to take all necessary access across any such stopped up highway and/or to execute and do all such works and things in, upon or under any such highway as may be reasonably necessary or desirable to enable it to maintain any apparatus which at the time of the stopping up or diversion was in that highway.

Protective works to buildings

35.—(1) The undertaker, in the case of the powers conferred by article 14 (protective work to buildings), shall so exercise those powers as not to obstruct or render less convenient the access to any apparatus without the written consent of the protected person and, if by reason of the exercise of those powers any damage to any apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal or abandonment) or property of any protected person or any interruption in the supply of electricity by the protected person is caused, the protected person shall bear and pay on demand the cost reasonably incurred by that protected person in making good such damage or restoring the supply; and, subject to sub-paragraph (2), shall—

- (a) make compensation to the protected person for any loss sustained by it; and
- (b) indemnify the protected person against all claims, demands, proceedings, costs, damages and expenses which may be made or taken against or recovered from or incurred by that protected person, by reason of any such damage or interruption.

(2) Nothing in this paragraph shall impose any liability on the protected person with respect to any damage or interruption to the extent that such damage or interruption is attributable to the act, neglect or default of a protected person or its contractors or workmen; and the protected person shall give to the protected person reasonable notice of any claim or demand as aforesaid and no settlement or compromise thereof shall be made without first consulting the protected person and giving them an opportunity to make representations as to the claim or demand.

Acquisition of land

36. This Order shall not authorise the acquisition or extinguishment of land or rights in land or override any interest in land owned by a protected person that is or are required for the retention or maintenance of any retained apparatus except with the agreement of the protected person which shall not be unreasonably withheld.

Removal of apparatus

37.—(1) If, in the exercise of the agreement reached in accordance with paragraph 36 or in any other authorised manner, the protected person acquires any interest in any land in which any apparatus is placed, that apparatus shall not be removed under this part of this Schedule and any right of a protected person to maintain that apparatus in that land shall not be extinguished until alternative apparatus has been constructed, and is in operation to

the reasonable satisfaction of the protected person in question in accordance with sub-paragraph (2) to (6) inclusive.

(2) If, for the purpose of executing any works in, on, under or over any land purchased, held, appropriated or used under this Order, the protected person requires the removal of any apparatus placed in that land, it shall give to the protected person in question 56 days' advance written notice of that requirement, together with a plan of the work proposed, and of the proposed position of the alternative apparatus to be provided or constructed and in that case (or if in consequence of the exercise of any of the powers conferred by this Order a protected person reasonably needs to remove any of its apparatus) the protected person shall, subject to sub-paragraph (3), afford to the protected person to their satisfaction (taking into account 38(1) below) the necessary facilities and rights for—

- (a) the construction of alternative apparatus in other land of the undertaker; and
- (b) subsequently for the maintenance of that apparatus.

(3) If alternative apparatus or any part of such apparatus is to be constructed elsewhere than in other land of the undertaker, or the undertaker is unable to afford such facilities and rights as are mentioned in sub-paragraph (2), in the land in which the alternative apparatus or part of such apparatus is to be constructed, the protected person in question shall, on receipt of a written notice to that effect from the undertaker, take such steps as are reasonable in the circumstances in an endeavour to obtain the necessary facilities and rights in the land in which the alternative apparatus is to be constructed save that this obligation shall not extend to the requirement for the protected person to use its compulsory purchase powers to this end unless it elects to so do.

(4) Any alternative apparatus to be constructed in land of the undertaker under this part of this Schedule shall be constructed in such manner and in such line or situation as may be agreed between the protected person in question and the undertaker.

(5) The protected person in question shall, after the alternative apparatus to be provided or constructed has been agreed, and subject to the grant to the protected person of any such facilities and rights as are referred to in sub-paragraph (2) or (3), proceed without unnecessary delay to construct and bring into operation the alternative apparatus and subsequently to remove any apparatus required by the undertaker to be removed under the provisions of this part of this Schedule.

(6) The undertaker and the protected person agree that where there is any inconsistency or duplication between the provisions set out in this Schedule relating to the relocation and/or removal of apparatus (including but not limited to the payment of costs and expenses relating to such relocation and/or removal of apparatus) and the provisions of any existing easements rights agreements and licences granted used enjoyed or exercised by the protected person as of right or otherwise in relation to the apparatus then the provisions of this Schedule shall prevail.

Facilities and rights for alternative apparatus

38.—(1) Where, in accordance with the provisions of this part of this Schedule, the undertaker affords to a protected person facilities and rights for the construction and maintenance in land of the undertaker of alternative apparatus in substitution for apparatus to be removed, those facilities and rights shall be granted upon such terms and conditions as may be agreed between the undertaker and the protected person in question and shall be no less favourable on the whole to the protected person in question than the facilities and rights enjoyed by it in respect of the apparatus to be removed unless agreed by the protected person.

(2) If the facilities and rights to be afforded by the undertaker and agreed with the protected person under (1) above in respect of any alternative apparatus, and the terms and conditions subject to which those facilities and rights are to be granted, are less favourable on the whole to the protected person in question than the facilities and rights enjoyed by it in respect of the apparatus to be removed and the terms and conditions to

which those facilities and rights are subject in the matter shall be referred to arbitration and, the arbitrator shall make such provision for the payment of compensation by the undertaker to that protected person as appears to the arbitrator to be reasonable having regard to all the circumstances of the particular case.

Retained apparatus: Protection: Electricity protected persons

39.—(1) Not less than 56 days before the commencement of any works authorised by this Order that are near to, or will or may affect, any apparatus the removal of which has not been required by the undertaker under paragraph 37(2) or otherwise, the undertaker shall submit to the protected person in question a plan and a ground monitoring scheme and seek from the protected person details of the underground extent of their electricity tower foundations.

(2) In relation to works which will or may be situated on, over, under or within (i) 15 metres measured in any direction of any apparatus, or (ii) involve embankment works within 10 metres of any apparatus, or (iii) involve works within 10 metres of the outermost edge of any tower foundations the plan to be submitted to the protected person under sub-paragraph (1) shall be detailed including a method statement and describing—

- (a) the exact position of the works;
- (b) the level at which these are proposed to be constructed or renewed;
- (c) the manner of their construction or renewal including details of excavation, positioning of plant;
- (d) the position of all apparatus;
- (e) by way of detailed drawings, every alteration proposed to be made to or close to any such apparatus;
- (f) intended maintenance regimes;
- (g) an assessment of risks of rise of earth issues;
- (h) details of clearance to pylon foundations;
- (i) demonstration that pylon foundations will not be affected prior to, during and post construction; and
- (j) a written management plan for high voltage hazard during construction.

(3) The undertaker shall not commence any works to which sub-paragraph (2) apply until the protected person has given written approval of the plan so submitted.

(4) Any approval of the protected person required under sub-paragraph (2)—

- (a) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraph (6) or (8);
- (b) shall not be unreasonably withheld.

(5) In relation to a work to which sub-paragraph (2) applies, the protected person may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing its system against interference or risk of damage or for the purpose of providing or securing proper and convenient means of access to any apparatus.

(6) Works executed under this Order shall be executed only in accordance with the plan, submitted under sub-paragraph (1) or as relevant sub-paragraph (5), as amended from time to time by agreement between the undertaker and the protected person and in accordance with such reasonable requirements as may be made in accordance with sub-paragraph (6) or (8) by the protected person for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and the protected person shall be entitled to watch and inspect the execution of those works.

(7) Where protected persons require any protective works to be carried out either themselves or by the undertaker (whether of a temporary or permanent nature) such

protective works shall be carried out to the protected persons' satisfaction prior to the commencement of any authorised development (or any relevant part thereof) and the protected persons shall give 56 days' notice of such works from the date of submission of a plan in line with sub-paragraph (1) or (5) (except in an emergency).

(8) If an protected person in accordance with sub-paragraph (6) or (8) and in consequence of the works proposed by the undertaker, reasonably requires the removal of any apparatus and gives written notice to the undertaker of that requirement, paragraphs 61 to 63 and 66 to 68 shall apply as if the removal of the apparatus had been required by the undertaker under paragraph 37(2).

(9) Nothing in this paragraph shall preclude the undertaker from submitting at any time or from time to time, but in no case less than 56 days before commencing the execution of any works, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph shall apply to and in respect of the new plan.

(10) The undertaker shall not be required to comply with sub-paragraph (1) where it needs to carry out emergency works as defined in the 1991 Act but in that case it shall give to the protected person in question notice as soon as is reasonably practicable and a plan of those works and shall—

- (a) comply with sub-paragraph (6), (7) and (8) insofar as is reasonably practicable in the circumstances; and
- (b) comply with sub-paragraph (12) at all times.

(11) At all times when carrying out any works authorised under the Order comply with National Grid's policies for development near overhead lines EN43-8 and HSE's guidance note 6 "Avoidance of Danger from Overhead Lines".

(12) As soon as reasonably practicable after any ground subsidence event attributable to the authorised development the undertaker shall implement an appropriate ground mitigation scheme save that the protected person retains the right to carry out any further necessary protective works for the safeguarding of its apparatus and can recover any such costs in line with paragraph 40.

Expenses

40.—(1) Subject to the following provisions of this paragraph, the undertaker shall pay to a protected person on demand all charges, costs and expenses reasonably anticipated or incurred by that protected person in, or in connection with, the inspection, removal, relaying or replacing, alteration or protection of any apparatus or the construction of any new apparatus which may be required in consequence of the execution of any such works as are referred to in this Schedule including without limitation—

- (a) any costs reasonably incurred or compensation properly paid in connection with the acquisition of rights or the exercise of statutory powers for such apparatus including without limitation in the event that the protected person elects to use CPO powers to acquire any necessary rights under 37(3) all costs incurred as a result of such action;
- (b) in connection with the cost of the carrying out of any diversion work or the provision of any alternative apparatus;
- (c) the cutting off of any apparatus from any other apparatus or the making safe of redundant apparatus;
- (d) the approval of plans;
- (e) the carrying out of protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works; and
- (f) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Schedule.

(2) There shall be deducted from any sum payable under sub-paragraph (1) the value of any apparatus removed under the provisions of this Schedule and which is not re-used as part of the alternative apparatus, that value being calculated after removal.

(3) If in accordance with the provisions of this part of this Schedule—

- (a) apparatus of better type, of greater capacity or of greater dimensions is placed in substitution for existing apparatus of worse type, of smaller capacity or of smaller dimensions; or
- (b) apparatus (whether existing apparatus or apparatus substituted for existing apparatus) is placed at a depth greater than the depth at which the existing apparatus was situated,

and the placing of apparatus of that type or capacity or of those dimensions or the placing of apparatus at that depth, as the case may be, is not agreed by the undertaker or in default of agreement settled by arbitration in accordance with article 51 (arbitration) to be necessary, then, if such placing involves cost in the construction of works under this part of this Schedule exceeding that which would have been involved if the apparatus placed had been of the existing type, capacity or dimensions, or at the existing depth, as the case may be, the amount which apart from this sub-paragraph would be payable to the protected person in question by virtue of sub-paragraph (1) shall be reduced by the amount of that excess save where it is not possible in the circumstances to obtain the existing type of operations, capacity, dimensions or place at the existing depth in which case full costs shall be borne by the undertaker.

(4) For the purposes of sub-paragraph 70(3)—

- (a) an extension of apparatus to a length greater than the length of existing apparatus shall not be treated as a placing of apparatus of greater dimensions than those of the existing apparatus; and
- (b) where the provision of a joint in a pipe or cable is agreed, or is determined to be necessary, the consequential provision of a jointing chamber or of a manhole shall be treated as if it also had been agreed or had been so determined.

(5) An amount which apart from this sub-paragraph would be payable to an protected person in respect of works by virtue of sub-paragraph (1) shall, if the works include the placing of apparatus provided in substitution for apparatus placed more than 7 years and 6 months earlier so as to confer on the protected person any financial benefit by deferment of the time for renewal of the apparatus in the ordinary course, be reduced by the amount which represents that benefit.

Indemnity

41.—(1) Subject to sub-paragraphs 71(2) and 71(3), if by reason or in consequence of the construction of any such works authorised by this Schedule or in consequence of the construction, use, maintenance or failure of any of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by it) in the course of carrying out such works, including without limitation works carried out by the undertaker under this Schedule or any subsidence resulting from any of these works), any damage is caused to any apparatus or alternative apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of those works) or property of an protected person, or there is any interruption in any service provided, or in the supply of any goods, by any protected person, or the protected person becomes liable to pay any amount to any third party, the undertaker shall—

- (a) bear and pay on demand the cost reasonably incurred by that protected person in making good such damage or restoring the supply; and
- (b) indemnify that protected person for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from the protected person, by reason or in consequence of any such damage or interruption or the protected person becoming liable to any third party as aforesaid.

(2) The fact that any act or thing may have been done by a protected person on behalf of the undertaker or in accordance with a plan approved by a protected person or in accordance with any requirement of an protected person or under its supervision shall not (subject to sub-paragraph 71(3), excuse the undertaker from liability under the provisions of this sub-paragraph 71(1)).

(3) Nothing in sub-paragraph 71(1) shall impose any liability on the undertaker with respect to any damage or interruption to the extent that it is attributable to the neglect or default of an protected person, its officers, servants, contractors or agents.

(4) A protected person shall give the undertaker reasonable notice of any such claim or demand and no settlement or compromise shall be made without first consulting the undertaker and considering their representations.

Protection of access routes to Baglan Bay substation

42. Without prejudice to paragraph 66 of this Schedule where the undertaker carries out any authorised development situated on over under or within land which forms part of the existing access route(s) to Baglan Bay substation the undertaker shall ensure that any cable or other equipment installed in such land as part of the authorised development shall be buried to a sufficient depth that it does not suffer damage as a consequence of the habitual use of the Baglan Bay substation access route(s) by vehicles (including but not limited to heavy goods vehicles and large goods vehicles) accessing to and egressing from Baglan Bay substation by the protected person its contractors surveyors employees and others authorised by it for the carrying out of its undertaking.

Enactments and agreements

43. Nothing in this part of this Schedule shall affect the provisions of any enactment or agreement regulating the relations between the undertaker and a protected person in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

Co-operation

44. Where in consequence of the proposed construction of any of the authorised development, the undertaker or a protected person requires the removal of apparatus under paragraph 37(2) or a protected person makes requirements for the protection or alteration of apparatus under paragraph 39, the undertaker shall use its best endeavours to co-ordinate the execution of the works in the interests of safety and the efficient and economic execution of the authorised development and taking into account the need to ensure the safe and efficient operation of the protected person's undertaking and each protected person shall use its best endeavours to co-operate with the undertaker for that purpose.

Access

45. If in consequence of the agreement reached in accordance with paragraph 36 or the powers granted under this Order the access to any apparatus is materially obstructed, the undertaker shall provide such alternative means of access to such apparatus as will enable the protected person to maintain or use the apparatus no less effectively than was possible before such obstruction.

Arbitration

46. Save for differences or disputes arising under paragraph 37(2), 37(4), 38(1) and 39 any difference or dispute arising between the undertaker and an protected person under this Schedule shall, unless otherwise agreed in writing between the undertaker and that protected person, be determined by arbitration in accordance with article 51 (arbitration).

PART 4

For the protection of electricity protected persons

Baglan Operations Limited

Application

47. For the protection of the persons referred to in this part of this Schedule the following provisions shall, unless otherwise agreed in writing between the protected person and the persons concerned, have effect.

Interpretation

48. In this Part of this Schedule—

“apparatus” means in the case of an electricity protected person, electric lines or electrical plant as defined in the Electricity Act 1989, belonging to or maintained by that protected person; in addition to water, gas and outflow apparatus

“authorised development” has the same meaning as in Schedule 1 of this Order and for the purposes of this Schedule include the use and maintenance of the authorised development;

“commence” has the same meaning as in article 2 but for the purposes of this Schedule 7 any works whatsoever which are near to or may affect apparatus of the protected person shall be included within this definition and for the avoidance of doubt this includes works for the diversion or laying of services and commencement shall be construed to have the same meaning;

“functions” includes powers and duties;

“in” in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over, across, along or upon such land;

“maintain” and “maintenance” shall include the ability and right to do any of the following in relation to any apparatus or alternative apparatus of the protected person including construct, use, repair, alter, inspect, renew or remove the apparatus

“plan” or “plans” include all designs, drawings, specifications, method statements, soil reports, programmes, calculations, risk assessments and other documents that are reasonably necessary properly and sufficiently to describe and assess the works to be executed;

“protected person” means Baglan Operations Limited.

49. Except for paragraphs 50 (apparatus of protected persons in stopped up streets), 53 (retained apparatus: protection: protected persons), 54 (expenses) and 55 (indemnity) this Schedule does not apply to apparatus in respect of which the relations between the undertaker and the protected person are regulated by the provisions of Part 3 of the 1991 Act.

Apparatus of protected persons in stopped up streets

50.—(1) Where any street is stopped up under article 10 (temporary stopping up of streets), any protected person whose apparatus is in the street or accessed via that street shall be entitled to the same rights in respect of such apparatus as it enjoyed immediately before the stopping up and the undertaker will grant to the protected person legal easements reasonably satisfactory to the protected person in respect of such apparatus and access to it prior to the stopping up of any such street or highway.

(2) Notwithstanding the temporary stopping up or diversion of any highway under the powers of article 10 (temporary stopping up of streets), the protected person shall be at liberty at all times to take all necessary access across any such stopped up highway and/or to execute and do all such works and things in, upon or under any such highway

as may be reasonably necessary or desirable to enable it to maintain any apparatus which at the time of the stopping up or diversion was in that highway.

Protective works to buildings

51.—(1) The undertaker, in the case of the powers conferred by article 14 (protective work to buildings), shall so exercise those powers as not to obstruct or render less convenient the access to any apparatus without the written consent of the protected person and, if by reason of the exercise of those powers any damage to any apparatus or property of the protected person or any interruption in the supply of electricity by the protected person is caused, the undertaker shall bear and pay on demand the cost reasonably incurred by the protected person in making good such damage or restoring the supply; and, subject to sub-paragraph (2), shall—

- (a) make compensation to the protected person for any loss sustained by it; and
- (b) indemnify the protected person against all claims, demands, proceedings, costs, damages and expenses which may be made or taken against or recovered from or incurred by that protected person, by reason of any such damage or interruption.

(2) Nothing in this paragraph shall impose any liability on the undertaker with respect to any damage or interruption to the extent that such damage or interruption is attributable to the act, neglect or default of the protected person or its contractors or workmen; and the protected person shall give to the undertaker reasonable notice of any claim or demand as aforesaid and no settlement or compromise thereof shall be made without first consulting the undertaker and giving them an opportunity to make representations as to the claim or demand.

Acquisition of land

52. Regardless of any provision in this Order or anything shown in the book of reference and on the land plans, the undertaker must not acquire any apparatus or override any easement or other interest of the protected person otherwise than with the agreement of the protected person which shall not be unreasonably withheld or delayed.

Retained apparatus: protection: protected persons

53.—(1) Not less than 56 days before the commencement of any works authorised by this Order that are near to, or will or may affect any apparatus, the undertaker shall submit to the protected person in question a plan and a risk assessment in an appropriate form.

(2) In relation to works which will or may be situated on, over, under or within 15 metres measured in any direction of any apparatus, the plan to be submitted to the protected person under sub-paragraph (1) shall be detailed including a method statement and describing—

- (a) the exact position of the works;
- (b) the level at which these are proposed to be constructed or renewed;
- (c) the manner of their construction or renewal including details of excavation, positioning of plant;
- (d) the position of all apparatus;
- (e) by way of detailed drawings, every alteration proposed to be made to or close to any such apparatus; and
- (f) intended maintenance regimes.

(3) The undertaker shall not commence any works to which sub-paragraph (2) applies until the protected person has given written approval of the plan so submitted.

(4) Any approval of the protected person required under sub-paragraph (2)—

- (a) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraph (5) or (7); and
- (b) shall not be unreasonably withheld.

(5) In relation to a work to which sub-paragraph (2) applies, the protected person may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing its system against interference or risk of damage or for the purpose of providing or securing proper and convenient means of access to any apparatus.

(6) Works executed under this Order shall be executed only in accordance with the plan, submitted under sub-paragraph (1) or as relevant sub-paragraph (4), as amended from time to time by agreement between the undertaker and the protected person and in accordance with such reasonable requirements as may be made in accordance with sub-paragraph (5) or (7) by the protected person for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and the protected person shall be entitled to watch and inspect the execution of those works.

(7) Where the protected person requires any protective works to be carried out either itself or by the undertaker (whether of a temporary or permanent nature) such protective works shall be carried out to the protected person's reasonable satisfaction prior to the commencement of any authorised works (or any relevant part thereof) and the protected person shall give 56 days' notice of such works from the date of submission of a plan in line with sub-paragraph (1) or (4) (except in an emergency) and such protective works must be carried out with all reasonable dispatch and with all reasonable endeavours being used to complete them within three (3) months of the expiration of the said period of 56 days.

(8) Nothing in this paragraph shall preclude the undertaker from submitting at any time or from time to time, but in no case less than 56 days before commencing the execution of any works, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph shall apply to and in respect of the new plan.

(9) The undertaker shall not be required to comply with sub-paragraph (1) where it needs to carry out emergency works as defined in the 1991 Act but in that case it shall give to the protected person notice as soon as is reasonably practicable and a plan of those works and shall—

- (a) comply with sub-paragraph (5), (6) and (7) insofar as is reasonably practicable in the circumstances.
- (b) comply with sub-paragraph (10) at all times.

(10) At all times when carrying out any works authorised under the Order comply with any site safety and safe working policies and information provided by the protected person from time to time.

Expenses

54.—(1) Subject to the following provisions of this paragraph, the undertaker shall pay to the protected person on demand all charges, costs and expenses reasonably anticipated or incurred by that protected person in, or in connection with, the inspection, removal, relaying or replacing, alteration or protection of any apparatus or the construction of any new apparatus which may be required in consequence of the execution of any such works as are referred to in this Schedule including without limitation—

- (a) the approval of plans;
- (b) the carrying out of protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works; and
- (c) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Schedule.

Indemnity

55.—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any such works authorised by this Schedule or in consequence of the construction, use, maintenance or failure of any of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by it) in the course of carrying out such works, including without limitation works carried out by the undertaker under this Schedule or any subsidence resulting from any of these works), any damage is caused to any apparatus or property of the protected person, or there is any interruption in any service provided, or in the supply of any goods, by the protected person, or the protected person becomes liable to pay any amount to any third party, the undertaker shall—

- (a) bear and pay on demand the cost reasonably incurred by the protected person in making good such damage or restoring the supply; and
- (b) indemnify the protected person for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from the protected person, by reason or in consequence of any such damage or interruption or the protected person becoming liable to any third party as aforesaid.

(2) The fact that any act or thing may have been done by a protected person on behalf of the undertaker or in accordance with a plan approved by the protected person or in accordance with any requirement of the protected person or under its supervision shall not (subject to sub-paragraph (3), excuse the undertaker from liability under the provisions of sub-paragraph (1)).

(3) Nothing in sub-paragraph (1) shall impose any liability on the undertaker with respect to any damage or interruption to the extent that it is attributable to the neglect or default of an protected person, its officers, servants, contractors or agents.

(4) The protected person shall give the undertaker reasonable notice of any such claim or demand and no settlement or compromise shall be made without first consulting the undertaker and considering their representations.

Ground subsidence monitoring scheme in respect of the protected person's apparatus

56.—(1) No works within 15 metres of any apparatus or alternative apparatus which are capable of interfering with or risking damage to the protected person's apparatus shall commence until a scheme for monitoring ground subsidence (referred to in this paragraph as the "monitoring scheme") has been submitted to and approved by the protected person, such approval not to be unreasonably withheld or delayed.

(2) The monitoring scheme shall set out—

- (a) the apparatus which is to be subject to such monitoring;
- (b) the extent of land to be monitored;
- (c) the manner in which ground levels are to be monitored;
- (d) the timescales of any monitoring activities; and
- (e) the extent of ground subsidence which, if exceeded, shall require the undertaker to submit for the protected person's approval a ground subsidence mitigation scheme in respect of such subsidence in accordance with sub-paragraph (3).

(3) The monitoring scheme required by sub paragraphs (1) and (2) must be submitted within 56 days prior to the commencement of any works authorised by this Order. Any requirements of the protected person must be notified to the undertaker within 28 days of receipt of the monitoring scheme. Thereafter the monitoring scheme must be implemented as approved, unless otherwise agreed in writing with the protected person.

(4) As soon as reasonably practicable after any ground subsidence identified by the monitoring activities set out in the monitoring scheme has exceeded the level described in sub-paragraph (2)(e), a scheme setting out necessary mitigation measures (if any) for

such ground subsidence (referred to in this paragraph as a “mitigation scheme”) shall be submitted to the protected person for approval, such approval not to be unreasonably withheld or delayed; and any mitigation scheme must be implemented as approved, unless otherwise agreed in writing with the protected person save that the protected person retains the right to carry out any further necessary protective works for the safeguarding of its apparatus and can recover any such costs in line with paragraph 54.

(5) If the monitoring scheme or mitigation scheme would conflict with any aspect of any ground subsidence monitoring scheme or ground subsidence mitigation scheme approved by the relevant planning authority pursuant to Part 3 of Schedule 1 (requirements) the undertaker may submit a revised monitoring scheme or mitigation scheme to the protected person for its approval, such approval not to be unreasonably withheld or delayed, and the revised monitoring scheme or mitigation scheme must be implemented as approved, unless otherwise agreed in writing with the protected person.

Enactments and agreements

57. Nothing in this Part of this Schedule shall affect the provisions of any enactment or agreement regulating the relations between the undertaker and the protected person in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

Co-operation

58. Where in consequence of the proposed construction of any of the authorised development, the protected person makes requirements for modifications to the undertaker’s works or the protected person makes requirements for the protection or alteration of apparatus under paragraph 7, the undertaker shall use its best endeavours to co-ordinate the execution of the works in the interests of safety and the efficient and economic execution of the authorised development and taking into account the need to ensure the safe and efficient operation of the protected person’s undertaking and the protected person shall use its best endeavours to co-operate with the undertaker for that purpose.

Access

59. If in consequence of the agreement reached in accordance with paragraph 52 or the powers granted under this Order the access to any apparatus is materially obstructed, the undertaker shall provide such alternative means of access to such apparatus as will enable the protected person to maintain or use the apparatus no less effectively than was possible before such obstruction.

Arbitration

60. Save for differences or disputes arising under paragraph 53 any difference or dispute arising between the undertaker and an protected person under this Schedule shall, unless otherwise agreed in writing between the undertaker and that protected person, be determined by arbitration in accordance with article 51 (arbitration).

PART 5

For the protection of electricity protected persons

Western Power Distribution (South Wales) Plc

Application

61. For the protection of the persons referred to in this part of this Schedule the following provisions shall, unless otherwise agreed in writing between the protected person and the undertaker, have effect.

Interpretation

62. In this Part of this Schedule—

“alternative apparatus” means appropriate alternative apparatus to the satisfaction of the protected person to enable the protected person in question to fulfil its statutory functions in a manner no less efficient than previously;

“apparatus” means in the case of an electricity protected person, electric lines or electrical plant as defined in the Electricity Act 1989, belonging to or maintained by that protected person;

“authorised development” has the same meaning as in Schedule 1 of this Order and for the purposes of this Schedule include the use and maintenance of the authorised development;

“commence” has the same meaning as in article 2 (interpretation) but for the purposes of this Schedule 6 any works whatsoever which are near to or may affect apparatus of the protected person shall be included within this definition and for the avoidance of doubt this includes works for the diversion or laying of services and commencement shall be construed to have the same meaning;

“functions” includes powers and duties;

“in” in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over, across, along or upon such land;

“maintain” and “maintenance” shall include the ability and right to do any of the following in relation to any apparatus or alternative apparatus of the protected person including construct, use, repair, alter, inspect, renew or remove the apparatus;

“plan” or “plans” include all designs, drawings, specifications, method statements, soil reports, programmes, calculations, risk assessments and other documents that are reasonably necessary properly and sufficiently to describe and assess the works to be executed; and

“protected person” means Western Power Distribution (South Wales) Plc.

63. Except for paragraphs 64 (apparatus of protected persons in stopped up streets), 69 (retained apparatus: protection), 70 (expenses) and 71 (indemnity) this Schedule does not apply to apparatus in respect of which the relations between the undertaker and the protected person are regulated by the provisions of Part 3 of the 1991 Act.

Apparatus of protected persons in stopped up streets

64.—(1) Where any street is stopped up under article 10 (temporary stopping up of streets), if any apparatus belonging to the protected person is in the street or accessed via that street the protected person shall be entitled to the same rights in respect of such apparatus as it enjoyed immediately before the stopping up and the undertaker will grant to the protected person legal easements reasonably satisfactory to the protected person in respect of such apparatus and access to it prior to the stopping up of any such street or highway.

(2) Notwithstanding the temporary stopping up or diversion of any highway under the powers of article 10 (temporary stopping up of streets), the protected person shall be at

liberty at all times to take all necessary access across any such stopped up highway and/or to execute and do all such works and things in, upon or under any such highway as may be reasonably necessary or desirable to enable it to maintain any apparatus which at the time of the stopping up or diversion was in that highway.

Protective works to buildings

65.—(1) The undertaker, in the case of the powers conferred by article 14 (protective work to buildings), shall so exercise those powers as not to obstruct or render less convenient the access to any apparatus without the written consent of the protected person and, if by reason of the exercise of those powers any damage to any apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal or abandonment) or property of the protected person or any interruption in the supply of electricity by the protected person is caused, the undertaker shall bear and pay on demand the cost reasonably incurred by the protected person in making good such damage or restoring the supply; and, subject to sub-paragraph (2), shall—

- (a) make compensation to the protected person for any loss sustained by it; and
- (b) indemnify the protected person against all claims, demands, proceedings, costs, damages and expenses which may be made or taken against or recovered from or incurred by the protected person, by reason of any such damage or interruption.

(2) Nothing in this paragraph shall impose any liability on the undertaker with respect to any damage or interruption to the extent that such damage or interruption is attributable to the act, neglect or default of the protected person or its contractors or workmen; and the protected person shall give to the undertaker reasonable notice of any claim or demand as aforesaid and no settlement or compromise thereof shall be made without first consulting the undertaker and giving them an opportunity to make representations as to the claim or demand.

Acquisition of land

66. This Order shall not authorise the acquisition or extinguishment of land or rights in land owned by the protected person that is or are required for the retention or maintenance of any apparatus retained in the land of the undertaker or in any land to be acquired, held, appropriated or used under this Order except with the agreement of the protected person which shall not be unreasonably withheld.

Removal of apparatus

67.—(1) If, in the exercise of the agreement reached in accordance with paragraph 66 or in any other authorised manner, the undertaker acquires any interest in any land in which any apparatus is placed, that apparatus shall not be removed under this part of this Schedule and any right of the protected person to maintain that apparatus in that land shall not be extinguished until alternative apparatus has been constructed, and is in operation to the reasonable satisfaction of the protected person in accordance with sub-paragraph (2) to (6) inclusive.

(2) If, for the purpose of executing any works in, on, under or over any land purchased, held, appropriated or used under this Order, the undertaker requires the removal of any apparatus placed in that land, it shall give to the protected person 56 days' advance written notice of that requirement, together with a plan of the work proposed, and of the proposed position of the alternative apparatus to be provided or constructed and in that case (or if in consequence of the exercise of any of the powers conferred by this Order the protected person reasonably needs to remove any of its apparatus) the undertaker shall, subject to sub-paragraph (3), afford to the protected person to their satisfaction (taking into account 68 below) the necessary facilities and rights for—

- (a) the construction of alternative apparatus in other land of the undertaker; and

- (b) subsequently for the maintenance of that apparatus.

(3) If alternative apparatus or any part of such apparatus is to be constructed elsewhere than in other land of the undertaker, or the undertaker is unable to afford such facilities and rights as are mentioned in sub-paragraph (2), in the land in which the alternative apparatus or part of such apparatus is to be constructed, the protected person shall, on receipt of a written notice to that effect from the undertaker, take such steps as are reasonable in the circumstances in an endeavour to obtain the necessary facilities and rights in the land in which the alternative apparatus is to be constructed save that this obligation shall not extend to the requirement for the protected person to use its compulsory purchase powers to this end unless it elects to so do.

(4) Any alternative apparatus to be constructed in land of the undertaker under this part of this Schedule shall be constructed in such manner and in such line or situation as may be agreed between the protected person and the undertaker.

(5) The protected person shall, after the alternative apparatus to be provided or constructed has been agreed, and subject to the grant to the protected person of any such facilities and rights as are referred to in sub-paragraph (2) or (3), proceed without unnecessary delay to construct and bring into operation the alternative apparatus and subsequently to remove any apparatus required by the undertaker to be removed under the provisions of this part of this Schedule.

(6) The undertaker and the protected person agree that where there is any inconsistency or duplication between the provisions set out in this Schedule relating to the relocation and/or removal of apparatus (including but not limited to the payment of costs and expenses relating to such relocation and/or removal of apparatus) and the provisions of any existing easements rights agreements and licences granted used enjoyed or exercised by the protected person as of right or otherwise in relation to the apparatus then the provisions of this Schedule shall prevail.

Facilities and rights for alternative apparatus

68. Where, in accordance with the provisions of this part of this Schedule, the undertaker affords to the protected person facilities and rights for the construction and maintenance in land of the undertaker of alternative apparatus in substitution for apparatus to be removed, those facilities and rights shall be granted upon such terms and conditions as may be agreed between the undertaker and the protected person in question and shall be no less favourable on the whole to the protected person in question than the facilities and rights enjoyed by it in respect of the apparatus to be removed unless agreed by the protected person.

Retained apparatus: Protection

69.—(1) Not less than 56 days before the commencement of any works authorised by this Order that are near to, or will or may affect, any apparatus the removal of which has not been required by the undertaker under paragraph 67(2) or otherwise, the undertaker shall submit to the protected person a plan.

(2) In relation to works which will or may be situated on, over, under or within (i) 8.1 metres measured in any direction of any apparatus, or (ii) involve embankment works within 10 metres of any apparatus, the plan to be submitted to the protected person under sub-paragraph (1) shall be detailed including a method statement and describing—

- (a) the exact position of the works;
- (b) the level at which these are proposed to be constructed or renewed;
- (c) the manner of their construction or renewal including details of excavation, positioning of plant;
- (d) the position of all apparatus;

- (e) by way of detailed drawings, every alteration proposed to be made to or close to any such apparatus;
- (f) intended maintenance regimes; and
- (g) an assessment of risks of rise of earth issues.

(3) The undertaker shall not commence any works to which sub-paragraph (2) applies until the protected person has given written approval of the plan so submitted.

(4) Any approval of the protected person required under sub-paragraph (2) —

- (a) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraph (6) or (8); and
- (b) shall not be unreasonably withheld.

(5) In relation to work or works to which sub-paragraph (2) applies, the protected person may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing its system against interference or risk of damage or for the purpose of providing or securing proper and convenient means of access to any apparatus.

(6) Works executed under this Order shall be executed only in accordance with the plan and method statement, submitted under sub-paragraph (1) or as relevant sub-paragraph 39(5), as amended from time to time by agreement between the undertaker and the protected person and in accordance with such reasonable requirements as may be made in accordance with sub-paragraph 39(6) or 39(8) by the protected person for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and the protected person shall be entitled to monitor and inspect the execution of those works.

(7) Where the protected person requires any protective works for the benefit or protection of any apparatus to be carried out either by themselves or by the undertaker (and whether of a temporary or permanent nature) such protective works shall be carried out to the protected person's satisfaction prior to the commencement of any authorised works (or any relevant part thereof) and the protected persons shall give 56 days' notice of such works from the date of submission of a plan in line with sub-paragraph (1) or 39(5) (except in an emergency).

(8) If the protected person in accordance with sub-paragraph 39(6) or 39(8) and in consequence of the works proposed by the undertaker, reasonably requires the removal of any apparatus and gives written notice to the undertaker of that requirement, paragraphs 76 to 78 and 81 to 83 of this part of Schedule 6 shall apply as if the removal of the apparatus had been required by the undertaker under paragraph 82(2).

(9) Nothing in this paragraph shall preclude the undertaker from submitting at any time or from time to time, but in no case less than 56 days before commencing the execution of any works, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph shall apply to and in respect of the new plan.

(10) The undertaker shall not be required to comply with sub-paragraph 84(1) where it needs to carry out emergency works as defined in the 1991 Act but in that case it shall give to the protected person in question notice as soon as is reasonably practicable and a plan of those works and shall—

- (a) comply with sub-paragraph 84(6), 84(7) and 39(8) insofar as is reasonably practicable in the circumstances; and
- (b) comply with sub-paragraph (11) at all times.

(11) At all times when carrying out any works authorised under the Order comply with Western Power Distribution's policies for development near overhead lines EN43-8 and HSE's guidance note 6 "Avoidance of Danger from Overhead Lines".

Expenses

70.—(1) Subject to the following provisions of this paragraph, the undertaker shall pay to the protected person on demand all charges, costs and expenses reasonably anticipated or incurred by that protected person in, or in connection with, the inspection, removal, relaying or replacing, alteration or protection of any apparatus or the construction of any new apparatus which may be required in consequence of the execution of any such works as are referred to in this Schedule including without limitation—

- (a) any costs reasonably incurred or compensation properly paid in connection with the acquisition of rights or the exercise of statutory powers for such apparatus including without limitation in the event that the protected person elects to use CPO powers to acquire any necessary rights under 82(3) all costs incurred as a result of such action;
- (b) in connection with the cost of the carrying out of any diversion work or the provision of any alternative apparatus;
- (c) the cutting off of any apparatus from any other apparatus or the making safe of redundant apparatus;
- (d) the approval of plans;
- (e) the carrying out of any permanent protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works;
- (f) the carrying out of any temporary protective works, together with the cost of removing them, plus any costs of maintaining any temporary works during the period that they were installed; and
- (g) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Schedule.

(2) There shall be deducted from any sum payable under sub-paragraph (1) the value of any apparatus removed under the provisions of this Schedule and which is not re-used as part of the alternative apparatus, that value being calculated after removal.

(3) If in accordance with the provisions of this part of this Schedule—

- (a) apparatus of better type, of greater capacity or of greater dimensions is placed in substitution for existing apparatus of worse type, of smaller capacity or of smaller dimensions; or
- (b) apparatus (whether existing apparatus or apparatus substituted for existing apparatus) is placed at a depth greater than the depth at which the existing apparatus was situated,

and the placing of apparatus of that type or capacity or of those dimensions or the placing of apparatus at that depth, as the case may be, is not agreed by the undertaker or in default of agreement settled by arbitration in accordance with article 52 (arbitration) to be necessary, then, if such placing involves cost in the construction of works under this part of this Schedule exceeding that which would have been involved if the apparatus placed had been of the existing type, capacity or dimensions, or at the existing depth, as the case may be, the amount which apart from this sub-paragraph would be payable to the protected person by virtue of sub-paragraph (1) shall be reduced by the amount of that excess save where it is not possible in the circumstances to obtain the existing type of operations, capacity, dimensions or place at the existing depth in which case full costs shall be borne by the undertaker.

(4) For the purposes of sub-paragraph (3)—

- (a) an extension of apparatus to a length greater than the length of existing apparatus shall not be treated as a placing of apparatus of greater dimensions than those of the existing apparatus; and
- (b) where the provision of a joint in a pipe or cable is agreed, or is determined to be necessary, the consequential provision of a jointing chamber or of a manhole shall be treated as if it also had been agreed or had been so determined.

(5) An amount which apart from this sub-paragraph would be payable to the protected person in respect of works by virtue of sub-paragraph (1) shall, if the works include the placing of apparatus provided in substitution for apparatus placed more than 7 years and 6 months earlier so as to confer on the protected person any financial benefit by deferment of the time for renewal of the apparatus in the ordinary course, be reduced by the amount which represents that benefit.

Indemnity

71.—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any such works authorised by this Schedule or in consequence of the construction, use, maintenance or failure of any of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by it) in the course of carrying out such works, including without limitation works carried out by the undertaker under this Schedule or any subsidence resulting from any of these works), any damage is caused to any apparatus or alternative apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of those works) or property of the protected person, or there is any interruption in any service provided, or in the supply of any goods, by the protected person, or the protected person becomes liable to pay any amount to any third party, the undertaker shall—

- (a) bear and pay on demand the cost reasonably incurred by the protected person in making good such damage or restoring the supply; and
- (b) indemnify the protected person for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from the protected person, by reason or in consequence of any such damage or interruption or the protected person becoming liable to any third party as aforesaid.

(2) The fact that any act or thing may have been done by the protected person on behalf of the undertaker or in accordance with a plan approved by the protected person or in accordance with any requirement of the protected person or under its supervision shall not (subject to sub-paragraph (3), excuse the undertaker from liability under the provisions of this sub-paragraph (1)).

(3) Nothing in sub-paragraph (1) shall impose any liability on the undertaker with respect to any damage or interruption to the extent that it is attributable to the neglect or default of the protected person, its officers, servants, contractors or agents.

(4) The protected person shall give the undertaker reasonable notice of any such claim or demand and no settlement or compromise shall be made without first consulting the undertaker and considering their representations.

(5) Not to commence construction (and not to permit the commencement of such construction) of the authorised works on any land either owned by the protected person or in respect of which the protected person has an easement or wayleave for their apparatus or any other Interest or to carry out any works within 15 metres of the protected person's apparatus until the following conditions are satisfied—

- (a) unless and until the protected person is satisfied acting reasonably (but subject to all necessary regulatory constraints) that the undertaker has first provided acceptable security (and provided evidence that it shall maintain such acceptable security for the construction period of the authorised works from the proposed date of commencement of construction of the authorised works) and the protected person has confirmed the same to the undertaker in writing; and
- (b) unless and until the protected person is satisfied acting reasonably (but subject to all necessary regulatory constraints) that the undertaker has procured acceptable insurance (and provided evidence to the protected person that it shall maintain such acceptable insurance for the construction period of the authorised works from the proposed date of commencement of construction of the authorised works) and the protected person has confirmed the same in writing to the undertaker.

(6) In the event of the undertaker's failure to comply with sub-paragraph (5) of this part of Schedule 6 the protected person shall be entitled to seek injunctive relief (or any other equitable remedy) in any court of competent jurisdiction and the undertaker irrevocably and unconditionally waives any right of objection in relation to the protected person's right to seek injunctive relief or any other equitable remedy.

Enactments and agreements

72. Nothing in this part of this Schedule shall affect the provisions of any enactment or agreement regulating the relations between the undertaker and the protected person in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

Co-operation

73. Where in consequence of the proposed construction of any of the authorised development, the undertaker or the protected person requires the removal of apparatus under paragraph 82(2) or the protected person imposes requirements for the protection or alteration of apparatus under paragraph 69, the undertaker shall use its best endeavours to co-ordinate the execution of the works in the interests of safety and the efficient and economic execution of the authorised development and taking into account the need to ensure the safe and efficient operation of the protected person's undertaking and the protected person shall use its best endeavours to co-operate with the undertaker for that purpose.

Access

74. If in consequence of the agreement reached in accordance with paragraph 66 or the powers granted under this Order the access to any apparatus is materially obstructed, the undertaker shall provide such alternative means of access to such apparatus as will enable the protected person to maintain or use the apparatus no less effectively than was possible before such obstruction.

Arbitration

75. Save for differences or disputes arising under paragraphs 82(2), 82(4) and 84 any difference or dispute arising between the undertaker and the protected person under this Schedule shall, unless otherwise agreed in writing between the undertaker and that protected person, be determined by arbitration in accordance with article 52 (arbitration).

PART 6

For the protection of gas protected persons

SSE Energy Supply Limited, SWALEC, Wales and West Utilities Limited

Application

76. For the protection of the protected persons referred to in this part of this Schedule the following provisions shall, unless otherwise agreed in writing between the undertaker and the protected person concerned, have effect.

Interpretation

77. In this Part of this Schedule—

“1991 Act” means the New Roads and Street Works Act 1991;

“alternative apparatus” means appropriate alternative apparatus to the satisfaction of the undertaker to enable the protected person in question to fulfil its statutory functions in a manner no less efficient than previously;

“apparatus” means in the case of a gas protected person, any mains, pipes or other apparatus belonging to or maintained by a gas transporter for the purposes of gas supply;

“authorised development” has the same meaning as in Schedule 1 of this Order and for the purposes of this Schedule include the use and maintenance of the authorised development;

“commence” has the same meaning as in article 2 (interpretation) but for the purposes of this Schedule 6 any works whatsoever which are near to or may affect apparatus of the protected person shall be included within this definition and for the avoidance of doubt this includes works for the diversion or laying of services and commencement shall be construed to have the same meaning;

“functions” includes powers and duties;

“in” in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over, across, along or upon such land;

“maintain” and “maintenance” shall include the ability and right to do any of the following in relation to any apparatus or alternative apparatus of the protected person including construct, use, repair, alter, inspect, renew or remove the apparatus

“plan” or “plans” include all designs, drawings, specifications, method statements, soil reports, programmes, calculations, risk assessments and other documents that are reasonably necessary properly and sufficiently to describe and assess the works to be executed;

“protected person” means either of SSE Energy Supply Limited and Wales & West Utilities Limited; and

“undertaker” means the undertaker as defined in article 2 of this Order.

78. Except for paragraphs 79 (apparatus in stopped up streets), 84 (retained apparatus: protection: gas undertakers), 85 (expenses) and 86 (indemnity) this Schedule does not apply to apparatus in respect of which the relations between the undertaker and the protected person are regulated by the provisions of Part 3 of the 1991 Act.

Apparatus of Protected Person in stopped up streets

79. Notwithstanding the temporary stopping up or diversion of any highway under the powers of article 10 (temporary stopping up of streets), a protected person shall be at liberty at all times to take all necessary access across any such stopped up highway and/or to execute and do all such works and things in, upon or under any such highway as may be reasonably necessary or desirable to enable it to maintain any apparatus which at the time of the stopping up or diversion was in that highway.

Protective works to buildings

80.—(1) The undertaker, in the case of the powers conferred by article 14 (protective work to buildings), shall so exercise those powers as not to obstruct or render less convenient the access to any apparatus without the written consent of the protected person and, if by reason of the exercise of those powers any damage to any apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal or abandonment) or property of any protected person or any interruption in the supply of electricity, gas or water, as the case may be, by the protected person is caused, the undertaker shall bear and pay on demand the cost reasonably incurred by that undertaker in making good such damage or restoring the supply; and, subject to sub-paragraph (2), shall—

- (a) make compensation to the protected person for any loss sustained by it; and

- (b) indemnify the protected person against all claims, demands, proceedings, costs, damages and expenses which may be made or taken against or recovered from or incurred by that undertaker, by reason of any such damage or interruption.

(2) Nothing in this paragraph shall impose any liability on the protected person with respect to any damage or interruption to the extent that such damage or interruption is attributable to the act, neglect or default of a protected person or its contractors or workmen; and the protected person shall give to the undertaker reasonable notice of any claim or demand as aforesaid and no settlement or compromise thereof shall be made without first consulting the undertaker and giving it an opportunity to make representations as to the claim or demand.

Removal of apparatus

81.—(1) If, in the exercise of the agreement reached in accordance with paragraph (6) or in any other authorised manner, the undertaker acquires any interest in any land in which any apparatus is placed, that apparatus shall not be removed under this part of this Schedule and any right of a protected person to maintain that apparatus in that land shall not be extinguished until alternative apparatus has been constructed, and is in operation to the reasonable satisfaction of the undertaker in question in accordance with sub-paragraph (2) to (5) inclusive.

(2) If, for the purpose of executing any works in, on, under or over any land purchased, held, appropriated or used under this Order, the undertaker requires the removal of any apparatus placed in that land, it shall give to the protected person in question 56 days' advance written notice of that requirement, together with a plan of the work proposed, and of the proposed position of the alternative apparatus to be provided or constructed and in that case (or if in consequence of the exercise of any of the powers conferred by this Order a protected person reasonably needs to remove any of its apparatus) the undertaker shall, subject to sub-paragraph (3), afford to the undertaker to their satisfaction (taking into account 82(1) below) the necessary facilities and rights for

- (a) the construction of alternative apparatus in other land of the undertaker; and
- (b) subsequently for the maintenance of that apparatus.

(3) If alternative apparatus or any part of such apparatus is to be constructed elsewhere than in other land of the undertaker, or the undertaker is unable to afford such facilities and rights as are mentioned in sub-paragraph (2), in the land in which the alternative apparatus or part of such apparatus is to be constructed, the protected person in question shall, on receipt of a written notice to that effect from the undertaker, take such steps as are reasonable in the circumstances in an endeavour to obtain the necessary facilities and rights in the land in which the alternative apparatus is to be constructed save that this obligation shall not extend to the requirement for the protected person to use its compulsory purchase powers to this end unless it elects to so do.

(4) Any alternative apparatus to be constructed in land of the undertaker under this part of this Schedule shall be constructed in such manner and in such line or situation as may be agreed between the undertaker in question and the undertaker.

(5) The protected person in question shall, after the alternative apparatus to be provided or constructed has been agreed, and subject to the grant to the protected person of any such facilities and rights as are referred to in sub-paragraph (2) or (3), proceed without unnecessary delay to construct and bring into operation the alternative apparatus and subsequently to remove any apparatus required by the undertaker to be removed under the provisions of this part of this Schedule.

Facilities and rights for alternative apparatus

82.—(1) Where, in accordance with the provisions of this part of this Schedule, the undertaker affords to a protected person facilities and rights for the construction and maintenance in land of the undertaker of alternative apparatus in substitution for apparatus

to be removed, those facilities and rights shall be granted upon such terms and conditions as may be agreed between the undertaker and the protected person in question and shall be no less favourable on the whole to the protected person in question than the facilities and rights enjoyed by it in respect of the apparatus to be removed unless agreed by the protected person.

(2) If the facilities and rights to be afforded by the undertaker and agreed with the protected person under (1) above in respect of any alternative apparatus, and the terms and conditions subject to which those facilities and rights are to be granted, are less favourable on the whole to the protected person in question than the facilities and rights enjoyed by it in respect of the apparatus to be removed and the terms and conditions to which those facilities and rights are subject in the matter shall be referred to arbitration and, the arbitrator shall make such provision for the payment of compensation by the undertaker to that protected person as appears to the arbitrator to be reasonable having regard to all the circumstances of the particular case.

Retained apparatus: protection: gas undertakers

83.—(1) Not less than 56 days before the commencement of any authorised works authorised by this Order that are near to, or will or may affect, any apparatus the removal of which has not been required by the undertaker under paragraph 81(2) or otherwise, the undertaker shall submit to the protected person in question a plan.

(2) In relation to works which will or may be situated on, over, under or within [X] metres measured in any direction of any apparatus, or (wherever situated) impose any load directly upon any apparatus or involve embankment works within [X] metres of any apparatus, the plan to be submitted to the protected person under sub-paragraph (1) shall be detailed including a method statement and describing—

- (a) the exact position of the works;
- (b) the level at which these are proposed to be constructed or renewed;
- (c) the manner of their construction or renewal including details of excavation, positioning of plant etc;
- (d) the position of all apparatus;
- (e) by way of detailed drawings, every alteration proposed to be made to or close to any such apparatus; and
- (f) intended maintenance regimes.

(3) The undertaker shall not commence any works to which sub-paragraph (2) applies until the protected person has given written approval of the plan so submitted.

(4) Any approval of the protected person required under sub-paragraph (2)—

- (a) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraph 69(5) or 69(7);
- (b) shall not be unreasonably withheld.

(5) In relation to a work to which sub-paragraph 69(2) applies, the protected person may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing its system against interference or risk of damage or for the purpose of providing or securing proper and convenient means of access to any apparatus.

(6) Works executed under this Order shall be executed only in accordance with the plan, submitted under sub-paragraph 69(1) or as relevant sub-paragraph 69(4), as amended from time to time by agreement between the undertaker and the protected person and in accordance with such reasonable requirements as may be made in accordance with sub-paragraph 69(5) or 69(7) by the protected person for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and the protected person shall be entitled to watch and inspect the execution of those works.

(7) Where undertakers require any protective works to be carried out either themselves or by the undertaker (whether of a temporary or permanent nature) such protective works shall be carried out to the protected persons' satisfaction prior to the commencement of any authorised works (or any relevant part thereof) and the protected persons shall give 56 days' notice of such works from the date of submission of a plan in line with sub-paragraph 69(1) or 69(4) (except in an emergency).

(8) If a protected person in accordance with sub-paragraph 69(5) or 69(7) and in consequence of the works proposed by the undertaker, reasonably requires the removal of any apparatus and gives written notice to the undertaker of that requirement, paragraphs 61 to 63 and 66 to 68 shall apply as if the removal of the apparatus had been required by the undertaker under paragraph 67(2).

(9) Nothing in this paragraph shall preclude the undertaker from submitting at any time or from time to time, but in no case less than 56 days' before commencing the execution of any works, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph shall apply to and in respect of the new plan.

(10) The undertaker shall not be required to comply with sub-paragraph 69(1) where it needs to carry out emergency works as defined in the 1991 Act but in that case it shall give to the protected person in question notice as soon as is reasonably practicable and a plan of those works and shall—

- (a) comply with sub-paragraph 69(5), 69(6) and 69(7) insofar as is reasonably practicable in the circumstances; and
- (b) comply with sub-paragraph (11) at all times.

(11) At all times when carrying out any works authorised under the Order comply with Wales & West Utilities policies for safe working in proximity to gas apparatus “Specification for safe working in the vicinity of pipelines and associated installations operating above 2 BARs” and “General conditions to be observed for the protection of apparatus and the prevention of disruption to gas supplies” “HS(~G)47 Avoiding Danger from underground services”.

Expenses

84.—(1) Subject to the following provisions of this paragraph, the undertaker shall pay to a protected person on demand all charges, costs and expenses reasonably anticipated or incurred by that protected person in, or in connection with, the inspection, removal, relaying or replacing, alteration or protection of any apparatus or the construction of any new apparatus which may be required in consequence of the execution of any such works as are referred to in this Schedule including without limitation—

- (a) any costs reasonably incurred or compensation properly paid in connection with the acquisition of rights or the exercise of statutory powers for such apparatus including without limitation in the event that the undertaker elects to use CPO powers to acquire any necessary rights under 81(3) all costs incurred as a result of such action;
- (b) in connection with the cost of the carrying out of any diversion work or the provision of any alternative apparatus;
- (c) the cutting off of any apparatus from any other apparatus or the making safe of redundant apparatus;
- (d) the approval of plans;
- (e) the carrying out of protective works, plus a capitalised sum to cover the cost of maintaining and renewing permanent protective works; and
- (f) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Schedule.

(2) There shall be deducted from any sum payable under sub-paragraph (1) the value of any apparatus removed under the provisions of this Schedule and which is not re-used as part of the alternative apparatus, that value being calculated after removal.

(3) If in accordance with the provisions of this part of this Schedule—

- (a) apparatus of better type, of greater capacity or of greater dimensions is placed in substitution for existing apparatus of worse type, of smaller capacity or of smaller dimensions; or
- (b) apparatus (whether existing apparatus or apparatus substituted for existing apparatus) is placed at a depth greater than the depth at which the existing apparatus was situated,

and the placing of apparatus of that type or capacity or of those dimensions or the placing of apparatus at that depth, as the case may be, is not agreed by the undertaker or in default of agreement settled by arbitration in accordance with article 52 (arbitration) to be necessary, then, if such placing involves cost in the construction of works under this part of this Schedule exceeding that which would have been involved if the apparatus placed had been of the existing type, capacity or dimensions, or at the existing depth, as the case may be, the amount which apart from this sub-paragraph would be payable to the protected person in question by virtue of sub-paragraph (1) shall be reduced by the amount of that excess save where it is not possible in the circumstances to obtain the existing type of operations, capacity, dimensions or place at the existing depth in which case full costs shall be borne by the undertaker.

(4) For the purposes of sub-paragraph (3)—

- (a) an extension of apparatus to a length greater than the length of existing apparatus shall not be treated as a placing of apparatus of greater dimensions than those of the existing apparatus; and
- (b) where the provision of a joint in a pipe or cable is agreed, or is determined to be necessary, the consequential provision of a jointing chamber or of a manhole shall be treated as if it also had been agreed or had been so determined.

(5) An amount which apart from this sub-paragraph would be payable to a protected person in respect of works by virtue of sub-paragraph (1) shall, if the works include the placing of apparatus provided in substitution for apparatus placed more than 7 years and 6 months earlier so as to confer on the protected person any financial benefit by deferment of the time for renewal of the apparatus in the ordinary course, be reduced by the amount which represents that benefit.

Indemnity

85.—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any such works authorised by this Schedule or in consequence of the construction, use, maintenance or failure of any of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by him) in the course of carrying out such works, including without limitation works carried out by the undertaker under this Schedule or any subsidence resulting from any of these works), any damage is caused to any apparatus or alternative apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of those works) or property of a protected person, or there is any interruption in any service provided, or in the supply of any goods, by any protected person, or the protected person becomes liable to pay any amount to any third party, the undertaker shall—

- (a) bear and pay on demand the cost reasonably incurred by that protected person in making good such damage or restoring the supply; and
- (b) indemnify that protected person for any other expenses, loss, demands, proceedings, damages, claims, penalty or costs incurred by or recovered from the undertaker, by reason or in consequence of any such damage or interruption or the protected person becoming liable to any third party as aforesaid.

(2) The fact that any act or thing may have been done by a protected person on behalf of the undertaker or in accordance with a plan approved by a protected person or in accordance with any requirement of a protected person or under its supervision shall not (subject to sub-paragraph (3), excuse the undertaker from liability under the provisions of this sub-paragraph (1)).

(3) Nothing in sub-paragraph (1) shall impose any liability on the undertaker with respect to any damage or interruption to the extent that it is attributable to the neglect or default of a protected person, its officers, servants, contractors or agents.

(4) A protected person shall give the undertaker reasonable notice of any such claim or demand and no settlement or compromise shall be made without first consulting the undertaker and considering their representations.

(5) Not to commence construction (and not to permit the commencement of such construction) of the authorised works on any land either owned by the protected person in respect of which the protected person has an easement or wayleave for their Apparatus or any other Interest or to carry out any works within [X] metres of any protected persons Apparatus until the following conditions are satisfied:

- (a) unless and until the protected person is satisfied acting reasonably (but subject to all necessary regulatory constraints) that the undertaker has first provided the acceptable security (and provided evidence that it shall maintain such acceptable security for the construction period of the authorised works from the proposed date of commencement of construction of the authorised works) and the protected person has confirmed the same to the undertaker in writing; and
- (b) unless and until the protected person are satisfied acting reasonably (but subject to all necessary regulatory constraints) that the undertaker has procured acceptable insurance (and provided evidence to National Grid that it shall maintain such acceptable insurance for the construction period of the authorised works from the proposed date of commencement of construction of the authorised works) and protected person has confirmed the same in writing to the undertaker.

(6) In the event of the undertakers failure to comply with sub-paragraph (5) of this Part of this Schedule the protected person shall be entitled to seek injunctive relief (or any other equitable remedy) in any court of competent jurisdiction and the undertaker irrevocably and unconditionally waives any right of objection in relation to the protected person's right to seek injunctive relief or any other equitable remedy.

Enactments and agreements

86. Nothing in this part of this Schedule shall affect the provisions of any enactment or agreement regulating the relations between the undertaker and a protected person in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

Co-operation

87. Where in consequence of the proposed construction of any of the authorised development, the undertaker or a protected person requires the removal of apparatus under paragraph 81(2) or a protected person makes requirements for the protection or alteration of apparatus under paragraph 38, the undertaker shall use its best endeavours to co-ordinate the execution of the works in the interests of safety and the efficient and economic execution of the authorised development and taking into account the need to ensure the safe and efficient operation of the protected person's undertaking and each protected person shall use its best endeavours to co-operate with the undertaker for that purpose.

Access

88. If in consequence of the agreement reached in accordance with paragraph 6(1) or the powers granted under this Order the access to any apparatus is materially obstructed, the undertaker shall provide such alternative means of access to such apparatus as will enable the protected person to maintain or use the apparatus no less effectively than was possible before such obstruction.

Arbitration

89. Save for differences or disputes arising under paragraphs 81(2), 81(4), 82(1) and 83 any difference or dispute arising between the undertaker and a protected person under this Schedule shall, unless otherwise agreed in writing between the undertaker and that protected person, be determined by arbitration in accordance with article 52 (arbitration).

PART 7

For the protection of electronic communications operators

British Telecommunications Plc, Telefónica O2 UK Limited, and Virgin Media Limited

Application

90. For the protection of communication operators, the following provisions of this Part of this Schedule shall, unless it is otherwise agreed in writing between the undertaker and the communication operator, have effect.

Interpretation

91. In this Part of this Schedule—

“communication operators” means any of British Telecommunications plc, Telefónica O2 UK Limited and Virgin Media Limited; and

“public communications provider” has the same meaning as in section 151(1) of the Communications Act 2003.

Apparatus of public communications operator in stopped up streets

92. The temporary stopping up or diversion of any street under article 10 (temporary stopping up of streets) shall not affect any right of a public communications provider under paragraph 9 of the Telecommunications Code (the “Code”), contained in Schedule 2 to the Telecommunications Act 1984 as amended by Schedule 3 to the Communications Act 2003, in respect of any apparatus which at the time of the temporary stopping up or diversion is in that street.

Indemnity

93. If any of the communication operators suffer damage by reason or in consequence of the construction, use or failure of the authorised development or any subsidence resulting from those works, the undertaker shall pay any cost reasonably and properly incurred by the communication operator in making good such damage, and shall indemnify the communication operator against claims, demands, proceedings, costs, damages and expenses which may be made or taken against or recovered from or incurred by the communication operator by reason or in consequence of any such damage, but—

- (a) nothing in this paragraph shall impose any liability on the undertaker with respect to any damage to the extent that such damage is attributable to any act or omission of the communication operator, its officers, servants, contractors or other agents; and

- (b) the communication operator shall give to the undertaker reasonable notice of any claim, demand or proceedings and shall make no settlement of any claim, demand or proceedings without the consent of the undertaker, such consent not to be unreasonably withheld.

Code

94. Nothing in this Order shall affect any right of a public communications provider under the Code.

PART 8

For the protection of Dŵr Cymru Cyfyngedig

Application

95. For the protection of the protected person referred to in this part of this Schedule the following provisions shall, unless otherwise agreed in writing between the undertaker and the protected person concerned have effect.

Interpretation

96. In this part of this Schedule

“accessories” has the same meaning as that set out in section 219 WIA 1991 but shall also include any feature or aspect of a design that is intended to receive or facilitate the receipt of rainwater or surface and which is part of a sustainable drainage system;

“apparatus” means all apparatus or accessories vested in or belonging to the protected person for the purpose of carrying on its statutory undertaking including the outfall;

“draft specification” means a detailed plan, cross-section and description of the specified works to be prepared by the undertaker (including, without limitation, a method statement and risk assessment setting out the intention in respect of the specified works, construction methods and programmes, and the position of the apparatus that might be affected as a result of the specified works and the specified works);

“functions” in respect of the protected person has the same meaning as in section 219 WIA 1991 and includes powers and duties;

“in” in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over or upon land;

“outfall” means the existing long sea outfall pipeline from Swansea Bay Waste Water Treatment Works;

“outfall works” Work No. 3 and such other works required for its provision under the powers of this Order;

“protected person” means Dŵr Cymru Cyfyngedig;

“specification” means the approved version of a draft specification considered by the protected person under paragraph 100 of this Part;

“specified works” means the outfall works and any work forming part of the authorised development in any land purchased, held, or used pursuant to the Order that is:

- (a) within 3 metres either side of the centre line of any public sewer or public water main that is less than 300mm in diameter;
- (b) within 6 metres either side of a public sewer or public water main where the public sewer or public water main is greater than 300mm in diameter;
- (c) within 9 metres either side of the centre line of a rising main; or
- (d) within 100 metres either side of the centre line of the outfall,

or which will or may in any way affect any apparatus together with all ancillary actions relating hereto.

“sustainable drainage system” means any structure designed to receive rainwater and other surface water where such structure shall include any feature or aspect of design that is intended to receive or facilitate the receipt of rainwater except a public sewer or a natural watercourse; and

“WIA 1991” means the Water Industry Act 1991 c.56 as amended.

Consent not to be unreasonably withheld

97. Where under any provision of this Schedule the consent or agreement of any person is required, such consent shall not be unreasonably withheld or delayed, may be given subject to reasonable conditions and, in the case of each may be given by the duly authorised representative of that person.

WIA 1991

98. This Schedule does not apply to apparatus in respect of which the relations between the undertaker and the protected person are regulated by the provisions of Part III and Part IV of the WIA 1991.

Written consent necessary

99. Regardless of any provision in the Order or anything shown on the land plans or contained in the book of reference, the undertaker shall not acquire any apparatus or accessories or override or extinguish any easement or other interest of the protected person or acquire any land or other interest of the protected person or create any new rights over the same without the prior written consent of the protected person.

Protection of Apparatus

100.—(1) Without prejudice to the other provisions of this Part of this Schedule, before commencing the construction, replacement, renewal or removal of any specified work, and in the case of any specified work of a temporary nature its removal, the undertaker shall submit to the protected person a draft specification.

(2) For the purpose of the preparation of the draft specification and subject to such reasonable stipulations as it may require the protected person shall as soon as reasonably practicable upon the undertaker’s reasonable request permit the undertaker to have reasonable access to such plans as it may have in its possession and to any of its land or apparatus.

(3) The protected person shall examine the draft specification submitted under sub-paragraph (1) and give its written consent or proposed amendments to the draft specification within 28 days from the date of receipt (and in the event of amendments the process in this sub-paragraph (3) shall be repeated where those amendments are not accepted) provided that where consent is neither given nor refused within 42 days of the submission of the draft specification (or such other time period agreed by the undertaker and the protected person acting reasonably) consent thereto shall be deemed to have been given. The undertaker shall not commence the specified works until written or deemed consent is provided by the protected person in accordance with this sub-paragraph (3).

(4) The conditions which may be imposed under any consent and relating to a specification given by the protected person hereunder include (without limitation) as to—

- (a) the commencement date and completion date of the specified works;

- (b) the reasonable removal, extension or alteration of apparatus necessitated by the specified works;
- (c) works for the protection of apparatus necessitated as a result of the specified works;
- (d) provision for access to any apparatus;
- (e) such works, provisions or methods as are reasonably necessary for the protection of the environment and/or the protection of the protected person from liability under the terms of any licence relating to its activities; and/or
- (f) an advance warning system providing for liaison between the undertaker and the protected person in respect of potential performance operational issues affecting, or damage to, apparatus arising from the specified works.

(5) The specified works shall be executed only—

- (a) in accordance with the specification;
- (b) exercising the standard of skill and care reasonably to be expected of a skilled and experienced professional person engaged in undertakings of a similar scope, nature and complexity as the specified works; and
- (c) in accordance with such reasonable conditions and requirements as may be imposed by the protected person,

and the protected person shall be entitled to watch and inspect the execution of the specified works.

(6) Nothing in this paragraph 100 shall preclude the undertaker from submitting at any time or from time to time a draft specification to be implemented in substitution of the draft specification previously submitted, and having done so the provisions of this paragraph 100 shall apply to and in respect of the new draft specification, but the substituted draft specification shall not become the specification and may not be carried out without the consent or deemed consent of the protected person.

(7) The undertaker shall not be required to comply with sub-paragraph (1) in a case of emergency provided it has complied with paragraph 105 below save that the undertaker shall comply with sub-paragraph (3) above in so far as is reasonably practicable in the circumstances after carrying out any specified works to which this sub-paragraph applies.

(8) The undertaker shall be responsible to the protected person for the reasonable expenses (including VAT) incurred by the protected person in, or in connection with, the inspection of the specified works and/or the apparatus, the protection of any apparatus and/or temporary works to be undertaken by the protected person (including in respect of examining the draft specification in accordance with sub-paragraph (3)).

(9) Where the protected person has apparatus that will be affected by the specified works (including the outfall) the undertaker shall determine the exact location of apparatus prior to any specified works being carried out by the undertaker.

(10) The undertaker shall not make any trial holes which interfere with any apparatus without the consent of the protected person.

(11) When works for the provision of any new, extended or altered apparatus or any protective work forming part of any such new, extended or altered apparatus, or existing apparatus, have been completed under this Part of this Schedule to the reasonable satisfaction of the protected person, they shall be vested in the protected person forthwith but shall be maintainable by the undertaker until a period of:

- (a) In the case of the outfall works, 24 months has elapsed and the protected person or an engineer appointed by the protected person has issued a certificate of final inspection of the new, altered or extended apparatus.
- (b) In the case of any other specified works which vest in the protected person in accordance with this paragraph, 12 months has elapsed and the protected person or an engineer

appointed by the protected person has issued a certificate of final inspection of the new, altered or extended apparatus.

Outfall

101. Save as may be authorised under paragraph 100 of this Part the undertaker shall not take any action or permit any action to be taken which is likely to endanger the structural integrity of the outfall.

Suspension of Specified Works

102.—(1) The protected person shall be entitled to instruct the undertaker to suspend the specified works (or any part of the specified works) if in the protected person's reasonable opinion the actions of the undertaker, or those of its contractor(s) or subcontractor(s) in carrying out the specified works otherwise than in accordance with the specification or the provisions in this part of this Schedule have caused damage to any apparatus and/or are likely to cause or result in damage to any apparatus and/or damage to the environment that was not foreseen at the time of the approval of the Specification. In the event of such an instruction being given by the protected person—

- (a) the undertaker shall procure that it and its contractor(s) and subcontractor(s) shall as soon as reasonably practicable and forthwith in case of urgency suspend or cease the specified works in each case having due regard to health and safety factors and shall discuss and agree with the protected person such remedial actions (which may include works) as may be required prior to resuming the specified works and the person who shall be responsible for the performance of such remedial actions;
- (b) the undertaker and the protected person shall act reasonably and without delay in discussing and agreeing any remedial actions required prior to resuming the specified works;
- (c) the protected person shall at such time as it issues any instruction under this paragraph submit to the undertaker immediately, a written notice specifying the reasons for suspending the specified works;
- (d) in the event that the protected person fails to supply the written notice within 5 working days of suspension the protected person's instruction to suspend, the specified works shall be void and the undertaker shall be entitled to recommence the specified works; and
- (e) where the protected person is responsible for any remedial action, it shall commence, carry out and complete such remedial actions pursuant to sub-paragraph (a), as soon as reasonably practicable and the protected person shall give the undertaker notice immediately upon completion of such remedial works and on receipt of such notice the undertaker shall be entitled to resume the specified works.

(2) The protected person shall be entitled to reclaim all reasonable costs of all remedial actions attributable to any act or neglect of the undertaker in accordance with this paragraph 102.

Repair, Maintenance and Emergency Works

103.—(1) If in the reasonable opinion of the protected person repairs or maintenance works are necessary to apparatus within the Order limits the undertaker shall as soon as reasonably practicable, and (without prejudice to sub-paragraph (3)), in case of emergency forthwith, but subject always to such reasonable conditions as the undertaker may impose permit access to the protected person for both personnel and equipment and allow the protected person (or its agent) to carry out such repairs or maintenance works.

(2) The undertaker is permitted to carry out emergency works provided that it first notifies the protected person of this immediately and in the event that the protected person suffers any loss, cost or damage as a result of the emergency action taken by the undertaker without prior notification the provision in paragraph 106 shall apply.

(3) The protected person shall at all times be permitted to carry out any emergency works in relation to its apparatus at the development site in accordance with Part II Schedule 6 of the WIA 1991.

Entry onto Protected Person's Land

104.—(1) Regardless of the other provisions of this Schedule the undertaker shall not access any land comprised in site 02055 as shown on the land plans (plan 2 of 18) (“the waste water treatment works”) without providing 14 days’ prior written notice; and

(2) The undertaker shall comply with the health and safety requirements specified by the protected person whilst present on the site of the waste water treatment works.

Expenses

105.—(1) Subject to the following provisions of this paragraph, the undertaker shall be liable to make good, or, if the protected person so decides, to repay to the protected person the reasonable expenses and costs (including without limitation legal and professional fees) reasonably incurred by the protected person in, or in connection with—

- (a) the inspection, removal and relaying or replacing, alteration or protection of any apparatus or the construction of any new apparatus under any provision of this Schedule (including any costs or compensation paid in connection with the acquisition of rights or land or the exercise of statutory powers for such apparatus);
- (b) the cutting off of any apparatus from any other apparatus, or the making safe of any redundant apparatus in consequence of the exercise by the undertaker of any power under the Order;
- (c) the survey of any land, apparatus or works, the inspection, superintendence and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the exercise by the undertaker of any power under the Order;
- (d) the preparation and completion of any deeds of transfer where the apparatus is abandoned rather than removed; and
- (e) any other work or thing rendered reasonably necessary in consequence of the exercise by the undertaker of any power under the Order,

within a reasonable time of being notified by the protected person that it has incurred such expenses.

(2) If in accordance with the provisions of this Schedule apparatus of better type, of greater capacity or of greater dimensions is placed in substitution for existing apparatus of worse type, of smaller capacity or of smaller dimensions and the placing of apparatus of that type or capacity or of those dimensions or the placing of apparatus at that depth, as the case may be, is not agreed by the undertaker or, in default of agreement, is not determined by arbitration in accordance with article 52 (arbitration) to be necessary, then, if such placing involves cost in the construction of works under this Schedule exceeding that which would have been involved if the apparatus placed had been of the existing type, capacity or dimensions, or at the existing depth, as the case may be, the amount which apart from this sub-paragraph (2) would be payable to the protected person in question by virtue of paragraph 16(1) shall be reduced by the amount of that excess.

(3) For the purposes of paragraph 106(2) an extension of apparatus to a length greater than the length of existing apparatus shall not be treated as a placing of apparatus of greater dimensions than those of the existing apparatus.

Damage to Apparatus

106.—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any specified works referred to in this Schedule any damage is caused to

any apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of those works) or property of the protected person, or there is any interruption in any service provided by the protected person, the undertaker shall to the extent possible in law:

- (a) bear and pay the cost reasonably incurred by the protected person in making good such damage or restoring the supply; and
- (b) make reasonable compensation to that protected person for any other expenses, loss, damages, penalty or costs incurred by the protected person,

by reason or in consequence of any such damage or interruption.

(2) Nothing in sub-paragraph (1) shall impose any liability on the undertaker with respect to any damage or interruption to the extent that it is attributable to the act, neglect or default of the protected person, its officers, servants, contractors or agents.

(3) The protected person shall give the undertaker reasonable notice of any claim or demand from any third party arising out of or in connection with the specified works and no settlement or compromise shall be made without the consent of the undertaker.

Enactments

107. Nothing in this Schedule shall affect the provisions of any enactment or agreement regulating the relations between the undertaker and a protected person in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which the Order is made.

PART 9

For the protection of the City and County of Swansea Council

Accumulation and dredging in the River Tawe

108.—(1) If during the construction of a tidal work or after the completion of that work and wholly or partly in consequence of its construction or presence there is caused or created an accumulation in that section of the River Tawe between the entrance to King's Dock and the Sail Bridge the undertaker, if so requested by the City and County of Swansea Council acting reasonably, shall remedy such accumulation or erosion to the extent attributable to such construction or presence and, if it refuses or fails to do so, or if the City and County of Swansea Council so elects, that council may itself cause the work to be done and may recover the reasonable cost of doing so from the undertaker.

(2) For the purposes of sub-paragraph (1) above in the case of any accumulation, the remedy shall be its removal.

(3) In the event that such accumulation would have been caused in any event by the factors other than the construction of a tidal work, the undertaker shall be liable to remedy such accumulation only to the extent that the same is attributable to such construction or exercise.

109. Any difference arising between the undertaker and the City and County of Swansea Council other than a difference as to the meaning and construction of this part of this Schedule shall be referred to and settled by arbitration under article 52 (arbitration) of this Order

SCHEDULE 6

Article 34

Article 35

Land of which temporary possession may be taken

<i>(1)</i> <i>Area</i>	<i>(2)</i> <i>Number of land shown on land plan</i>	<i>(3)</i> <i>Purpose for which temporary possession may be taken</i>
City and County of Swansea	01005	Dredging works under article 17 and paragraph 108 of Schedule 5
	01006	Dredging works under article 17 and paragraph 108 of Schedule 5
	01007	Dredging works under article 17 and paragraph 108 of Schedule 5
	01008	Dredging works under article 17 and paragraph 108 of Schedule 5
	01010	Dredging works under article 17 and paragraph 108 of Schedule 5
	01011	Dredging works under article 17 and paragraph 108 of Schedule 5
	01012	Dredging works under article 17 and paragraph 108 of Schedule 5
	01015	Dredging works under article 17 and paragraph 108 of Schedule 5
	01020	Dredging works under article 17 and paragraph 108 of Schedule 5
	01025	Dredging works under article 17 and paragraph 108 of Schedule 5
	01035	Dredging works under article 17 and paragraph 108 of Schedule 5
	01040	Dredging works under article 17 and paragraph 108 of Schedule 5
	01045	Dredging works under article 17 and paragraph 108 of Schedule 5
	01056	Provision of a working area and construction site related to Works No. 1a, 5a, 5b, and 6a
	01059	Provision of a working area and construction site related to Works No. 1a, 5a, 5b, and 6a
	01061	Provision of a working area and construction site related to Works No. 1a, 5a, 5b, and 6a
	01062	Dredging works under article 17 and paragraph 108 of Schedule 5
	01110A	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
	01111	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
	01111B	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
	01115	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
	01120	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
	01125	Provision of a working area and construction site related to Works No. 7b, 7c and 7d

01152	Provision of a working area and construction site related to Works No. 1a and 5a
02005	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02005B	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02006	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02007	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02008	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02009	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02010	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02010B	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02011	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02012A	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02012B	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02013	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02015	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02020	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02021	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02025	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02026	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02031	Provision of a working area and construction site related to Works No. 5b, 5c, 5g, 5h, 7a, 7b, 9, 10
02048	Provision of a working area and construction site related to Works No. 7b, 7c and 7d
02050	Provision of a working area and construction site related to Works No. 5b, 5c, 5g, 5h, 7a, 7b, 9, 10
02070	Provision of a working area and construction site related to Works No. 5b, 5c, 5g, 5h, 7a, 7b, 9, 10
02075	Provision of a working area and construction site related to Works No. 5b, 5c, 5g, 5h, 7a, 7b, 9, 10
02115	Provision of a working area and construction site related to Works No. 5b, 5c, 5g, 5h, 7a, 7b, 9, 10
05010	Provision of a working area and construction site related to Works No. 1a, 5a, 5b, and 6a
05020	Provision of a working area and construction site related to Works No. 1a, 5a, 5b, and 6a
01060	Provision of a working area and construction site related to Work No. 1a, 5a and 5b; and dredging works under article 17 and paragraph 108 of Schedule 5

Neath Port Talbot County Borough	05011	Provision of a working area and construction site related to Work No. 1a, 5a and 5b; and dredging works under article 17 and paragraph 108 of Schedule 5
	05015	Provision of a working area and construction site related to Works No. 1a, 5a and 6a; and dredging works under article 17 and paragraph 108 of Schedule 5
	08005	Provision of a working area and construction site related to Works No. 1a, 5a and 6a; and dredging works under article 17 and paragraph 108 of Schedule 5
	09005	Provision of a working area and construction site related to Works No. 1a, 5a and 6a; and dredging works under article 17 and paragraph 108 of Schedule 5
	12005	Provision of a working area and construction site related to Works No. 1a, 2a, 2b, 2c, 2d; and dredging works under article 17 and paragraph 108 of Schedule 5
	15005	Provision of a working area and construction site related to Works No. 1a, 2a, 2b, 2c, 2d; and dredging works under article 17 and paragraph 108 of Schedule 5
	14015	Provision of a working area and construction site related to Works No. 1b and 3
	16010	Provision of a working area and construction site related to Works No. 1b and 3
	160056	Provision of a working area and construction site related to Works No. 1b and 3
	17010	Provision of a working area and construction site related to Works No. 1b and 3
	01070	Provision of Works No. 7e and 7f; and provision of a working area and construction site related to Work No. 7d
	01075	Provision of Works No. 7e and 7f; and provision of a working area and construction site related to Work No. 7d
	02036	Provision of Work No. 7g
	02041	Provision of Work No. 7g
	02042	Provision of Work No. 7g; and provision of a working area related to Works No. 1b and 10
	03027	Provision of a working area and construction site for Works No. 1b and 10
	04070	Provision of a working area and construction site for Work No. 5f
	04071	Provision of a working area and construction site for Work No. 5f
	04075	Provision of a working area and construction site for Work No. 5f
	04110	Provision of a working area and construction site for Work No. 5f
	04115	Provision of a working area and construction site for Work No. 5f
	04120	Provision of a working area and construction site for Work No. 5f
	14010	Provision of a working area and construction site related to Work No. 1b
	07006	Provision of a working area and construction site related

	to Works No. 1b and 4; and dredging under article 17 and paragraph 23 of Schedule 5
07010	Provision of a working area and construction site related to Works No. 1b and 4; and dredging under article 17 and paragraph 23 of Schedule 5
07015	Provision of Work No. 4; dredging; and provision of a working area and construction site related to Works No. 1b and 4
10020	Provision of Work No. 4; dredging; and provision of a working area and construction site related to Works No. 1b and 4
11006	Provision of a working area and construction site related to Works No. 1b and 4; and dredging under article 17 and paragraph 23 of Schedule 5
11010	Provision of Work No. 4; dredging under article 17 and paragraph 23 of Schedule 5; and provision of a working area and construction site related to Works No. 1b and 4
11015	Provision of Work No. 4; dredging under article 17 and paragraph 23 of Schedule 5; and provision of a working area and construction site related to Works No. 1b and 4

SCHEDULE 7

Article 51

Documents subject to certification

The land plans listed below—

(1) <i>Application Document No.</i>	(2) <i>Drawing No.</i>	(3) <i>Drawing Description</i>
2.1.1b	2.1.1b	Key plan
2.1.2b	2.1.2b	Key plan Crown land
2.1.3c	2.1.3c	Sheet 1
2.1.4b	2.1.4b	Sheet 2
2.1.5b	2.1.5b	Sheet 3
2.1.6b	2.1.6b	Sheet 4
2.1.7b	2.1.7b	Sheet 5
2.1.8b	2.1.8b	Sheet 6
2.1.9b	2.1.9b	Sheet 7
2.1.10b	2.1.10b	Sheet 8
2.1.11b	2.1.11b	Sheet 90
2.1.12b	2.1.12b	Sheet 10
2.1.13b	2.1.13b	Sheet 11
2.1.14b	2.1.14b	Sheet 12
2.1.15b	2.1.15b	Sheet 13
2.1.16b	2.1.16b	Sheet 14
2.1.17b	2.1.17b	Sheet 15
2.1.18b	2.1.18b	Sheet 16
2.1.19b	2.1.19b	Sheet 17
2.1.20b	2.1.20b	Sheet 18

the works plans listed below—

(1) <i>Application Document No.</i>	(2) <i>Drawing No.</i>	(3) <i>Drawing Description</i>
--	---------------------------	-----------------------------------

2.2.1		Works key plan
2.2.2B	3513/order/102.1D	Works Plan - Sheet 1
2.2.3B	3513/order/102.2D	Works Plan - Sheet 2
2.2.4B	3513/order/102.3D	Works Plan - Sheet 3
2.2.5B	3513/order/102.4D	Works Plan - Sheet 4
2.2.6B	3513/order/102.5D	Works Plan - Sheet 5
2.2.7B	3513/order/102.6D	Works Plan - Sheet 6
2.2.8B	3513/order/102.7D	Works Plan - Sheet 7
2.2.9B	3513/order/102.8D	Works Plan - Sheet 8
2.2.10B	3513/order/102.9D	Works Plan - Sheet 9
2.2.11A	5118483-ATK-02-ZZ-DR-C-1201A	Marine Works Seawalls Sections - Sheet 1
2.2.12A	5118483-ATK-02-ZZ-DR-C-1202A	Marine Works Seawalls Sections - sheet 2
2.2.13A	5118483-ATK-02-ZZ-DR-C-1203A	Marine Works Seawalls Sections - sheet 3
2.2.14A	5118483-ATK-02-ZZ-DR-C-1204A	Marine Works Seawalls Sections - sheet 4
2.2.15A	5118483-ATK-02-ZZ-DR-C-1205A	Marine Works Seawalls Sections - sheet 5
2.2.16A	5118483-ATK-02-ZZ-DR-C-1206A	Marine Works Typical Sections

the access and public rights of way plans listed below—

(1) <i>Application Document No.</i>	(2) <i>Drawing No.</i>	(3) <i>Drawing Description</i>
2.2.17A	3513/Order/201A	Access & Public Rights of Way key plan
2.2.18	3513/Order/202.1	Access & Public Rights of Way - sheet 1
2.2.19A	3513/Order/202.2A	Access & Public Rights of Way - sheet 2
2.2.20A	3513/Order/202.3A	Access & Public Rights of Way - sheet 3
2.2.21	3513/Order/202.4	Access & Public Rights of Way - sheet 4
2.2.22	3513/Order/202.5	Access & Public Rights of Way - sheet 5
2.2.23	3513/Order/202.6	Access & Public Rights of Way - sheet 6
2.2.24	3513/Order/202.7	Access & Public Rights of Way - sheet 7
2.2.25	3513/Order/202.8	Access & Public Rights of Way - sheet 8
2.2.26	3513/Order/202.9	Access & Public Rights of Way - sheet 9
2.2.27	3513/Order/202.10	Access & Public Rights of Way - sheet 10
2.2.28	3513/Order/202.11	Access & Public Rights of Way - sheet 11

the Book of Reference;

the Environmental Statement which accompanied the application to the Secretary of State for an order granting development consent;

the Design and Access Statement;

the Demolition Plan;

drawing TLP - SWANSEA BAY - 141003 - VO.2 referred to in requirement 19 (Piling);

ERA report 2015 - 0265 as referred to in requirement 15 (Electrical Grid Connection Works);

Land Contamination: A Guide for Developers (WLGA, WAG & EAW, 2012) as referred to in requirement 12 (contamination and groundwater);

the Operational Phase Traffic Management Plan submitted with the application;

the outline Construction Environmental Management Plan dated 25 November 2014;

the outline Operational Environmental Management Plan dated 4 November 2014;

the outline Adaptive Environmental Management Plan dated 25 November 2014; and

the drawings listed below, which comprise the planning drawings, and includes works sections:

<i>(1)</i> <i>Application</i> <i>Document No.</i>	<i>(2)</i> <i>Drawing No.</i>	<i>(4)</i> <i>Drawing Description</i>
2.4.1A	3513_PL_001A	Masterplan Key Plan
2.4.2	3513_PL_002.1	Masterplan Detail Scale - Sheet 1 of 6
2.4.3	3513_PL_002.2	Masterplan Detail Scale - Sheet 2 of 6
2.4.4	3513_PL_002.3	Masterplan Detail Scale - Sheet 3 of 6
2.4.5	3513_PL_002.4	Masterplan Detail Scale - Sheet 4 of 6
2.4.6	3513_PL_002.5	Masterplan Detail Scale - Sheet 5 of 6
2.4.7	3513_PL_002.6	Masterplan Detail Scale - Sheet 6 of 6
2.4.19	3513_PL_112	Typical Lagoon Wall Treatment Plan and Section
2.4.21	3513_PL_114	Halfway Point Plan and Section
2.4.23	5118483-ATK-02-ZZ-DR-C-1207	Marine Works Lagoon Water Shuttle
2.4.24	5118483-ATK-02-ZZ-DR-C-1110	Marine Works Turbine Housing and Sluices General Arrangement
2.4.25A	TLSB-ATK-02-XX-DR-C-2000A	Marine Works 7m Turbine House Typical Section
2.4.26A	5118483-ATK-02-ZZ-DR-C-1209A	Marine Works Sluice House Typical Section
2.4.27A	5118483-ATK-02-ZZ-DR-C-1213A	Marine Works Turbine and Sluice Gate Housing Elevation
2.4.28	5118483-ATK-00-ZZ-DR-C-1301	HV Cable Route and Utilities - Sheet 1 of 8
2.4.29	5118483-ATK-00-ZZ-DR-C-1302	HV Cable Route and Utilities - Sheet 2 of 8
2.4.30	5118483-ATK-00-ZZ-DR-C-1303	HV Cable Route and Utilities - Sheet 3 of 8
2.4.31	5118483-ATK-00-ZZ-DR-C-1304	HV Cable Route and Utilities - Sheet 4 of 8
2.4.32	5118483-ATK-00-ZZ-DR-C-1305	HV Cable Route and Utilities - Sheet 5 of 8
2.4.33	5118483-ATK-00-ZZ-DR-C-1306	HV Cable Route and Utilities - Sheet 6 of 8
2.4.34	5118483-ATK-00-ZZ-	HV Cable Route and Utilities - Sheet 7 of 8

2.4.35	DR-C-1307 5118483-ATK-00-ZZ- DR-C-1308	HV Cable Route and Utilities - Sheet 8 of 8
2.4.36	5118483-ATK-02-ZZ- DR-C-1210	HV Cable Route Typical Details
2.4.37	5118483-ATK-HW00- ZZ-DR-D-1401	Improvement Works to Existing Highway Fabian Way Junction 3 - General Arrangement
2.4.38	5118483-ATK-HW00- ZZ-DR-D-1402	TLP Access Road and Construction Access Road - General Arrangement
2.4.39	5118483-ATK-HW00- ZZ-DR-D-1406	ABP Junction Arrangement - General Arrangement
2.4.40A	5118483-ATK-00-ZZ- DR-C-1111A	Marine Works Dredging General Arrangement
2.4.41	3513/Order/401	Demolition (s) Key Plan
2.4.42	3513/Order/402.1	Demolition (s) Plan - Sheet 1 of 3
2.4.43	3513/Order/402.2	Demolition (s) Plan - Sheet 2 of 3
2.4.44	3513/Order/402.3	Demolition (s) Plan - Sheet 3 of 3
2.4.58	1259_C1002_A	Proposed Drawings: Burrows Information Centre

SCHEDULE 8

Article 29

Modification of compensation and compulsory purchase enactments for creation of new rights

Compensation enactments modified

1. The enactments for the time being in force with respect to compensation for the compulsory purchase of land apply, with all necessary modifications as respects compensation, in the case of a compulsory acquisition under this Order of a right by the creation of a new right as they apply to compensation on the compulsory purchase of land and interests in land.

Land Compensation Act 1973 modified

2.—(1) Without limiting paragraph 1, the Land Compensation Act 1973(a) has effect subject to the modifications set out in sub-paragraph (2).

(2) In section 44(1) (compensation for injurious affection), as it applies to compensation for injurious affection under section 7 of the 1965 Act—

- (a) for “land is acquired or taken”, substitute “a right over land is purchased from”;
- (b) for “acquired or taken from him”, substitute “over which the right is exercisable”.

Compulsory Purchase Act 1965 modified

3. Without limiting paragraph 1, the 1965 Act has effect with the modifications necessary to make it apply to the compulsory acquisition under this Order of a right by the creation of a new right as it applies to the compulsory acquisition under this Order of land,

(a) 1973 c.26. Section 44 was amended by paragraph 13(b) of Schedule 24 to the Highways Act 1980, paragraph 14(d) of Schedule 7 to the Gas Act 1986 (c.44) and paragraph 23 of Schedule 1 to the Water Consolidation (Consequential Provisions) Act 1991 (c.60).

so that, in appropriate contexts, references in that Act to land are to be read (according to the requirements of the particular context) as referring to, or as including references to,—

- (a) the right acquired or to be acquired; or
- (b) the land over which the right is or is to be exercisable.

EXPLANATORY NOTE

(This note is not part of the Order)

This Order grants development consent for, and authorises Tidal Lagoon (Swansea Bay) plc to construct, operate and maintain, a tidal lagoon generating station in Swansea Bay together with all necessary development. For the purposes of the development it authorises Tidal Lagoon (Swansea Bay) plc is authorised by the Order compulsorily or by agreement to purchase land and rights in land and to use land, as well as to override easements and other rights. The Order also authorises the making of alterations to the highway network, provides a defence in proceedings in respect of statutory nuisance and to discharge water. The Order imposes requirements in connection with the development for which it grants development consent.

A copy of the book of reference plans and other documents referred to in the Order, certified in accordance with article 51 of the Order (certification and construction of plans and documents) may be inspected free of charge at the offices of the City and County of Swansea Council, Civic Centre, Oystermouth Road, Swansea SA1 3SN.

APPENDIX B: EXAMINATION LIBRARY

The following is a list of documents that were submitted during the course of the Examination.

Each document has been given an identification number (e.g. APP-001), and all documents are available to view on the Planning Inspectorate's National Infrastructure Planning website on the Tidal Lagoon Swansea Bay Project Page:

<http://infrastructure.planningportal.gov.uk/projects/Wales/Tidal-Lagoon-Swansea-Bay/>

INDEX

Document type Reference

Application Documents	APP-XXX
Procedural Decisions	PD-XXX
Certificates	CERT-XXX
Correspondence	CORR-XXX
Transboundary Submissions	TB-XX
RIES Documents	RIES-XXX
Representations	REP-XXX
Events	HE-XX
Accompanied Site Inspection	ASV-XX
Unaccompanied Site Inspection	USV-XX

<u>Tidal Lagoon Swansea Bay (TLSB Plc)</u>
<u>Document Library INDEX</u>
<u>APPLICATION DOCUMENTS</u>
<u>UPDATED DRAFT DEVELOPMENT CONSENT ORDERS</u>
<u>PROJECT DOCUMENTS</u>
<u>Procedural Decisions</u>
<u>Certificates</u>
<u>Correspondence</u>
<u>Transboundary submissions</u>
<u>RIES documents</u>
<u>REPRESENTATIONS</u>
<u>Adequacy of Consultation Responses</u>
<u>Relevant Representations</u>
<u>RESPONSE TO S51 ADVICE ISSUED AT ACCEPTANCE – UPDATED APPLICATION DOCUMENTS</u>
<u>Book of Reference</u>
<u>Other documents submitted by the applicant</u>
<u>CORRESPONDENCE PRIOR TO EXAMINATION ACCEPTED BY EXA</u>
<u>RESPONSES TO RULE 6 LETTER</u>
<u>DOCUMENTS RECEIVED FOR DEADLINE I – 24 June 2014</u>
<u>Notifications: To speak at Open Floor or Issue Specific Hearings (ISH), at the Compulsory Acquisition Hearing (CAH), or to become an interested party.</u>
<u>Suggested locations for the Accompanied Site Visit (ASV) and intentions to attend the ASV</u>
<u>DOCUMENTS RECEIVED FOR DEADLINE II - 9 July 2014</u>
<u>Written Representations</u>
<u>Responses to Examining Authority's First Round of Written Questions</u>
<u>HRA/RIES</u>
<u>Local Impact Reports and Statements of Common Ground</u>
<u>DOCUMENTS RECEIVED FOR DEADLINE III – 5 August 2014</u>
<u>Comments</u>
<u>DOCUMENTS RECEIVED FOR DEADLINE IV – 7 October 2014</u>
<u>Post Hearing documents</u>
<u>DOCUMENTS RECEIVED FOR DEADLINE V – 28 October 2014</u>
<u>Comments on the ExA's Consultation Development Consent Order and revised applicant's DCO</u>
<u>Comments on the Responses to the ExA's Second Round of Written Questions</u>
<u>DOCUMENTS RECEIVED FOR EXTENDED DEADLINE V - 4 November 2014</u>
<u>DOCUMENTS RECEIVED FOR DEADLINE VI – 25 NOVEMBER 2014</u>
<u>Comments on the Report on the Implications on European Sites (REIS)</u>
<u>Comments on any changes to the DCO in the consultation draft only (incl. any revised DCO from the Applicant)</u>
<u>DOCUMENTS RECEIVED FOR DEADLINE VII – 4 DECEMBER 2014</u>
<u>Comments on responses received on deadline VI</u>
<u>Any outstanding s106 Agreements or other Obligations</u>

<u>DOCUMENTS RECEIVED FOR DEADLINE VIII – 8 DECEMBER 2014</u>
<u>Responses to questions in Rule 17 letter, 2 December 2014</u>
<u>EVENTS</u>
<u>Preliminary Meeting 10 June 2014</u>
<u>Hearings and Site Visits (notifications)</u>
<u>Open Floor Hearing 29 July 2014</u>
<u>Issue Specific Hearing 31 July 2014</u>
<u>Issue Specific Hearing 16 September 2014</u>
<u>Compulsory Acquisition Hearing (date)</u>
<u>Accompanied Site Visit 30 July 2014</u>

2 **Tidal Lagoon Swansea Bay (TLSB Plc) Document**
3 **Library**

Doc Ref	Doc Name
APPLICATION DOCUMENTS	
APP-001	<u>1.1 Cover letter</u>
APP-002	<u>1.2 Application form</u>
APP-003	<u>1.3 Copies of newspaper notices</u>
APP-004	<u>1.4 Guide to the application</u>
APP-005	<u>1.5 Guide to the application</u>
APP-006	<u>2.1.1 - 2.1.20 Combined Land and Crown plans</u>
APP-007	<u>2.2.1 Works Key Plan</u>
APP-008	<u>2.2.2-2.2.10 Works Plan</u>
APP-009	<u>2.2.11 Works Sections 1</u>
APP-010	<u>2.2.12 Works Sections 2</u>
APP-011	<u>2.2.13 Works Sections 3</u>
APP-012	<u>2.2.14 Works Sections 4</u>
APP-013	<u>2.2.15 Works Sections 5</u>
APP-014	<u>2.2.16 Works Sections 6</u>
APP-015	<u>2.2.17 PROW Key Plan</u>
APP-016	<u>2.2.18 PROW Plan Part 1</u>
APP-017	<u>2.2.19 PROW Plan Part 2</u>
APP-018	<u>2.2.20 PROW Plan Part 3</u>
APP-019	<u>2.2.21 PROW Plan Part 4</u>
APP-020	<u>2.2.22 PROW Plan Part 5</u>
APP-021	<u>2.2.23 PROW Plan Part 6</u>

APP-022	<u>2.2.24 PROW Plan Part 7</u>
APP-023	<u>2.2.25 PROW Plan Part 8</u>
APP-024	<u>2.2.26 PROW Plan Part 9</u>
APP-025	<u>2.2.27 PROW Plan Part 10</u>
APP-026	<u>2.2.28 PROW Plan Part 11</u>
Ref not used	References 2.2.28-2.2.40
APP-027	<u>2.2.40 Marine Works Dredging</u>
APP-028	<u>2.3.1 Natural Features</u>
APP-029	<u>2.3.2 Natural Features Ph1</u>
APP-030	<u>2.3.3 Natural Features WFD</u>
APP-031	<u>2.4.1 Masterplan Key Plan</u>
APP-032	<u>2.4.2-2.4.7 Masterplan detail scale</u>
APP-033	<u>2.4.8 Western Landfall</u>
APP-034	<u>2.4.9 Western Landfall vegetation</u>
APP-035	<u>2.4.10 Western Landfall Sections</u>
APP-036	<u>2.4.11 Western Landfall Sections</u>
APP-037	<u>2.4.12 Eastern Landfall Plan</u>
APP-038	<u>2.4.13 Eastern Landfall Sections</u>
APP-039	<u>2.4.14 Offshore building public realm plan</u>
APP-040	<u>2.4.15 Offshore building public realm section</u>
APP-041	<u>2.4.16 Saltmarsh Plan</u>
APP-042	<u>2.4.17 Saltmarsh Sections</u>
APP-043	<u>2.4.18 Typical Queen's Dock access road</u>
APP-044	<u>2.4.19 Typical lagoon wall treatment</u>
APP-045	<u>2.4.20 Spectator Terrace</u>

APP-046	<u>2.4.21 Halfway Point</u>
APP-047	<u>2.4.22 Typical fencing gate details</u>
APP-048	<u>2.4.23 Water Shuttle</u>
APP-049	<u>2.4.24 Turbine House GA</u>
APP-050	<u>2.4.25 Turbine House Section</u>
APP-051	<u>2.4.26 Sluice House Section</u>
APP-052	<u>2.4.27 Turbine House Elevation</u>
APP-053	<u>2.4.28 Cable Route 1</u>
APP-054	<u>2.4.29 Cable Route 2</u>
APP-055	<u>2.4.30 Cable Route 3</u>
APP-056	<u>2.4.31 Cable Route 4</u>
APP-057	<u>2.4.32 Cable Route 5</u>
APP-058	<u>2.4.33 Cable Route 6</u>
APP-059	<u>2.4.34 Cable Route 7</u>
APP-060	<u>2.4.35 Cable Route 8</u>
APP-061	<u>2.4.36 Cable Route Details</u>
APP-062	<u>2.4.37 FW Junction 3</u>
APP-063	<u>2.4.38 TLP Access Road</u>
APP-064	<u>2.4.39 ABP Junction</u>
APP-065	<u>2.4.41 Demolition Key Plan</u>
APP-066	<u>2.4.42-2.4.44 Demolition Plan</u>
APP-067	<u>2.4.45 GA Elevations</u>
APP-068	<u>2.4.46 GA Sections</u>
APP-069	<u>2.4.47 GA Plans</u>
APP-070	<u>2.4.48 Proposed Plan - Basement - 2</u>

APP-071	<u>2.4.49 Proposed Plan - Basement - 1</u>
APP-072	<u>2.4.50 Proposed Plan - Ground Floor</u>
APP-073	<u>2.4.51 Proposed Plan - First Floor</u>
APP-074	<u>2.4.52 Proposed Plan - Second Floor</u>
APP-075	<u>2.4.53 Proposed Plan Roof</u>
APP-076	<u>2.4.54 Proposed Section - AA</u>
APP-077	<u>2.4.55 Proposed Section - BB</u>
APP-078	<u>2.4.56 Proposed Section - CC</u>
APP-079	<u>2.4.57 Proposed Elevations</u>
APP-080	<u>2.4.58 - Proposed Drawings - Burrows Information Centre</u>
APP-081	<u>3.1 Draft DCO</u>
APP-082	<u>3.2 Explanatory Memorandum</u>
APP-083	<u>4.1 Statement of Reasons</u>
APP-084	<u>4.2 Funding statement</u>
APP-085	<u>4.3 Book of reference</u>
APP-086	<u>5.1 A1.1 Index of Consultation Report Appendices</u>
APP-087	<u>5.1 A2.1 Lagoon Designs A-N</u>
APP-088	<u>5.1 A2.2 Cable route iterations</u>
APP-089	<u>5.1 A2.3 Access strategy</u>
APP-090	<u>5.1 A2.4 Building locations</u>
APP-091	<u>5.1 A2.5 Public realm</u>
APP-092	<u>5.1 A2.6 Masterplan designs</u>
APP-093	<u>5.1 A3.1 List of statutory consultees and stage consulted</u>
APP-094	<u>5.1 A3.2 List of s42d PILS</u>
APP-095	<u>5.1 A3.3 List of NSB s47 consultees</u>

APP-096	<u>5.1 A3.4 All non stat cons and community cons</u>
APP-097	<u>5.1 A3.5 Early project definition - presentation to stakeholders</u>
APP-098	<u>5.1 A3.6 List of consultees at Phase 1A</u>
APP-099	<u>5.1 A3.7 Lagoon proposal summary brochure</u>
APP-100	<u>5.1 A4.1 Scoping responses table</u>
APP-101	<u>5.1 A4.2 Welsh Govt MCU Scoping Opinion</u>
APP-102	<u>5.1 A5.1 Presentations to stakeholders Design D</u>
APP-103	<u>5.1 A5.2 Presentation to stakeholders E-M</u>
APP-104	<u>5.1 A5.3 Sample letters to key stakeholders and E-newsletter</u>
APP-105	<u>5.1 A5.4 Education Program Boards</u>
APP-106	<u>5.1 A5.5 TLSB Plc project introduction flyer</u>
APP-107	<u>5.1 A5.6 Project film script and stills</u>
APP-108	<u>5.1 A5.7 Non stat cons - feedback form</u>
APP-109	<u>5.1 A5.8 Non stat cons - report on feedback</u>
APP-110	<u>5.1 A5.9 April Events publicity</u>
APP-111	<u>5.1 A5.10 List of consultees at Phase 1C</u>
APP-112	<u>5.1 A5.11 Website updates</u>
APP-113	<u>5.1 A5.12 TLSB leisure facilities feasibility study 120413</u>
APP-114	<u>5.1 A6.1 Notice to LPA - consultation on SoCC</u>
APP-115	<u>5.1 A6.2 Draft consultation strategy and SoCC</u>
APP-116	<u>5.1 A6.3 LPA comments on the draft SoCC - response tracker</u>
APP-117	<u>5.1 A6.4 Final SoCC</u>
APP-118	<u>5.1 A6.5 LPA sign off of SoCC</u>
APP-119	<u>5.1 A6.6 Consultation strategy</u>
APP-120	<u>5.1 A6.7 Schedule and copies of SoCC newspaper publications</u>

APP-121	<u>5.1 A6.8 Map of community consultation zones</u>
APP-122	<u>5.1 A6.9 Zone of Theoretical Visibility 06.06.12</u>
APP-123	<u>5.1 A6.10 Zone of Theoretical Visibility 19.06.13</u>
APP-124	<u>5.1 A6.11 Zone of Theoretical Visibility 24.09.13</u>
APP-125	<u>5.1 A6.12 s48 planning notices</u>
APP-126	<u>5.1 A6.13 s47 and s48 notices</u>
APP-127	<u>5.1 A7.1 PEIR s46 notice</u>
APP-128	<u>5.1 A7.2 s42_48 Notice DECC SoS</u>
APP-129	<u>5.1 A7.3 Notice to LPA s43</u>
APP-130	<u>5.1 A7.4 Notice issued to s42</u>
APP-131	<u>5.1 A7.5 Preferred option and the PEIR presentation</u>
APP-132	<u>5.1 A7.6 PEIR NTS</u>
APP-133	<u>5.1 A7.7 PEIR and NTS Deposit Locations and Event 161013</u>
APP-134	<u>5.1 A7.8 Updates to website and OD</u>
APP-135	<u>5.1 A7.9 Formal Consultation Response to PEIR Report MASTER v0.4</u>
Ref not used	5.1 A8
APP-136	<u>5.1 A9.1 Exhibition boards</u>
APP-137	<u>5.1 A9.2 Community consultation questionnaire</u>
APP-138	<u>5.1 A9.3 Community consultation questionnaire report</u>
APP-139	<u>5.1 A9.4 Publicity materials</u>
APP-140	<u>5.1 A9.5 Public responses to PEIR (s47)</u>
APP-141	<u>5.1 A10.1 10.2 and 10.3 Redline plans</u>
APP-142	<u>5.1 A10.4 Schedule of notices served to PIL</u>
APP-143	<u>5.1 A10.5 Sample notice letters and redline plans</u>
APP-144	<u>5.1 A10.6 PILS responses 280114</u>

APP-145	<u>5.1 A10.7 Inland fishing table</u>
APP-146	<u>5.1 A11.1 Invitation and Schedule EIA Presentation Event 221013</u>
APP-147	<u>5.1 A11.2 EIA Event attendees</u>
APP-148	<u>5.1 A11.3 Draft ES response table</u>
APP-149	<u>5.1 A11.4 Meetings with non-stat - continuous engagement</u>
APP-150	<u>5.1 A11.5 Meetings with stat bodies - continuous engagement</u>
APP-151	<u>5.1 A11.6 TLSB cultural sport and education programmes</u>
APP-152	<u>5.1 A11.7 Bauman institute report</u>
APP-153	<u>5.1 A11.8 Response to NRW</u>
APP-154	<u>5.1 CR1 Introduction</u>
APP-155	<u>5.1 CR2 Project design evolution</u>
APP-156	<u>5.1 CR3 Non-statutory consultation -early project definition and EIA</u>
APP-157	<u>5.1 CR4 Non-stat EIA scoping</u>
APP-158	<u>5.1 CR5 Non-stat issues and options</u>
APP-159	<u>5.1 CR6 SoCC defining and publicising</u>
APP-160	<u>5.1 CR7 Stat cons with stat consultees</u>
APP-161	<u>5.1 CR8 Stat cons with NSBs</u>
APP-162	<u>5.1 CR9 Stat cons with local community</u>
APP-163	<u>5.1 CR10 Stat cons with PILs</u>
APP-164	<u>5.1 CR11 Non-stat ongoing engagement</u>
APP-165	<u>5.1 CR12 Conclusions</u>
APP-166	<u>5.2 Flood Consequence Assessment</u>
APP-167	<u>5.3 Historic Environment Report</u>
APP-168	<u>5.4 Natural Features Report</u>

APP-169	<u>5.5a Habitats Regulations Assessment Report</u>
APP-170	<u>5.5b Habitats Regulations Assessment Appendices</u>
APP-171	<u>5.5c Habitats Regulations Assessment Figure 1</u>
APP-172	<u>5.6 Other consents and licences</u>
APP-173	<u>5.7 Statement in respect of Statutory Nuisance</u>
APP-174	<u>6.1 ES Non Technical Summary - English</u>
APP-175	<u>6.1 ES Non Technical Summary - Welsh</u>
APP-176	<u>6.2a ES Abbreviations</u>
APP-177	<u>6.2b ES Glossary</u>
APP-178	<u>6.2.1 ES Introduction</u>
APP-179	<u>6.2.2 ES EIA Process and Assessment of Significance</u>
APP-180	<u>6.2.3 ES Site Selection and Option Appraisal</u>
APP-181	<u>6.2.4 ES Project Description</u>
APP-182	<u>6.2.5 ES Planning and Policy Context</u>
APP-183	<u>6.2.6 ES Coastal Processes Sediment Transport and Contamination</u>
APP-184	<u>6.2.7 ES Water Quality Assessment</u>
APP-185	<u>6.2.8 ES Intertidal and Subtidal Benthic Ecology</u>
APP-186	<u>6.2.9 ES Fish Including Recreational and Commercial Fisheries</u>
APP-187	<u>6.2.10 ES Marine Mammals and Turtles</u>
APP-188	<u>6.2.11 ES Coastal Birds</u>
APP-189	<u>6.2.12 ES Terrestrial Ecology</u>
APP-190	<u>6.2.13 ES Seascape and Landscape Visual Impact Assessment</u>
APP-191	<u>6.2.14 ES Navigation and Marine Transport Assessment</u>
APP-192	<u>6.2.15 ES Onshore Transport Assessment</u>

APP-193	<u>6.2.16 ES 16 Air Quality</u>
APP-194	<u>6.2.17 ES Hydrology and Flood Risk</u>
APP-195	<u>6.2.18 ES Land Quality and Hydrogeology</u>
APP-196	<u>6.2.19 ES Noise and Vibration</u>
APP-197	<u>6.2.20 ES Cultural Heritage Marine Archaeology</u>
APP-198	<u>6.2.21 ES Cultural Heritage Terrestrial Archaeology and Historic Landscape</u>
APP-199	<u>6.2.22 ES Economy Tourism and Recreation</u>
APP-200	<u>6.2.23 ES Mitigation and Monitoring</u>
APP-201	<u>6.2.24 ES Interrelationships</u>
APP-202	<u>6.3.1.1 ES Location of Swansea Bay Tidal Lagoon</u>
APP-203	<u>6.3.1.2 ES Application Site</u>
Ref not used	6.3.2 - 6.3.4.7a
APP-204	<u>6.3.4.7b ES Metal Sampling</u>
APP-205	<u>6.3.5.1 ES Local Authority Boundaries</u>
APP-206	<u>6.3.6.1 ES Numerical Model Extents</u>
APP-207	<u>6.3.6.2 ES Local detail of numerical model</u>
APP-208	<u>6.3.6.3 ES Regional Map of Swansea Bay</u>
APP-209	<u>6.3.6.4 ES Modelled current speed and direction</u>
APP-210	<u>6.3.6.5 ES Current roses from metocean sites for spring and neap tides</u>
APP-211	<u>6.3.6.6 ES Wind and wave roses</u>
APP-212	<u>6.3.6.7 ES Wave roses for metocean sites and Scarweather buoy</u>
APP-213	<u>6.3.6.8 ES Titan Seabed Sediment Distribution</u>
APP-214	<u>6.3.6.9 ES PSA results from benthic survey</u>
APP-215	<u>6.3.6.10 ES Measured variation in key coastal process parameters at metocean site 1</u>

APP-216	<u>6.3.6.11 ES Measured variation in key coastal process parameters at metocean site 2</u>
APP-217	<u>6.3.6.12 ES MODIS Satellite Surface SSC Summer</u>
APP-218	<u>6.3.6.13 ES MODIS Satellite Surface SSC Winter</u>
APP-219	<u>6.3.6.14 ES Historical beach profiles for location around Swansea Bay</u>
APP-220	<u>6.3.6.15 ES Postulated Sand Transport Directions in Swansea Bay</u>
APP-221	<u>6.3.6.16 ES Locations of samples analysed for sediment contamination</u>
APP-222	<u>6.3.6.17 ES Maximum predicted SSC increases West bund construction</u>
APP-223	<u>6.3.6.18 ES SSC timeseries plots for West bund construction</u>
APP-224	<u>6.3.6.19 ES Maximum predicted sedimentation West bund construction</u>
APP-225	<u>6.3.6.20 ES Sedimentation timeseries for West bund construction</u>
APP-226	<u>6.3.6.21 ES Predicted sedimentation at end of Spring_Neap cycle West bund construction</u>
APP-227	<u>6.3.6.22 ES Maximum predicted SSC increases East bund construction</u>
APP-228	<u>6.3.6.23 ES SSC timeseries plots for East bund construction</u>
APP-229	<u>6.3.6.24 ES Maximum predicted sedimentation East bund construction</u>
APP-230	<u>6.3.6.25 ES Sedimentation timeseries for East bund construction</u>
APP-231	<u>6.3.6.26 ES Predicted sedimentation at end of Spring_Neap cycle East bund construction</u>
APP-232	<u>6.3.6.27 ES Maximum predicted SSC increase Sediment disposal</u>
APP-233	<u>6.3.6.28 ES SSC timeseries plots for Sediment disposal</u>
APP-234	<u>6.3.6.29 ES Maximum predicted sedimentation Sediment disposal</u>

APP-235	<u>6.3.6.30 ES Sedimentation timeseries plots for Sediment disposal</u>
APP-236	<u>6.3.6.31 ES Predicted sedimentation at end of Spring Neap cycle Sediment disposal</u>
APP-237	<u>6.3.6.32 ES Mean Spring baseline flow speeds</u>
APP-238	<u>6.3.6.33 ES Predicted difference in mean Spring tidal flow Absolute change</u>
APP-239	<u>6.3.6.34 ES Predicted difference in mean Spring tidal flow relative change</u>
APP-240	<u>6.3.6.35 ES Timeseries plots of flow speed changes Site</u>
APP-241	<u>6.3.6.36 ES Timeseries plots of flow speed changes Site L4</u>
APP-242	<u>6.3.6.37 ES Timeseries plots of flow speed changes Site L7</u>
APP-243	<u>6.3.6.38 ES Timeseries plots of flow speed changes Site O5</u>
APP-244	<u>6.3.6.39 ES Timeseries plots of flow speed changes Site O3</u>
APP-245	<u>6.3.6.40 ES Baseline tidal residual</u>
APP-246	<u>6.3.6.41 ES Scheme tidal residual</u>
APP-247	<u>6.3.6.42 ES Predicted changes to MHWS</u>
APP-248	<u>6.3.6.43 ES Predicted changes to MLWS</u>
APP-249	<u>6.3.6.44 ES Predicted changes to wave parameters 10 in 1yr southwesterly wave</u>
APP-250	<u>6.3.6.45 ES Predicted changes to wave parameters 1 in 1yr southwesterly wave</u>
APP-251	<u>6.3.6.46 ES Predicted changes to wave parameters 1 in 10yr southwesterly wave</u>
APP-252	<u>6.3.6.47 ES Predicted changes to wave parameters 1 in 20yr southwesterly wave</u>
APP-253	<u>6.3.6.49 ES Predicted changes to wave parameters 1 in 10yr southeasterly wave</u>
APP-254	<u>6.3.6.50 ES Predicted changes to mud deposition during a 10 in 1yr storm event</u>
APP-255	<u>6.3.6.51 ES Predicted changes to mud deposition during calm periods (Spring tide only)</u>

APP-256	<u>6.3.6.52 ES Predicted changes to mud deposition during a 1 in 20yr storm event</u>
Ref not used	6.3.7
APP-257	<u>6.3.8.1 ES Study Area</u>
APP-258	<u>6.3.8.2 ES 2013 Survey Areas</u>
APP-259	<u>6.3.8.3 ES Designated Sites</u>
APP-260	<u>6.3.8.4 ES Biotope Map West</u>
APP-261	<u>6.3.8.5 ES Biotope Map East</u>
APP-262	<u>6.3.8.6 ES Overview of Biotopes</u>
APP-263	<u>6.3.8.7 ES Biotope Map A</u>
APP-264	<u>6.3.8.8 ES Biotope Map B</u>
APP-265	<u>6.3.8.9 ES Biotope Map C</u>
APP-266	<u>6.3.8.10 ES Biotope Map West of River Tawe A</u>
APP-267	<u>6.3.8.11 ES Biotope Map West of River Tawe B</u>
APP-268	<u>6.3.8.12 ES Biotope Map North of Mumbles Head A</u>
APP-269	<u>6.3.8.13 ES Biotope Map North of Mumbles Head B</u>
APP-270	<u>6.3.8.14 ES Predicted Subtidal Habitats</u>
APP-271	<u>6.3.8.15 ES Seabed Classification</u>
APP-272	<u>6.3.8.16 ES Seabed Sediment Distribution Titan Survey</u>
APP-273	<u>6.3.8.17 ES Titan Survey Sample Points</u>
APP-274	<u>6.3.8.18 ES Faunal Assemblage Groups</u>
Ref not used	6.3.9
APP-275	<u>6.3.10.1 ES Study Areas for Marine Mammal Baseline</u>
APP-276	<u>6.3.10.2 ES Location of Boat Based Surveys and Fixed Monitoring Sites</u>
APP-277	<u>6.3.10.3a ES Inter-Agency Marine Mammal Working Group Management Units</u>

APP-278	<u>6.3.10.3b ES Inter-Agency Marine Mammal Working Group Management Units</u>
APP-279	<u>6.3.10.4 ES Long-term mean sighting rates of Harbour Porpoise</u>
APP-280	<u>6.3.10.5 ES Marine Mammal Sightings recorded in the Atlantic Array Baseline Monitoring</u>
APP-281	<u>6.3.10.6 ES Harbour Porpoise Sightings GMMP</u>
APP-282	<u>6.3.10.7 ES Long-term Mean Sighting Rates of Common Dolphin</u>
APP-283	<u>6.3.10.8 ES Long-term Mean Sighting Rates of Bottlenose Dolphin</u>
APP-284	<u>6.3.10.9 ES Long-term Mean Sighting Rates of Rissos Dolphin</u>
APP-285	<u>6.3.10.10 ES Long-term Mean Sighting Rates of Minke Whale</u>
APP-286	<u>6.3.10.11 ES Long-term Mean Vessel Sighting Rates of Seals</u>
APP-287	<u>6.3.10.12 ES At-Sea Usage Map for Grey Seal</u>
APP-288	<u>6.3.10.13 ES GPS track of Seal Pups</u>
APP-289	<u>6.3.11.1 ES Western Bird Survey Area</u>
APP-290	<u>6.3.11.2 ES Eastern Bird Survey Area</u>
APP-291	<u>6.3.11.3 ES Bird Survey - 21 October 2011</u>
APP-292	<u>6.3.11.4 ES Bird Survey - 15 November 2011</u>
APP-293	<u>6.3.11.5 ES Bird Survey - 15 December 2011</u>
APP-294	<u>6.3.11.6 ES Bird Survey - 06 January 2012</u>
APP-295	<u>6.3.11.7 ES Bird Survey - 20 February 2012</u>
APP-296	<u>6.3.11.8 ES Bird Survey - 09 March 2012</u>
APP-297	<u>6.3.11.9 ES Bird Survey - 21 September 2012</u>
APP-298	<u>6.3.11.10 ES Bird Survey - 25 October 2012</u>
APP-299	<u>6.3.11.11 ES Bird Survey - 26 November 2012</u>

APP-300	<u>6.3.11.12 ES Bird Survey - 18 December 2012</u>
APP-301	<u>6.3.11.13 ES Bird Survey - 22 January 2013</u>
APP-302	<u>6.3.11.14 ES Bird Survey - 15 February 2013</u>
APP-303	<u>6.3.11.15 ES Bird Survey - 28 March 2013</u>
APP-304	<u>6.3.11.16 ES Bird Survey - 26 April 2013</u>
APP-305	<u>6.3.11.17 ES Bird Survey - 24 May 2013</u>
APP-306	<u>6.3.11.18 ES Bird Survey - 10 June 2013</u>
APP-307	<u>6.3.11.19 ES Bird Survey - 11 July 2013</u>
APP-308	<u>6.3.11.20 ES Bird Survey - 23 August 2013</u>
APP-309	<u>6.3.11.21 ES High Tide Roost Locations</u>
Ref not used	6.3.12
APP-310	<u>6.3.13.1 ES Landscape Character</u>
APP-311	<u>6.3.13.2 - 6.3.13.3 ES Regional Seascape Unit Plans</u>
APP-312	<u>6.3.13.4 ES Local Seascape Unit Plan</u>
APP-313	<u>6.3.13.5 ES Zone of Theoretical Visibility</u>
APP-314	<u>6.3.13.6 ES Cumulative Development Locations</u>
APP-315	<u>6.3.13.7 ES Viewpoint Locations</u>
APP-316	<u>6.3.13.8 ES Landscape Designations</u>
APP-317	<u>6.3.13.9 - 6.3.13.19 ES Landscapes Aspect Layer</u>
APP-318	<u>6.3.13.20 - 6.3.13.77 ES Viewpoint Location Figures</u>
Ref not used	6.3.14
Ref not used	6.3.15
APP-319	<u>6.3.16.1 ES Air Quality Study Area</u>
Ref not used	6.3.17 - 6.3.18.4
APP-320	<u>6.3.18.5 ES Made Ground</u>

APP-321	<u>6.3.18.6 ES Superficial Geology</u>
APP-322	<u>6.3.18.7 ES Bedrock</u>
Ref not used	6.3.18.8
Ref not used	6.3.18.9
APP-323	<u>6.3.18.10 ES BGS Groundwater Flooding Susceptibility</u>
Ref not used	6.3.19
APP-324	<u>6.3.20.1 - 6.3.20.3 ES Figures</u>
APP-325	<u>6.3.20.4 - 6.3.20.11 ES Figures</u>
APP-326	<u>6.3.21.1 ES Terrestrial Archaeological assets within a detailed study area</u>
APP-327	<u>6.3.21.2 ES Terrestrial Archaeological assets within a detailed study area</u>
APP-328	<u>6.4.2.1 ES List of Statutory Consultees</u>
APP-329	<u>6.4.2.2 ES Transboundary correspondence</u>
Ref not used	6.4.3
APP-330	<u>6.4.4.1 ES CEMP</u>
APP-331	<u>6.4.4.2 ES OEMP</u>
APP-332	<u>6.4.5.1 ES Sustainability Carbon Balance</u>
APP-333	<u>6.4.6.1 ES Model setup calibration and validation</u>
APP-334	<u>6.4.6.2 ES Model Bathymetry Review</u>
APP-335	<u>6.4.6.3 ES Summary of results from contamination and PSA analyses</u>
APP-336	<u>6.4.6.4 ES Summary of model run scenarios for Coastal Processes EIA</u>
APP-337	<u>6.4.7.1 ES Hydrodynamic model update and validation report</u>
APP-338	<u>6.4.7.2 ES Supporting Technical Information Report</u>
APP-339	<u>6.4.8.1 ES Benthic Survey Proposal</u>

APP-340	<u>6.4.8.2 ES Intertidal Biotope Survey Notes</u>
APP-341	<u>6.4.8.3 ES Artificial structures in coastal habitats</u>
APP-342	<u>6.4.9.1 ES Fish Including recreational and commercial fisheries baseline</u>
APP-343	<u>6.4.9.2 ES Fish Fauna Characterisation Surveys</u>
APP-344	<u>6.4.9.3 ES Fish Turbine Encounter modelling</u>
APP-345	<u>6.4.9.4 ES Fish Turbine Passage Modelling</u>
APP-346	<u>6.4.9.5 ES Accuracy and limitations</u>
APP-347	<u>6.4.10.1 ES Grey Seal Sightings</u>
APP-348	<u>6.4.11.1 ES Summary of WeBS High Tide Core Count Data Graphs</u>
APP-349	<u>6.4.11.2 ES Gower Ornithological Society Data</u>
APP-350	<u>6.4.11.3 ES Field Survey Data</u>
APP-351	<u>6.4.12.1 - 6.4.12.8 and 6.4.12.10 ES Terrestrial Ecology Technical Appendices</u>
APP-352	<u>6.4.12.9 ES CFD Simulation Results</u>
APP-353	<u>6.4.13.1 ES Visually Verified Montages by iCreate Methodology Report</u>
APP-354	<u>6.4.14.1 ES Navigation Risk Assessment</u>
APP-355	<u>6.4.14.2 ES Hazard Log</u>
APP-356	<u>6.4.14.3 ES MCA Checklist</u>
APP-357	<u>6.4.15.1 ES Baseline Traffic Data</u>
APP-358	<u>6.4.15.2 ES Traffic Count Data</u>
APP-359	<u>6.4.15.3 ES TRICS data</u>
APP-360	<u>6.4.15.4 ES Traffic Flow Diagrams</u>
APP-361	<u>6.4.15.5 ES Fabian Way Quay Parade Kings Road LinSig results</u>
APP-362	<u>6.4.15.6 ES Fabian Way Port Tennant Junction LinSig results</u>

APP-363	<u>6.4.15.7 ES Fabian Way Park Ride Access LinSig results</u>
APP-364	<u>6.4.15.8 ES Langdon road roundabout Arcady Results</u>
APP-365	<u>6.4.15.9 ES Fabian Way Elba Crescent LinSig results</u>
APP-366	<u>6.4.15.10 ES Fabian Way Ffordd Amazon Transyt output</u>
APP-367	<u>6.4.15.11 ES A483_A48 LinSig results</u>
APP-368	<u>6.4.15.12 ES Draft Construction Phase Travel Plan</u>
APP-369	<u>6.4.15.13 ES Draft Operational Phase Travel Plan</u>
APP-370	<u>6.4.15.14 ES Major Event Travel Plan Framework</u>
APP-371	<u>6.4.16.1 ES Traffic Flows</u>
Ref not used	6.4.17
APP-372	<u>6.4.18.1 ES Groundwater-intertidal zone discharge conceptual model</u>
APP-373	<u>6.4.19.1 ES World Health Organisation Guidelines</u>
APP-374	<u>6.4.19.2 ES Noise Data</u>
APP-375	<u>6.4.20.1 ES Gazetteer of Known Maritime Sites</u>
APP-376	<u>6.4.20.2 ES Sea Level Change</u>
APP-377	<u>6.4.21.1 ES Cultural Heritage Terrestrial Archaeology Baseline</u>
APP-378	<u>6.4.22.1 ES Turning Tide the economic significance of the TLSB</u>
APP-379	<u>6.4.23.1 ES Adaptive Environmental Monitoring Plan</u>
APP-380	<u>7.1 Cable and Grid Connection Statement</u>
APP-381	<u>7.2 Safety Zone Statement</u>
APP-382	<u>7.3 Statement of Recreational Amenity</u>
APP-383	<u>8.1 Design and Access Statement</u>
APP-384	<u>8.2 Planning Statement</u>
APP-385	<u>8.3 Water Framework directive</u>

APP-386	<u>8.4 Table of mitigation and where secured</u>
APP-387	<u>8.5 Marine Licence Application</u>
APP-388	<u>8.6 DCO Heads of Terms</u>
APP-389	<u>8.7 Scoping Opinion</u>
UPDATED DRAFT DEVELOPMENT CONSENT ORDERS	
REP-495	<u>TLSB Plc – Draft Development Consent Order, Version 2, 8 July 2014 (Deadline II - 24 June 2014)</u>
REP-494	<u>TLSB Plc – Draft Development Consent Order - Comparison Document between Version 1 and Version 2 (Deadline II - 24 June 2014)</u>
REP-664	<u>TLSB Plc – Draft Development Consent Order - Version 3, 5 August 2014 (Deadline III- 5 August 2014)</u>
REP-663	<u>TLSB Plc – Draft Development Consent Order – Comparison Document between Version 2 and Version 3 (Deadline III - 5 August 2014)</u>
Rep-770	<u>TLSB Plc - Draft Development Consent Order (clean) (Deadline IV - 7 October 2014)</u>
Rep-771	<u>TLSB Plc -Draft Development Consent Order (changes shown) (Deadline IV - 7 October 2014)</u>
REP-844	<u>TLSB Plc - Draft Development Consent Order - (doc ref 3.1) (clean) (Deadline V - 28 October 2014)</u>
REP-845	<u>TLSB Plc -Draft Development Consent Order - (doc ref 3.1) (changes shown) (Deadline V - 28 October 2014)</u>
REP-864	<u>TLSB Plc – Draft development consent order (changes shown) (Extended Deadline V - 4 November 2014)</u>
REP-865	<u>TLSB Plc – Draft development consent order (clean) (Extended Deadline V - 4 November 2014)</u>
REP-927	<u>TLSB Plc – Draft Development Consent Order (clean) (Deadline VI - 25 November 2014)</u>
REP-928	<u>TLSB Plc –Draft Development Consent Order (changes shown) (Deadline VI - 25 November 2014)</u>

REP-1002	<u>TLSB Plc - Draft Development Consent Order (clean)</u> <u>(Deadline VII - 4 December 2014)</u>
REP-1000	<u>TLSB Plc – Draft Development Consent Order (changes shown)</u> (Deadline VII - 4 December 2014)
PROJECT DOCUMENTS	
Procedural Decisions	
PD-001	<u>Notification of Decision to Accept Application</u>
PD-002	<u>TLSB Plc - s55 Acceptance Checklist</u>
PD-003	<u>Rule 6 Letter</u>
PD-004	<u>Cover Letter to Rule 6 Letter sent to Cornwall Council</u>
PD-005	<u>Rule 8 Letter</u>
PD-006	<u>Rule 8 Letter sent to CADW</u>
PD-007	<u>Cover Letter to Rule 8 Letter sent to CADW</u>
PD-008	<u>Rule 8 Letter sent to Natural England</u>
PD-009	<u>Cover Letter for Rule 8 Letter sent to Natural England</u>
PD-010	<u>Examining Authority's First Round of Written Questions</u>
PD-011	<u>Notification of hearings and Accompanied Site Visit</u>
PD-012	<u>Letter to Mr Kerry Jones regarding an IP status</u>
PD-013	<u>Letter to Mr David Laws regarding an IP status</u>
PD-014	<u>Letter to Martin Caton MP - Letter from the ExA regarding an Interested Person status.</u>
PD-015	<u>Rule 13 letter - notifications of hearings</u>
PD-016	<u>Rule 13(6) Letter - letter to TLSB to permit less than 21 days notice of hearings to be given</u>
PD-017	<u>Rule 17 and Rule 8(3) - request for TLSB to undertake public consultation on request comments on deadline III documents and change to examination timetable</u>
PD-018	<u>Rule 17 and Rule 8(3)b – request for TLSB to undertake public consultation and change to examination timetable</u>

PD-019	<u>Rule 17 and Rule 8(3)b – request for further information and information regarding the Examining Authority</u>
PD-020	<u>Consultation Draft Development Consent Order</u>
PD-021	<u>Notification of a new lead member of Panel</u>
PD-022	<u>Rule 17 Letter – Request for Further Information – Comments on Deadline VI and Outstanding s.106 Agreements</u>
PD-023	<u>Rule 17 Letter – Request for Further Information – Specific Interested Parties</u>
PD-024	<u>s.99 Letter – Notification of Completion of ExA Examination</u>
Certificates	
CERT-001	<u>Covering letter submitted with the s56 and s59 certificates of compliance</u>
CERT-002	<u>Certificate of compliance with s56 and s59 of the Planning Act 2008 including the amendments to the Book of Reference</u>
CERT-003	<u>Covering letter submitted with the Regulation 13 certificate of compliance</u>
CERT-004	<u>Certificate of compliance with Regulation 13 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009</u>
Correspondence – Accepted During Pre examination	
CORR-001	<u>S51 advice following the issue of the s55 acceptance decision</u>
CORR-002	<u>Seren Contract Publishing</u>
CORR-003	<u>Climate Friendly Bradford on Avon</u>
CORR-004	<u>Business in the Community</u>
CORR-005	<u>Maureen Wood</u>
CORR-006	<u>Peter Keith-Lucas</u>
CORR-007	<u>Ian Ross</u>
CORR-008	<u>Peter Foreman</u>

CORR-009	Ogmore Angling Association
CORR-010	Pleasure Anglers and Kayakers Association
CORR-011	Martin Wood
Correspondence – Examination	
CORR-012	Martin Caton MP - Letter regarding the Interested Party status
CORR-013	Natural Resources Wales - Letter regarding environmental documentation
CORR-014	Royal Mail - Notification of Interested Party Status
CORR-015	National Grid Electricity Transmission Plc – Withdrawal of objection
CORR-016	Dan Morrissey (UK) Limited – Withdrawal of objection
CORR-017	Byron Davies AM - Non-deadline submission (s51 advice issued in response) <input type="checkbox"/>
CORR-018	Geraint Davies MP - Non-deadline submission
CORR-019	Response to Geraint Davies MP regarding a non-deadline submission
CORR-020	TLSB Plc – Letter to the Inspectorate in respect of Dr Peter Widd (ExA Member)
CORR-021	Response to TLSB Plc (the Applicant) regarding Dr Peter Widd (ExA Member)
Transboundary Submissions	
TB-01	Transboundary Screening Matrix
TB-02	London Gazette Regulation 24 Notice
TB-03	Republic of Ireland request to participate in TLSB transboundary EIA consultation
TB-04	Email correspondence with Republic of Ireland regarding transboundary EIA consultation response times
RIES Documents	
RIES-001	Examining Authority's Report on the Implications for European Sites (RIES)

REPRESENTATIONS	
Adequacy of Consultation Responses	
REP-001	Brecon Beacons National Park Authority
REP-002	Bridgend County Borough Council
REP-003	City and County of Swansea Council
REP-004	Neath Port Talbot County Borough Council
Relevant Representations	
REP-005	Acorn
REP-006	Active Supporters Group Tidal Lagoon Swansea Bay
REP-007	Afan Valley Angling Club
REP-008	Alan Rayner
REP-009	Alstom Power
REP-010	Andrew Allen
REP-011	Andrew Burns
REP-012	Andrew Scott Ltd
REP- 013	Andritz Hydro GmbH, Ravensburg, Germany
REP-014	Annalisa Jenkins
REP-015	Anthony Colburn
REP-016	Anthony Dean Trick
REP-017	Ashley Jones
REP-018	Associated British Ports
REP-019	AstraVia Professional & Technical Recruitment Limited
REP-020	Atkins
REP-021	Austwel Ltd
REP-022	Baglan Bay Company Limited
REP-023	Baglan Operations Limited

REP-024	<u>Barry Rice</u>
REP-025	<u>Bethan Jenkins AM</u>
REP-026	<u>Brecon Beacons National Park Authority</u>
REP-027	<u>Brian Burgess</u>
REP-028	<u>British Hydropower Association</u>
REP-029	<u>British Sub Aqua Club</u>
REP-030	<u>Briton Ferry Shipping Services</u>
REP-031	<u>Burlais Primary School</u>
REP-032	<u>Byron Davies AM</u>
REP-033	<u>Cafe TwoCann</u>
REP-034	<u>Cambrensis Ltd</u>
REP-035	<u>Canoe Wales</u>
REP-036	<u>Cape Farewell</u>
REP-037	<u>Carbon Reduction Group Ltd</u>
REP-038	<u>Carmarthenshire County Council</u>
REP-039	<u>Cathryn Allen</u>
REP-040	<u>CEMEX UK Operations Limited</u>
REP-041	<u>Charlotte Tonge</u>
REP-042	<u>Chris Binnie</u>
REP-043	<u>Christopher Jones</u>
REP-044	<u>CIOTEK Ltd</u>
REP-045	<u>City and County of Swansea</u>
REP-046	<u>Coleg Sir Gar</u>
REP-047	<u>Colin Small</u>
REP-048	<u>Colourbox</u>

REP-049	<u>Costain Ltd</u>
REP-050	<u>Crickhowell and District Angling Society</u>
REP-051	<u>Dan Morrissey (UK) Limited</u>
REP-052	<u>Dan Morrissey IRL Limited</u>
REP-053	<u>David and Heather Stevens</u>
REP-054	<u>David Fitzpatrick; Cynnal Cymru - Sustain Wales</u>
REP-055	<u>David Jones</u>
REP-056	<u>David Kay</u>
REP-057	<u>David Lort-Phillips</u>
REP-058	<u>David Nussbaum</u>
REP-059	<u>David Slater</u>
REP-060	<u>David Tonge</u>
REP-061	<u>David Williams</u>
REP-062	<u>DavyMarkham Ltd</u>
REP-063	<u>Derek Morgan OBE DL</u>
REP-064	<u>Design Commission for Wales</u>
REP-065	<u>Dr Ian Horsfall</u>
REP-066	<u>Dr Ivan Haigh</u>
REP-067	<u>Dr Lewis Keil</u>
REP-068	<u>Dr Pamela J Muirhead</u>
REP-069	<u>Dr Sara Hayes, Abertawe Bro Morgannwg Health Board</u>
REP-070	<u>Dr Simon Boxall</u>
REP-071	<u>Dwr Cymru Welsh Water</u>
REP-072	<u>EEF The Manufacturers Organisation</u>
REP-073	<u>EFT Energy Consultants Ltd</u>

REP-074	<u>Eileen Strack</u>
REP-075	<u>Electrical Contractors' Association - South Wales Regional Office</u>
REP-076	<u>Euan Gatfield</u>
REP-077	<u>Expert Recruitment / Expert Group</u>
REP-078	<u>Fairwood Fabrications Limited</u>
REP-079	<u>Fish Legal</u>
REP-080	<u>Gareth Howells</u>
REP-081	<u>GE Power Conversion UK Ltd</u>
REP-082	<u>Geraint Davies MP</u>
REP-083	<u>GMB Trade Union - Wales and South West Region</u>
REP-084	<u>Good Energy Group PLC</u>
REP-085	<u>Goodwin International</u>
REP-086	<u>Gower Power Community Co-operative</u>
REP-087	<u>Grwp Llandrillo Menai</u>
REP-088	<u>Guts Surfboards</u>
REP-089	<u>Gwent Angling Society</u>
REP-090	<u>Helena Sykes</u>
REP-091	<u>Hornbill Engineering Limited</u>
REP-092	<u>Hugh Montgomery</u>
REP-093	<u>Ian Titherington</u>
REP-094	<u>Industry Wales</u>
REP-095	<u>Institute of Directors</u>
REP-096	<u>Intertissue</u>
REP-097	<u>Jac Bastian</u>
REP-098	<u>Jack O'Sullivan</u>

REP-099	<u>Jeremy Leggett</u>
REP-100	<u>Jessica Seaton</u>
REP-101	<u>Joan Nixon</u>
REP-102	<u>John Phillips</u>
REP-103	<u>Jonathan Owen</u>
REP-104	<u>Jonathan Thomas</u>
REP-105	<u>Jonathon Porrit</u>
REP-106	<u>Julie James Assembly Member for Swansea West</u>
REP-107	<u>JW Morris Limited</u>
REP-108	<u>Kevin Kearle</u>
REP-109	<u>Kirsty Williams AM</u>
REP-110	<u>La Parrilla</u>
REP-111	<u>Ledwood Mechanical Engineering Limited</u>
REP-112	<u>Lord Oxburgh of Liverpool</u>
REP-113	<u>Louise Coates</u>
REP-114	<u>Louise James</u>
REP-115	<u>Lucy Kelly</u>
REP-116	<u>Mabey Bridge Ltd</u>
REP-117	<u>Mapley Steps Limited</u>
REP-118	<u>Margaret Minhinnick</u>
REP-119	<u>Marine Energy Pembrokeshire</u>
REP-120	<u>Maritime and Coastguard Agency</u>
REP-121	<u>Maritime Quarter Residents</u>
REP-122	<u>Mark Hughes</u>
REP-123	<u>Martin Horwood MP</u>

REP-124	<u>Martin Woodrow</u>
REP-125	<u>Michael Eames</u>
REP-126	<u>Mike Hedges AM</u>
REP-127	<u>Mission Gallery</u>
REP-128	<u>Mond Angling Society</u>
REP-129	<u>Monkstone Cruising and Sailing Club</u>
REP-130	<u>Mr Dereck J Roberts</u>
REP-131	<u>Mr Robert Mainwaring</u>
REP-132	<u>Mrs Janet E Probert</u>
REP-133	<u>Mrs Jill Burgess</u>
REP-134	<u>Mumbles Active Supporters Group</u>
REP-135	<u>Mumbles and Gower Tourist Information Centre</u>
REP-136	<u>Mumbles Development Trust</u>
REP-137	<u>Mumbles Forum</u>
REP-138	<u>Mumbles Traders Association</u>
REP-139	<u>National Grid Electricity Transmission Plc and National Grid Gas Plc</u>
REP-140	<u>National Joint Council for Engineering Construction</u>
REP-141	<u>Natural Resources Wales</u>
REP-142	<u>Neath Port Authority</u>
REP-143	<u>Neath Port Talbot Active Supporters Group</u>
REP-144	<u>Neath Port Talbot County Borough Council.</u>
REP-145	<u>Network Rail Infrastructure Limited</u>
REP-146	<u>New Sandfields Aberafan and Afan</u>
REP-147	<u>Nicole Pozas Esteban</u>
REP-148	<u>NPTC Group</u>

REP-149	<u>Oystermouth Primary School</u>
REP-150	<u>P Davies</u>
REP-151	<u>Parsons Brinckerhoff</u>
REP-152	<u>Paul Gibson</u>
REP-153	<u>Paul Madin</u>
REP-154	<u>Pembrokeshire South East Energy Group</u>
REP-155	<u>Penny Roberts</u>
REP-156	<u>Phil Lake</u>
REP-157	<u>Phil Morgan</u>
REP-158	<u>Philippa Powell</u>
REP-159	<u>Pontardawe and Swansea Angling Society Ltd</u>
REP-160	<u>Porthcawl Environment Trust</u>
REP-161	<u>Prof Calvin Jones</u>
REP-162	<u>Prof J. Hunt</u>
REP-163	<u>Prof. Karen Ingham</u>
REP-164	<u>Professor Michael Collins</u>
REP-165	<u>Professor Michael Phillips</u>
REP-166	<u>Professor Roger A. Falconer</u>
REP-167	<u>Prospect Energy Ltd</u>
REP-168	<u>Public Health England</u>
REP-169	<u>Regen SW</u>
REP-170	<u>RenewableUK</u>
REP-171	<u>RenewableUK Cymru</u>
REP-172	<u>Rhossili Working Group (RWG)</u>
REP-173	<u>Richard James</u>

REP-174	<u>Richard Nourse</u>
REP-175	<u>Richard Watkins</u>
REP-176	<u>Robert Llewellyn John</u>
REP-177	<u>Robin Teverson</u>
REP-178	<u>Roger Evans</u>
REP-179	<u>Royal Society for the Protection of Birds</u>
REP-180	<u>Royal Yachting Association</u>
REP-181	<u>Russell Bailey Gilbert</u>
REP-182	<u>Russell George AM</u>
REP-183	<u>Ruth Lovell</u>
REP-184	<u>S Penny</u>
REP-185	<u>Salento Risorantre Ltd</u>
REP-186	<u>Sally Clayden</u>
REP-187	<u>Semta</u>
REP-188	<u>Sheffield Forgemasters International</u>
REP-189	<u>Sir John Houghton</u>
REP-190	<u>Sketty Primary</u>
REP-191	<u>South and West Wales Association of Sea Anglers (SWWASAC)</u>
REP-192	<u>South Wales Chamber of Commerce</u>
REP-193	<u>South West Wales Tourism Partnership</u>
REP-194	<u>Spindogs LTD</u>
REP-195	<u>St Modwen Developments Limited</u>
REP-196	<u>St Modwen Properties Plc</u>
REP-197	<u>St Modwen Properties VIII Sarl</u>
REP-198	<u>Stephen Tindale</u>

REP-199	<u>Steve Bell</u>
REP-200	<u>Steve Kidwell</u>
REP-201	<u>Sustainable Wales</u>
REP-202	<u>Sustrans Cymru</u>
REP-203	<u>Suzy Davies AM</u>
REP-204	<u>Swansea Bay Business Club</u>
REP-205	<u>Swansea Bay Port Health Authority</u>
REP-206	<u>Swansea Biodiversity Partnership</u>
REP-207	<u>Swansea Business Forum</u>
REP-208	<u>Swansea Civic Society</u>
REP-209	<u>Swansea Environmental Forum</u>
REP-210	<u>Swansea Fishermen</u>
REP-211	<u>Swansea Friends of the Earth</u>
REP-212	<u>Swansea Ramblers</u>
REP-213	<u>Swansea University</u>
REP-214	<u>Swansea University</u>
REP-215	<u>Swansea Watersports</u>
REP-216	<u>Tata Steel Europe</u>
REP-217	<u>Tawe Boating Club</u>
REP-218	<u>TenCate Geosynthetics Netherlands bv</u>
REP-219	<u>Terrence Edward Logan</u>
REP-220	<u>The Bristol Port Company</u>
REP-221	<u>The Coal Authority</u>
REP-222	<u>The Crown Estate</u>
REP-223	<u>The Development Trusts Association Wales</u>

REP-224	<u>The Dragon Hotel</u>
REP-225	<u>The Gower Society</u>
REP-226	<u>The Kitchen Table</u>
REP-227	<u>The Neath and Dulais Angling Club</u>
REP-228	<u>The Salmon & Trout Association</u>
REP-229	<u>The Wildlife Trust of South and West Wales</u>
REP-230	<u>Thomas Thorpe</u>
REP-231	<u>Timothy Kingham</u>
REP-232	<u>TLSB Plc Active Supporters Group, Gower, Wales & UK</u>
REP-233	<u>TLSB Plc Industry Advisory Board</u>
REP-234	<u>Tourism Swansea Bay</u>
REP-235	<u>Trinity House</u>
REP-236	<u>Unit Superheater Engineering Ltd</u>
REP-237	<u>University of Bristol</u>
REP-238	<u>University of Wales Trinity Saint David</u>
REP-239	<u>Usk Fishing Association</u>
REP-240	<u>VALOREM</u>
REP-241	<u>Van Oord UK Ltd.</u>
REP-242	<u>Verdi's Cafe and Restaurant</u>
REP-243	<u>Village Hotel</u>
REP-244	<u>Visit Wales/Welsh Government</u>
REP-245	<u>Voith Hydro GmbH & Co. KG</u>
REP-246	<u>Wales Green Party</u>
REP-247	<u>Wales Quality Centre</u>
REP-248	<u>Warm Wales - Cymru Gynnes CBC - Community Interest Company</u>

REP-249	<u>Waterloo Foundation</u>
REP-250	<u>Welsh Association of Sub Aqua Clubs</u>
REP-251	<u>Welsh Cycling</u>
REP-252	<u>Welsh Government</u>
REP-253	<u>Welsh Liberal Democrats</u>
REP-254	<u>Welsh Rowing</u>
REP-255	<u>Welsh Triathlon</u>
REP-256	<u>Western Power Distribution</u>
REP-257	<u>Whale and Dolphin Conservation</u>
REP-258	<u>Wheelrights</u>
REP-259	<u>Wildfowl & Wetlands Trust</u>
REP-260	<u>William Howard John</u>
REP-261	<u>Ymddiriedolaeth Genedlaethol / National Trust Wales</u>
REP-262	<u>Zest Cleaning Solutions</u>

RESPONSE TO S51 ADVICE ISSUED AT ACCEPTANCE – UPDATED APPLICATION DOCUMENTS

Book of Reference

REP-263	<u>TLSB Plc Revised Book of Reference (3A paragraph 20) Annexe 6 of submission in response to S51 advice.</u>
---------	---

Other Documents Submitted by the Applicant

REP-264	<u>TLSB Plc - Covering letter and submission in response to s51 advice, dated 4 June 2014. Followed by Annexes 1 -10</u>
REP-265	<u>TLSB Plc - Annexe 1 - Table of heights and dimensions in the draft DCO and the Statement of Reasons</u>
REP-266	<u>TLSB Plc - Annexe 2 - Table of dimensions of all elements of Project</u>
REP-267	<u>TLSB Plc - Annexe 3 - Notices under s42(1)(d) of proposed application served in respect of properties on Bevans Row</u>

REP-268	<u>TLSB Plc - Annexe 4 - Copy of representation by the Coal Authority on 30 July 2013</u>
REP-269	<u>TLSB Plc - Annexe 5 - Updated Figure 1.3 Location of project and masterplan</u>
REP-270	<u>TLSB Plc - Annexe 5 - Updated Figure 2.1 Outline project programme</u>
REP-271	<u>TLSB Plc - Annexe 5 - Updated Figure 3.1 Areas of high tidal range around England and Wales</u>
REP-272	<u>TLSB Plc - Annexe 5 - Updated Figure 3.2 Key difference between lagoon layout options J3 and J2</u>
REP-273	<u>TLSB Plc - Annexe 5 - Updated Figure 4.1 Location of the project</u>
REP-274	<u>TLSB Plc - Annexe 5 - Updated Figure 4.2 Masterplan</u>
REP-275	<u>TLSB Plc - Annexe 5 - Updated Figure 4.3 Lagoon layout option J3 on Admiralty Chart background</u>
REP-276	<u>TLSB Plc - Annexe 5 - Updated Figure 4.4 Section of the Lagoon seawall at exposed locations</u>
REP-277	<u>TLSB Plc - Annexe 5 - Updated Figure 4.5 Section of the Lagoon seawall at more sheltered locations</u>
REP-278	<u>TLSB Plc - Annexe 5 - Updated Figure 4.6 Section of Lagoon seawall using conventional construction</u>
REP-279	<u>TLSB Plc - Annexe 5 - Updated Figure 4.8 Dredging Option A extensive shallow option for dredging</u>
REP-280	<u>TLSB Plc - Annexe 5 - Updated Figure 4.9 Dredging Option B less extensive deeper option for dredging</u>
REP-281	<u>TLSB Plc - Annexe 5 - Updated Figure 4.10 Illustrative cross section of a bi-directional bulb fixed speed turbine</u>
REP-282	<u>TLSB Plc - Annexe 5 - Updated Figure 4.11 Illustration elevation of sluice gate</u>
REP-283	<u>TLSB Plc - Annexe 5 - Updated Figure 4.13 Two main alternative turbine and sluice gate housing locations</u>
REP-284	<u>TLSB Plc - Annexe 5 - Updated Figure 4.14 Sheet pile wall</u>

REP-285	<u>TLSB Plc - Annexe 5 - Updated Figure 4.15 Indicative layout of dolphin piles</u>
REP-286	<u>TLSB Plc - Annexe 5 - Updated Figure 4.16 Example of safety boom proposed</u>
REP-288	<u>TLSB Plc - Annexe 5 - Updated Figure 4.19 Overview of grid connection route from Swansea Port</u>
REP-289	<u>TLSB Plc - Annexe 5 - Updated Figure 4.21 Plan of access road between Queen's Dock and the Lagoon</u>
REP-290	<u>TLSB Plc - Annexe 5 - Updated Figure 4.22 Location of three focal areas</u>
REP-291	<u>TLSB Plc - Annexe 5 - Updated Figure 4.24 Location of offshore Building</u>
REP-292	<u>TLSB Plc - Annexe 5 - Updated Figure 4.25a Illustration of offshore Building</u>
REP-293	<u>TLSB Plc - Annexe 5 - Updated Figure 4.26 Western landfall layout</u>
REP-294	<u>TLSB Plc - Annexe 5 - Updated Figure 4.27 Sailing area within the Lagoon</u>
REP-295	<u>TLSB Plc - Annexe 5 - Updated Figure 4.28 Illustration of western landfall building</u>
REP-296	<u>TLSB Plc - Annexe 5 - Updated Figure 4.29 Eastern landfall viewing platform</u>
REP-297	<u>TLSB Plc - Annexe 5 - Updated Figure 4.30 Landward Ecological Park</u>
REP-298	<u>TLSB Plc - Annexe 5 - Updated Figure 4.31 Location of sculptural elements</u>
REP-299	<u>TLSB Plc - Annexe 5 - Updated Figure 4.32 Halfway point pearl</u>
REP-300	<u>TLSB Plc - Annexe 5 - Updated Figure 4.33 Key ecological proposals</u>
REP-301	<u>TLSB Plc - Annexe 5 - Updated Figure 4.34 Access to Lagoon off Fabian Way</u>

REP-302	<u>TLSB Plc - Annexe 5 - Updated Figure 4.35 Proposed access road with Port security entrance relocated</u>
REP-303	<u>TLSB Plc - Annexe 5 - Updated Figure 4.36 Access track to eastern landfall</u>
REP-304	<u>TLSB Plc - Annexe 5 - Updated Figure 4.37 Cross-section of new access road</u>
REP-305	<u>TLSB Plc - Annexe 5 - Updated Figure 4.38 Cross section of new access road</u>
REP-306	<u>TLSB Plc - Annexe 5 - Updated Figure 4.40 Plan of water shuttle service</u>
REP-307	<u>TLSB Plc - Annexe 5 - Updated Figure 4.41 Key elements phase 1 construction</u>
REP-308	<u>TLSB Plc - Annexe 5 - Updated Figure 4.42 Key elements phase 2 construction</u>
REP-309	<u>TLSB Plc - Annexe 5 - Updated Figure 4.43 Key elements phase 3 construction</u>
REP-310	<u>TLSB Plc - Annexe 5 - Updated Figure 4.44 Target construction programme</u>
REP-311	<u>TLSB Plc - Annexe 5 - Updated Figure 4.45 Cutter Suction Dredger</u>
REP-312	<u>TLSB Plc - Annexe 5 - Updated Figure 4.46 Geotube filling - illustration of purpose modified installation vessel</u>
REP-313	<u>TLSB Plc - Annexe 5 - Updated Figure 4.47 First stage of the seawall construction</u>
REP-314	<u>TLSB Plc - Annexe 5 - Updated Figure 4.48 Second stage of the seawall construction</u>
REP-315	<u>TLSB Plc - Annexe 5 - Updated Figure 4.49 Temporary cofferdam - option 1 using rock armour</u>
REP-316	<u>TLSB Plc - Annexe 5 - Updated Figure 4.50 Cross section of twin wall sheet pile cofferdam</u>
REP-317	<u>TLSB Plc - Annexe 5 - Updated Figure 4.51 Illustration of installation of sheet piles</u>

REP-318	<u>TLSB Plc - Annexe 5 - Updated Figure 4.52 Plan of proposed operation of installing lower level tie rods</u>
REP-319	<u>TLSB Plc - Annexe 5 - Updated Figure 4.53 Sediment fill levels in sections during installation</u>
REP-320	<u>TLSB Plc - Annexe 5 - Updated Figure 4.54 Illustrative cross section of seawall without Geotubes</u>
REP-321	<u>TLSB Plc - Annexe 5 - Updated Figure 4.55 Installing sheet piles harbour side</u>
REP-322	<u>TLSB Plc - Annexe 5 - Updated Figure 4.56 Potential locations for construction support sites</u>
REP-323	<u>TLSB Plc - Annexe 5 - Updated Figure 4.57 Schematic layout of offices stores car parking site access control and plant yard</u>
REP-324	<u>TLSB Plc - Annexe 5 - Updated Figure 4.58 Indicative batching plant layout</u>
REP-325	<u>TLSB Plc - Annexe 5 - Updated Figure 4.59 Indicative steel fabrication yard layout Area C</u>
REP-326	<u>TLSB Plc - Annexe 5 - Updated Figure 4.60 Construction access routes</u>
REP-327	<u>TLSB Plc - Annexe 5 - Updated Figure 4.61 Illustration of water flow between the sea and the Lagoon</u>
REP-328	<u>TLSB Plc - Annexe 5 - Updated Figure 4.62 Lagoon operating cycle</u>
REP-329	<u>TLSB Plc - Annexe 5 - Updated Figure 4.63 Maximumn ebb tide current flow patternd in front and oblique to turbine house</u>
REP-330	<u>TLSB Plc - Annexe 5 - Updated Figure 4.64 Maximum flood tide current flow patternd in front of turbine house</u>
REP-331	<u>TLSB Plc - Annexe 5 - Updated Figure 4.65 Turbine semi-goliath gantry crane</u>
REP-332	<u>TLSB Plc - Annexe 5 - Updated Figure 7.1 Swansea Bay study area water quality designations and key locations</u>
REP-333	<u>TLSB Plc - Annexe 5 - Updated Figure 7.2 Swansea Bay Coastal Model - model grid and bathymetry</u>

REP-334	<u>TLBS Plc - Annexe 5 - Updated Figure 7.3 Discharge sources model discharge locations and Smart Coast sample sites</u>
REP-335	<u>TLBS Plc - Annexe 5 - Updated Figure 7.4 Schematic representation of model and data interfaces</u>
REP-336	<u>TLBS Plc - Annexe 5 - Updated Figure 7.5 Schematic representation of model application process</u>
REP-337	<u>TLBS Plc - Annexe 5 - Updated Figure 7.8 Comparison of Swansea WwTW impact optimism/mitigation options</u>
REP-338	<u>TLBS Plc - Annexe 5 - Updated Figure 7.9 Comparison of baseline and lagoon operation impacts on microbiological water quality</u>
REP-339	<u>TLBS Plc - Annexe 5 - Updated Figure 7.10 Comparison of effects of enhancement options on microbiological water quality dry weather - E Coli 100ml</u>
REP-340	<u>TLBS Plc - Annexe 5 - Updated Figure 7.11 Comparison of effects of enhancement options on microbiological water quality wet weather</u>
REP-341	<u>TLBS Plc - Annexe 5 - Updated Figure 7.12 Predicted changes in 90percent ile and 95percent FIO concentrations at Swansea bay DSP</u>
REP-342	<u>TLBS Plc Annexe 5 - Updated Figure 7.13 Predicted changes in 90percent ile and 95 percentile FIO concentrations and Aberfan Sands DSP</u>
REP-343	<u>TLBS Plc - Annexe 5 - Updated Figure 7.14 Predicted Lagoon impoundment 90 percentile and 95 percent ile E Coli concentrations</u>
REP-344	<u>TLBS Plc - Annexe 5 - Updated Figure 7.15 Predicted Lagoon impoundment 90 percentile and 95 percent ile Enterococci concentrations</u>
REP-345	<u>TLBS Plc - Annexe 5 - Updates Figure 7.16 Comparison of effects of optimisation options on predicted annual 97 percentile microbiological water quality</u>
REP-346	<u>TLBS Plc - Annexe 5 - Updated Figure 7.18 Difference in baseline and lagoon operation temperatures</u>

REP-347	<u>TLBS Plc - Annexe 5 - Updated Figure 7.19 Comparison of baseline and lagoon operation on maximum summer temperature</u>
REP-348	<u>TLBS Plc - Annexe 5 - Updated Figure 7.20 Difference in mean salinity between baseline and operational lagoon</u>
REP-349	<u>TLBS Plc - Annexe 5 - Updated Figure 7.21 Comparison of baseline and lagoon operation on winter salinity</u>
REP-350	<u>TLBS Plc - Annexe 5 - Updated Figure 7.22 Comparison of baseline and lagoon on nitrogen concentrations</u>
REP-351	<u>TLBS Plc - Annexe 5 - Updated Figure 7.23 Difference in baseline and lagoon concentrations of nitrogen</u>
REP-352	<u>TLBS Plc - Annexe 5 - Updated Figure 7.24 Comparison of baseline and lagoon impacts on dissolved oxygen concentrations</u>
REP-353	<u>TLBS Plc - Annexe 5 - Updated Figure 7.25 Comparison of baseline and lagoon construction impacts on microbiological water quality</u>
REP-354	<u>TLBS Plc - Annexe 5 - Updated Figure 7.26 Comparison of Baseline and increased decay rates on microbiological water quality</u>
REP-355	<u>TLBS Plc - Annexe 5 - Updated Figure 7.27 Average dilution as log10 of contaminants from de-watering</u>
REP-356	<u>TLBS Plc - Annexe 5 - Updated Figure 7.28 Comparison of operational lagoon and decommissioned lagoon impacts on microbiological water quality</u>
REP-357	<u>TLBS Plc - Annexe 5 - Updated Figure 7.29 Comparison of operational lagoon with turbines relocated and additional discharge on microbiological water quality</u>
REP-358	<u>TLBS Plc - Annexe 5 - Updated Figure 12.1 Terrestrial ecology study area</u>
REP-359	<u>TLBS Plc - Annexe 5 - Updated Figure 14.1 Principle navigational features in proximity to the Project</u>
REP-360	<u>TLBS Plc - Annexe 5 - Updated Figure 14.2 SAR helicopter bases relative to Project</u>

REP-361	<u>TLSB Plc - Annexe 5 - Updated Figure 14.3 RNLI bases in proximity to project</u>
REP-362	<u>TLSB Plc - Annexe 5 - Updated Figure 14.4 10 year MAIB incident locations by type - within 5 miles of the Project</u>
REP-363	<u>TLSB Plc - Annexe 5 - Updated Figure 14.5 10 year RLNI incidents by casualty type</u>
REP-364	<u>TLSB Plc - Annexe 5 - Updated Figure 14.6 AIS data within 15nm buffer - 28 days July 2012</u>
REP-365	<u>TLSB Plc - Annexe 5 - Updated Figure 14.7 AIS data within 5nm buffer - 28 days October 2012</u>
REP-366	<u>TLSB Plc - Annexe 5 - Updated Figure 14.8 AIS vessels track busiest day - 3rd July 2012</u>
REP-367	<u>TLSB Plc - Annexe 5 - Updated Figure 14.9 Anchored vessels (56 days July and October 2012)</u>
REP-368	<u>TLSB Plc - Annexe 5 - Updated Figure 14.10 Fishing vessels AIS tracks - 28 days July 2012</u>
REP-369	<u>TLSB Plc - Annexe 5 - Updated Figure 14.11 Fishing vessels AIS tracks - 28 days October 2012</u>
REP-370	<u>TLSB Plc - Annexe 5 - Updated Figure 14.12 Fishing vessel sightings data - 2005-2009</u>
REP-371	<u>TLSB Plc - Annexe 5 - Updated Figure 14.13 Fishing vessel satellite data - 2009</u>
REP-372	<u>TLSB Plc - Annexe 5 - Updated Figure 14.14 Recreational vessels - 28 days July 2012</u>
REP-373	<u>TLSB Plc - Annexe 5 - Updated Figure 14.15 Recreational vessels - 28 days October 2012</u>
REP-374	<u>TLSB Plc - Annexe 5 - Updated Figure 14.16 RYA overview of recreational cruising routes and facilities</u>
REP-375	<u>TLSB Plc - Annexe 5 - Updated Figure 14.17 AIS data within 5nm buffer - 14 days August 2013</u>
REP-376	<u>TLSB Plc - Annexe 5 - Updated Figure 14.18 AIS data on busiest day - 20th August 2013</u>

REP-377	<u>TLSB Plc - Annexe 5 - Updated Figure 14.19 Anchored vessels - 14 days August 2013</u>
REP-378	<u>TLSB Plc - Annexe 5 - Updated Figure 14.20 Fishing vessels - 14 days August 2013</u>
REP-379	<u>TLSB Plc - Annexe 5 - Updated Figure 14.21 Recreational vessels - 14 days August 2013</u>
REP-380	<u>TLSB Plc - Annexe 5 - Updated Figure 15.1 Study Area</u>
REP-381	<u>TLSB Plc - Annexe 5 - Updated Figure 15.2 Bus stop locations</u>
REP-382	<u>TLSB Plc - Annexe 5 - Updated Figure 15.3 Baseline traffic flows- westbound</u>
REP-383	<u>TLSB Plc - Annexe 5 - Updated Figure 15.4 Baseline traffic flows - eastbound</u>
REP-384	<u>TLSB Plc - Annexe 5 - Updated Figure 15.5 Baseline traffic flows- two way</u>
REP-385	<u>TLSB Plc - Annexe 5 - Updated Figure 15.6 Vehicle access</u>
REP-386	<u>TLSB Plc - Annexe 5 - Updated Figure 15.7 Construction traffic on Fabian Way – westbound</u>
REP-387	<u>TLSB Plc - Annexe 5 - Updated Figure 15.8 Construction traffic on Fabian Way - eastbound</u>
REP-388	<u>TLSB Plc - Annexe 5 - Updated Figure 15.9 Construction traffic on Fabian Way - two way flows</u>
REP-389	<u>TLSB Plc - Annexe 5 - Updated Figure 15.10 Operational phase traffic on Fabian Way - westbound</u>
REP-390	<u>TLSB Plc - Annexe 5 - Updated Figure 15.11 Operational phase traffic on Fabian Way - eastbound</u>
REP-391	<u>TLSB Plc - Annexe 5 - Updated Figure 15.12 Operational phase traffic on Fabian Way - two way flows</u>
REP-392	<u>TLSB Plc - Annexe 5 - Updated Figure 16.2 Wind Rose Pembury sands - 2012</u>
REP-393	<u>TLSB Plc - Annexe 5 - Updated Figure 16.3 Comparison of measured and modelled nitrogen dioxide concentrations</u>
REP-394	<u>TLSB Plc - Annexe 5 - Updated Figure 17.2 Location of key water features in study area</u>

REP-395	<u>TLSB Plc - Annexe 5 - Updated Figure 17.3a Groundwater flooding susceptibility - west</u>
REP-396	<u>TLSB Plc - Annexe 5 - Updated Figure 17.3b Groundwater flooding susceptibility - east</u>
REP-397	<u>TLSB Plc - Annexe 5 - Updated Figure 17.4 WFD Carboniferous coal measures groundwater waterbody</u>
REP-398	<u>TLSB Plc - Annexe 5 - Updated Figure 17.5 Illustration of extreme tide levels inside and outside of the Lagoon wall for 1 in 200 year current -2013- and climate change water levels</u>
REP-399	<u>TLSB Plc - Annexe 5 - Updated Figure 17.6 Schematic cross section indicating swale feature</u>
REP-400	<u>TLSB Plc - Annexe 5 - Updated Figure 18.1 Proposed location of project</u>
REP-401	<u>TLSB Plc - Annexe 5 - Updated Figure 18.2 Western onshore Area -area including proposed western seawall landfall Queens Dock and Grid Cable Route</u>
REP-402	<u>TLSB Plc - Annexe 5 - Updated Figure 18.3 Area B - Queens dock oil terminal former tank storage areas and eastern lagoon seawall landfall</u>
REP-403	<u>TLSB Plc - Annexe 5 - Updated Figure 18.4 Area C showing the Crymlyn Burrows SSSI and grid connection route to the Baglan Bay substation</u>
REP-404	<u>TLSB Plc - Annexe 5 - Updated Figure 18.8 Distribution of Total Petroleum Hydrocarbons TPH in groundwater based on URS investigation of the former transit site tank farm area</u>
REP-405	<u>TLSB Plc - Annexe 5 - Updated Figure 18.9 Distribution of benzene in groundwater based on URS investigation of the former</u>
REP-406	<u>TLSB Plc - Annexe 5 - Updated Figure 19.1 Location of key noise sensitive receptors</u>
REP-407	<u>TLSB Plc - Annexe 5 - Updated Figure 19.2 Location of noise sensitive receivers</u>
REP-408	<u>TLSB Plc - Annexe 5 - Updated Figure 19.3 Location of underwater noise monitoring locations</u>

REP-409	<u>TLSB Plc - Annexe 5 - Updated Figure 19.4 Welsh noise map - Road noise</u>
REP-410	<u>TLSB Plc - Annexe 5 - Updated Figure 19.5 Welsh noise map - Rail noise</u>
REP-411	<u>TLSB Plc - Annexe 5 - Updated Figure 19.6 Welsh noise map - Industrial noise</u>
REP-412	<u>TLSB Plc - Annexe 5 - Updated Figure 19.7 Visitor facilities locations</u>
REP-413	<u>TLSB Plc - Annexe 5 - Updated Figure 22.1 Port of Swansea context map</u>
REP-414	<u>TLSB Plc - Annexe 5 - Updated Figure 22.2 Coastal recreational facilities Swansea bay</u>
REP-415	<u>TLSB Plc - Annexe 6 - Revised Book of Reference</u>
REP-416	<u>TLSB Plc - Annexe 7 - Revised Land Plan 7A</u>
REP-417	<u>TLSB Plc - Annexe 8 - Submission in respect of location of turbine and sluice gate housing structure</u>
REP-418	<u>TLSB Plc - Annexe 9 - Submission in respect of location of ultra violet water treatment facility</u>
REP-419	<u>TLSB Plc - Annexe 10 - Submission in respect of construction of temporary cofferdam</u>

RESPONSES TO RULE 6 LETTER	
REP-420	<u>Afan Valley Angling Club</u>
REP-421	<u>Alan Rayner</u>
REP-422	<u>Associated British Ports</u>
REP-423	<u>Geraint Davies MP</u>
REP-424	<u>Natural Resources Wales</u>
REP-425	<u>O2 Telefonica</u>
REP-426	<u>Peter Keith-Lucas</u>

REP-427	Pontardawe and Swansea Angling Society Ltd.
REP-428	Rhossili Working Group
REP-429	Royal Yachting Association
REP-430	TLSB Plc
DOCUMENTS RECEIVED FOR DEADLINE I – 24 June 2014	
<ul style="list-style-type: none"> - Notifications: To speak at Open Floor or Issue Specific Hearings (ISH), at the Compulsory Acquisition Hearing (CAH), or to become an interested party. - Suggested locations for the Accompanied Site Visit (ASV) and intentions to attend the ASV 	
REP-431	Associated British Ports
REP-432	Baglan Bay Company Limited
REP-433	Baglan Operations Limited
REP-434	Dan Morrissey (UK) Ltd.
REP-435	Dwr Cymru Welsh Water
REP-436	Fish Legal
REP-437	National Grid Electricity Transmission
REP-438	Natural Resources Wales
REP-439	Neath Port Talbot County Borough Council
REP-440	NPTC Group
REP-441	Peter Keith-Lucas
REP-442	Pontardawe and Swansea Angling Society Ltd
REP-443	Rhossili Working Group
REP-444	Simon Boxall
REP-445	St Modwen Companies
REP-446	St Modwen Developments Limited
REP-447	St Modwen Properties Plc

REP-448	<u>St Modwen Properties VIII Sarl</u>
REP-449	<u>Swansea Bay Port Health Authority</u>
REP-450	<u>Swansea Environmental Forum</u>
REP-451	<u>Swansea Friends of the Earth</u>
REP-452	<u>Swansea University - Request to speak at hearing and summary of key points</u>
REP-453	<u>Swansea University - Request to attend ASV and suggested location</u>
REP-454	<u>The Wildlife Trust of South and West Wales</u>
REP-455	<u>Western Power Distribution</u>

DOCUMENTS RECEIVED FOR DEADLINE II - 9 July 2014

- Summaries of all Relevant Representations (RRs) exceeding 1500 words
- Written representations (WRs) by all interested parties
- Summaries of all WRs exceeding 1500 words
- Responses to Panel's first round of written questions
- Local Impact Reports from any local authorities
- Statements of Common Ground requested by ExA
- Any updated documents from the applicant including updated HRA matrices
- Comments on any submissions received prior to the Preliminary Meeting

Written Representations

REP-456	<u>Afan Valley Angling Club</u>
REP-457	<u>Alan Rayner</u>
REP-458	<u>Associated British Ports</u>
REP-459	<u>Baglan Bay Company Limited</u>
REP-460	<u>Carmarthenshire County Council</u>
REP-461	<u>City and County of Swansea Council</u>
REP-462	<u>Dan Morrissey (UK) Ltd</u>

REP-463	<u>Design Commission for Wales</u>
REP-464	<u>Dwr Cymru Welsh Water</u>
REP-465	<u>Fish Legal</u>
REP-466	<u>GTC Engineering</u>
REP-467	<u>Intertissue Ltd</u>
REP-468	<u>Mapeley Steps Limited</u>
REP-469	<u>Mark Hughes</u>
REP-470	<u>Monkstone Cruising and Sailing Club</u>
REP-471	<u>Natural Resources Wales</u>
REP-472	<u>Neath Port Authority</u>
REP-473	<u>Neath Port Talbot County Borough Council</u>
REP-474	<u>Peter Keith-Lucas</u>
REP-475	<u>Pontardawe and Swansea Angling Society Ltd</u>
REP-476	<u>Porthcawl Environment Trust</u>
REP-477	<u>Rhossili Working Group</u>
REP-478	<u>Royal Society for the Protection of Birds</u>
REP-479	<u>Royal Society for the Protection of Birds - Summary</u>
REP-480	<u>Royal Yachting Association</u>
REP-481	<u>St Modwen Developments Limited</u>
REP-482	<u>St Modwen Developments Limited - Summary</u>
REP-483	<u>St Modwen Properties Plc</u>
REP-484	<u>St Modwen Properties Plc - Summary</u>
REP-485	<u>St Modwen Properties VIII Sarl</u>
REP-486	<u>St Modwen Properties VIII Sarl - Summary</u>
REP-487	<u>Swansea Environmental Forum</u>

REP-488	<u>Swansea University</u>
REP-489	<u>Swansea University - Summary</u>
REP-490	<u>The Wildlife Trust of South and West Wales</u>
REP-491	<u>TLSB Plc - CEMP (changes shown)</u>
REP-492	<u>TLSB Plc - CEMP (clean)</u>
REP-493	<u>TLSB Plc - Covering letter</u>
REP-494	<u>TLSB Plc – Draft Development Consent Order - comparison document between Version 1 and Version 2</u>
REP-495	<u>TLSB Plc – Draft Development Consent Order, Version 2, 8 July 2014</u>
REP-496	<u>TLSB Plc - Guide to submission</u>
REP-497	<u>TLSB Plc - OEMP (changes shown)</u>
REP-498	<u>TLSB Plc - OEMP (clean)</u>
REP-499	<u>TLSB Plc - Updated Application doc ref 5.6 - List of other consents and licences (changes shown)</u>
REP-500	<u>TLSB Plc - Updated Application doc ref 5.6 0- List of other consents and licences (clean)</u>
REP-501	<u>TLSB Plc - Written Representation - Response to Rule 6 Principal Issues</u>
REP-502	<u>TLSB Plc - Flood Consequence Assessment FINAL ISSUE June 2014</u>
REP-503	<u>Trinity House</u>
REP-504	<u>Welsh Government</u>
Responses to Examining Authority's First Round of Written Questions	
REP-505	<u>Associated British Ports</u>
REP-506	<u>City and County of Swansea Council</u>
REP-507	<u>National Grid Electricity Transmission Plc</u>
REP-508	<u>Natural England</u>

REP-509	<u>Natural Resources Wales</u>
REP-510	<u>Neath Port Talbot County Borough Council</u>
REP-511	<u>Pontardawe and Swansea Angling Society Ltd</u>
REP-512	<u>Rhossili Working Group</u>
REP-513	<u>Rhossili Working Group - Second Representation</u>
REP-514	<u>The Crown Estate</u>
REP-515	<u>The Wildlife Trust of South and West Wales</u>
REP-516	<u>TLSB Plc - Section 0.0 - Response to Written Question 0.1</u>
REP-517	<u>TLSB Plc - Section 1.0 - Responses to Written Questions 1</u>
REP-518	<u>TLSB Plc - Section 2.0 - Responses to Written Questions 2</u>
REP-519	<u>TLSB Plc - Section 3.0 - Responses to Written Questions 3</u>
REP-520	<u>TLSB Plc - Section 4.0 - Responses to Written Questions 4</u>
REP-521	<u>TLSB Plc - Section 5.0 - Responses to Written Questions 5</u>
REP-522	<u>TLSB Plc - Section 6.0 - Responses to Written Questions 6</u>
REP-523	<u>TLSB Plc - Section 7.0 - Responses to Written Questions 7</u>
REP-524	<u>TLSB Plc - Section 8.0 - Responses to Written Questions 8</u>
REP-525	<u>TLSB Plc - Section 9.0 - Responses to Written Questions 9</u>
REP-526	<u>TLSB Plc - Section 10.0 - Responses to Written Questions 10</u>
REP-527	<u>TLSB Plc - Section 11.0 - Responses to Written Questions 11</u>
REP-528	<u>TLSB Plc - Section 12.0 - Responses to Written Questions 12</u>
REP-529	<u>TLSB Plc - Section 13.0 - Responses to Written Questions 13</u>
REP-530	<u>TLSB Plc - Section 14.0 - Responses to Written Questions 14</u>
REP-531	<u>TLSB Plc - Section 15.0 - Responses to Written Questions 15</u>

Ref not in use	REP-532 to 560
REP-1049	<u>TLSB Plc - Appendix 0.1.1 Plan of key viewpoints</u>
REP-1050	<u>TLSB Plc - Appendix 1.1.1 Note submitted to PINS by TLSB on 24 09 13 regarding applicability of NPS</u>
REP-1051	<u>TLSB Plc - Appendix 1.13.1 F10 CDM initial notification</u>
REP-1052	<u>TLSB Plc - Appendix 1.15.1 Kenfig SAC, Blackpill SSSI and Crymlyn Burrows SSSI note</u> (= REP-588)
REP-1053	<u>TLSB Plc - Appendix 1.15.2 Updated Figure 8.4 and 8.5</u>
REP-1054	<u>TLSB Plc - Appendix 1.15.3 Draft biosecurity risk assessment</u>
REP-1055	<u>TLSB Plc - Appendix 1.16.1 Crown Estate market engagement document</u>
REP-1056	<u>TLSB Plc - Appendix 1.16.2 Crown Estate press releases</u>
REP-1057	<u>TLSB Plc - Appendix 2.1.1 Levy Control Framework and draft CfD strike prices</u>
REP-1058	<u>TLSB Plc - Appendix 2.1.2 Poyry Report Levelised costs of power from Tidal Lagoons</u>
REP-1059	<u>TLSB Plc - Appendix 2.3.1 Key Statistics relating to UK energy</u>
REP-1060	<u>TLSB Plc - Appendix 3.1.1 Updated table 4.1</u>
REP-1061	<u>TLSB Plc - Appendix 3.5.1 Drawings and dimensions of craneage</u>
REP-1062	<u>TLSB Plc - Appendix 3.7.1 Plan of proposed piling activity</u>
REP-1063	<u>TLSB Plc - Appendix 3.9.1 Plan of locations of concrete batching plant, associated yard and storage bin areas, storage rock armour area and other construction aggregate supplies</u>
REP-1064	<u>TLSB Plc - Appendix 3.10.1 draft sediment sampling location plan</u>
REP-1065	<u>TLSB Plc - Appendix 3.13.1 Dean Quarry planning permission</u>

REP-1066	<u>TLSB Plc - Appendix 3.14.1 Table of minimum and maximum HGV movements</u>
REP-1067	<u>TLSB Plc - Appendix 3.21.1 Coastal processes feasibility study R1956TN</u>
REP-1068	<u>TLSB Plc - Appendix 4.5.1 Habitat images and locations figure</u>
REP-1069	<u>TLSB Plc - Appendix 4.5.2 Review of Potential Impacts on the Diet of Sanderlings and Ringed Plovers and their Foraging Distribution</u>
REP-1070	<u>TLSB Plc - Appendix 4.6.1 Sabellaria note</u>
REP-1071	<u>TLSB Plc - Appendix 4.7.1 Sabellaria translocation plan</u>
REP-1072	<u>TLSB Plc - Appendix 5.8.1 Addendum to the Marine Mammals Chapter - Report R2286</u>
REP-1073	<u>TLSB Plc - Appendix 5.12.1a Benthic Data report - Titan</u>
REP-1074	<u>TLSB Plc - Appendix 5.12.1b Benthic Data report - Titan (Appendices)</u>
REP-1075	<u>TLSB Plc - Appendix 6.12.1 MCA and THLS meeting minutes dated 3 October 2013</u>
REP-1076	<u>TLSB Plc - Appendix 6.21.1 Results of model runs for tidal cycles</u>
REP-1077	<u>TLSB Plc - Appendix 6.22.1 Correspondence between TLSB and NRW MLT</u>
REP-1078	<u>TLSB Plc - Appendix 7.1.1 Briefing Note 9-1 Herring spawning areas</u>
REP-1079	<u>TLSB Plc - Appendix 7.1.2 Briefing Note 9-2 Fisheries appendix</u>
REP-1080	<u>TLSB Plc - Appendix 7.1.3 Briefing Note 9-3 Turbine and sluice gate arrangement</u>
REP-1081	<u>TLSB Plc - Appendix 7.1.4 Briefing Note 4-1 Geotubes® or Quarry run</u>
REP-1082	<u>TLSB Plc - Appendix 7.1.5 Briefing Note 9-4 New smolt analysis</u>
REP-1083	<u>TLSB Plc - Appendix 7.1.6 Steve Colclough peer review</u>

REP-1084	<u>TLSB Plc - Appendix 7.2.1 Review of fisheries resource assessment in ES by APEM</u>
REP-1085	<u>TLSB Plc - Appendix 7.2.2 Tabulated APEM report with THA comments</u>
REP-1086	<u>TLSB Plc - Appendix 7.6.1 Updated Appendix 9.5</u>
REP-1087	<u>TLSB Plc - Appendix 7.6.2 Olfactory trails note</u>
REP-1089	<u>TLSB Plc - Appendix 7.7.1 VER note</u>
REP-1090	<u>TLSB Plc - Appendix 7.11.1 List of demersal and pelagic species - table 9.3</u>
REP-1091	<u>TLSB Plc - Appendix 10.2.1 ERA Report</u>
REP-1092	<u>TLSB Plc - Appendix 10.11.1 Updated Tables 15.34 and 15.36 of the Onshore Transport Assessment</u>
REP-1093	<u>TLSB Plc - Appendix 10.12.1 Accident data from CCSC</u>
REP-1094	<u>TLSB Plc - Appendix 10.16.1 Submission made by TLSB to ExA dated 4 June 2014 - regarding temporary cofferdam</u>
REP-1095	<u>TLSB Plc - Appendix 12.2.1 Map showing location of pill boxes, tank cubes and gun emplacement</u>
REP-1096	<u>TLSB Plc - Appendix 13.9.1 Accounts of Tidal Lagoon (Swansea Bay) Plc</u>
REP-1097	<u>TLSB Plc - Appendix 13.15.1 Table showing position of negotiations with affected landowners</u>
REP-1098	<u>TLSB Plc - Appendix 13.33.1 Table of Statutory Undertaker's plots</u>
REP-1099	<u>TLSB Plc - Appendix 13.41.1 Overlay plans - sheet 5 of Land Plans (Application doc ref 2.1)</u>
REP-1100	<u>TLSB Plc - Appendix 14.6.1 Up to date list of all plans, drawings and documents to be certified under the order</u>
REP-561	<u>Welsh Government</u>
REP-562	<u>Wildfowl & Wetlands Trust</u>
Local Impact Reports and Statements of Common Ground – 9 July 2014	
REP-563	<u>City and County of Swansea Council – Local Impact Report</u>

REP-564	<u>City and County of Swansea Council - Joint letter prepared with the applicant in respect of the progress on the SoCG</u>
REP-565	<u>Neath Port Talbot County Borough Council - Local Impact Report</u>
REP-566	<u>TLSB Plc - 4.1 - Position Statement for SoCG</u>
REP-567	<u>TLSB Plc - 4.2 Letter signed by Neath Port Talbot County Borough Council and TLSB in relation to SoCG</u>
REP-568	<u>TLSB Plc - 4.2 - 2 - SoCG letter signed by TLSB and The City and Council of Swansea Council</u>
REP-569	<u>TLSB Plc - 4.2 - 3 - SoCG response from Welsh Government</u>
REP-570	<u>TLSB Plc - 4.2 - 4 - SoCG email to Associated British Ports</u>
REP-571	<u>TLSB Plc - 4.2 - 5 - SoCG letter to Swansea University</u>
REP-572	<u>TLSB Plc - 4.2 - 6A - SoCG letter to Design Commission for Wales</u>
REP-573	<u>TLSB Plc - 4.2 - 6B - SoCG response from Design Commission for Wales</u>
REP-574	<u>TLSB Plc - 4.2 - 7 - SoCG letter to Baglan Operations</u>
REP-575	<u>TLSB Plc - 4.2 - 8 - SoCG letter to British Telecommunications</u>
REP-576	<u>TLSB Plc - 4.2 - 9 - SoCG letter to Dwr Cymru Welsh Water</u>
REP-577	<u>TLSB Plc - 4.2 - 10 - SoCG letter to National Grid Electricity Transmission Plc</u>
REP-578	<u>TLSB Plc - 4.2 - 11 - SoCG letter to SWALEC SSE</u>
REP-579	<u>TLSB Plc - 4.2 - 12 - SoCG letter to O2 Telefonica</u>
REP-580	<u>TLSB Plc - 4.2 - 13A - SoCG letter to Wales and West Utilities</u>
REP-581	<u>TLSB Plc - 4.2 - 13B - SoCG response from Wales and West Utilities</u>
REP-582	<u>TLSB Plc - 4.2 - 14A - SoCG letter to Western Power</u>
REP-583	<u>TLSB Plc - 4.2 - 14B - SoCG response from Western Power</u>

HRA/RIES	
REP-584	<u>TLSB Plc - Updated Report to Inform HRA</u>
REP-585	<u>TLSB Plc - Updated HRA Screening (Appendix 1) July 14</u>
REP-586	<u>TLSB Plc - Updated HRA Screening Report (Appendix 2) July 14</u>
REP-587	<u>TLSB Plc - Updated HRA Kenfig Clarification (Appendix 5)</u>
REP-588	<u>TLSB Plc - Updated HRA Kenfig, Blackpill and Crymlyn Clarification -R2295TN (Appendix 6)</u> (= REP-1052)
REP-589	<u>TLSB Plc - Updated HRA Screening Matrices (Appendix 3) July 14</u>
REP-590	<u>TLSB Plc - Updated HRA Integrity Matrices (Appendix 4) July 14</u>
DOCUMENTS RECEIVED FOR DEADLINE III – 5 August 2014	
<ul style="list-style-type: none"> - Comments on RRs and on WRs (including any revised DCO from the applicant) - Comments on Local Impact Reports - Comments on responses to Panel's written questions - Written summaries of oral cases made at Hearings held in the week commencing 28 July 2014 and any requested related information. 	
Comments on Relevant Representations	
REP-591	<u>TLSB Plc - Comments on relevant representations made by interested parties</u>
Comments on Written Representations	
REP-592	<u>TLSB Plc - Comments on written representations made by Natural Resources Wales</u>
REP-593	<u>TLSB Plc - Comments on written representations made by Dwr Cymru Welsh Water</u>
REP-594	<u>TLSB Plc - Comments on written representations made by Royal Society for the Protection of Birds</u>
REP-595	<u>TLSB Plc - Comments on written representations made by Intertissue Limited</u>

REP-596	<u>TLSB Plc - Comments on written representations made by Trinity House</u>
REP-597	<u>TLSB Plc - Comments on written representations made by Royal Yachting Association</u>
REP-598	<u>TLSB Plc - Comments on written representations made by Mark Hughes</u>
REP-599	<u>TLSB Plc - Comments on written representations made by Carmarthenshire County Council</u>
REP-600	<u>TLSB Plc - Comments on written representations made by Afan Valley Angling Club</u>
REP-601	<u>TLSB Plc - Comments on written representations made by Swansea University</u>
REP-602	<u>TLSB Plc - Comments on written representations made by Pontardawe and Swansea Angling Society Ltd</u>
REP-603	<u>TLSB Plc - Comments on written representations made by Neath Port Authority</u>
REP-604	<u>TLSB - Comments on written representations made by Dan Morrissey UK Limited</u>
REP-605	<u>TLSB - Comments on written representations made by Neath Port Talbot County Borough Council</u>
REP-606	<u>TSLB Plc - Comments on written representations made by Mapeley Steps Limited</u>
REP-607	<u>TSLB Plc - Comments on written representations made by Monkstone Cruising and Sailing Club</u>
REP-608	<u>TSLB Plc - Comments on written representations made by Rhossili Working Group</u>
REP-609	<u>TSLB Plc - Comments on written representations made by Peter Keith-Lucas</u>
REP-610	<u>TSLB Plc - Comments on written representations made by Fish Legal</u>
REP-611	<u>TSLB Plc - Comments on written representations made by Alan Rayner</u>

REP-612	<u>TLSB Plc - Comments on written representations made by Associated British Ports</u>
REP-613	<u>TLSB Plc - Comments on written representations made by St Modwen Developments</u>
REP-614	<u>TLSB Plc - Comments on written representations made by City and County of Swansea</u>
REP-615	<u>TLSB Plc - Comments on written representations made by Swansea Environmental Forum</u>
REP-616	<u>TLSB Plc - Comments on written representations made by Porthcawl Environment Trust</u>
REP-617	<u>TLSB Plc - Comments on written representations made by GTC Engineering</u>
REP-618	<u>TLSB Plc - Comments on written representations made by Baglan Bay Company Limited</u>
REP-619	<u>TLSB Plc - Comments on written representations made by Design Commission for Wales</u>
REP-620	<u>TLSB Plc – Comments on written representations made by Welsh Government</u>
REP-621	<u>TLSB Plc – Comments on written representations made by Wildfowl and Wetlands Trust</u>
REP-622	<u>TLSB Plc – Comments on written representations made by Wildlife Trust of South and West Wales</u>
Comments on Local Impact Reports	
REP-623	<u>TLSB Plc - Applicant's comments on Local Impact Reports made by Neath Port Talbot County Borough Council</u>
REP-624	<u>TLSB Plc - Applicant's comments on Local Impact Reports made by City and Council of Swansea</u>
Comments on Responses to ExA Questions	
REP-625	<u>TLSB Plc - Comments on responses to ExA's written questions made by Welsh Government</u>
REP-626	<u>TLSB Plc - Comments on responses to ExA's written questions made by Associated British Ports</u>

REP-627	<u>TLSB Plc - Comments on responses to ExA's written questions made by Neath Port Talbot County Borough</u>
REP-628	<u>TLSB Plc - Comments on responses to ExA's written questions made by Royal Society for the Protection of Birds</u>
REP-629	<u>TLSB Plc - Comments on responses to ExA's written questions made by Natural England</u>
REP-630	<u>TLSB Plc - Comments on responses to ExA's written questions made by Wildlife Trust of South and West Wales</u>
REP-631	<u>TLSB Plc - Comments on responses to ExA's written questions made by The Crown Estate</u>
REP-632	<u>TLSB Plc - Comments on responses to ExA's written questions made by City and County of Swansea Council</u>
REP-633	<u>TLSB Plc - Comments on responses to ExA's written questions made by Rhossili Working Group</u>
REP-634	<u>TLSB Plc - Comments on responses to ExA's written questions made by National Grid Electricity Transmission Plc</u>
REP-635	<u>TLSB Plc - Comments on responses to ExA's written questions made by Pontardawe and Swansea Angling Society</u>
REP-636	<u>TLSB Plc - Comments on responses to ExA's written questions made by Wildfowl and Wetlands Trust</u>
REP-637	<u>TLSB Plc - Comments on responses to ExA's written questions made by Natural Resources Wales</u>
REP-638	<u>TLSB Plc - Comments on responses to ExA's written questions made by Swansea Environmental Forum</u>
REP-639	<u>TLSB Plc - Comments on responses to ExA's written questions made by Dwr Cymru Welsh Water</u>
General Submissions for the deadline	
REP-640	<u>Associated British Ports - Comments on Written Representations and Responses to ExA's Written Questions</u>
REP-641	<u>City and County of Swansea Council</u>
REP-642	<u>Fish Legal</u>
REP-643	<u>Ian Wisby on behalf of Swansea Fishermen - Written response submitted for Deadline III of 5 August 2014, the</u>

	<u>publication of the representation was delayed to enable documents to be submitted by post (Late Submission)</u>
REP-644	<u>Natural Resources Wales</u>
REP-645	<u>Natural Resources Wales - Comments on the applicant's representations (Late submission)</u>
REP-646	<u>Neath Port Talbot County Borough Council</u>
REP-647	<u>Pontardawe and Swansea Angling Society Ltd</u>
REP-648	<u>Pontardawe and Swansea Angling Society Ltd - Further written response submitted for Deadline III of 5 August 2014 (Late submission)</u>
REP-649	Ref not used
REP-650	<u>Royal Society for the Protection of Birds</u>
REP-651	<u>St Modwen Developments Limited, St Modwen Properties Plc and St Modwen Properties VIII Sarl</u>
REP-652	<u>Swansea Environmental Forum</u>
REP-653	<u>Swansea University</u>
REP-654	<u>TLSB Plc - Applicant's cover letter relating to documents submitted for Deadline III</u>
REP-655	<u>TLSB Plc - Applicant's index of documents</u>
REP-656	<u>TLSB Plc - Appendix 4.1 CEMP (clean)</u>
REP-657	<u>TLSB Plc - Appendix 4.1 CEMP (changes shown)</u>
REP-658	<u>TLSB Plc - Appendix 4.2 Outline OEMP (clean)</u>
REP-659	<u>TLSB Plc - Appendix 4.2 Outline OEMP (changes shown).</u>
REP-660	<u>TLSB Plc - Updated Water Framework Directive Assessment (doc ref 8.3)</u>
REP-661	<u>TLSB Plc - Shadow HRA relating to Cetaceans and Pinnipeds</u>
REP-662	<u>TLSB Plc - Updated AEMP (doc ref 6.2 App 23.1)</u>
REP-663	<u>TLSB Plc - Draft DCO, comparison document between Version 2 and Version 3.</u>
REP-664	<u>TLSB Plc – Draft Development Consent Order, Version 3</u>

REP-665	<u>TLSB Plc - Updated information in relation to SoCG</u>
REP-666	<u>TLSB Plc - SoCG Status Matrix</u>
REP-667	<u>Welsh Government</u>
Written summary of oral case made at Open Floor Hearing on 29 July 2014	
REP-668	<u>Afan Valley Angling Club</u>
REP-669	<u>Associated British Ports</u>
REP-670	<u>Bob Cherryman on behalf of NSA Afan</u>
REP-671	<u>Chris Kelly</u>
REP-672	<u>David Homfray Slater</u>
REP-673	<u>Ian Isaac on behalf of Swansea Bay Tidal Lagoon Active Supporters Group</u>
REP-674	<u>Jill Burgess and Brian Burgess</u>
REP-675	<u>Monkstone Cruising and Sailing Club</u>
REP-676	<u>Mumbles Development Trust</u>
REP-677	<u>National Grid Electricity Transmission Plc</u>
REP-678	<u>Natural Resources Wales</u>
REP-679	<u>Pamela Muirhead</u>
REP-680	<u>Porthcawl Environmental Trust</u>
REP-681	<u>Rhossili Working Group</u>
REP-682	<u>Ross Evans on behalf of NPTC Group</u>
REP-683	<u>St Modwen Developments Limited, St Modwen Properties Plc and St Modwen Properties VIII Sarl</u>
REP-684	<u>Sustrans</u>
REP-685	<u>Swansea University</u>
REP-686	<u>TLSB Plc - Applicant's summary of oral submissions made at the Open Floor Hearing held 29 July 2014</u>

REP-687	<u>TLSB Plc - Summary of oral submissions at the Issue Specific Hearing on the DCO held 31 July 2014</u>
REP-687a	<u>Panel's note of Information Proposed by Interested Parties - Item 1 - Note of relevant policies that support the breadth of the proposed principal development for reasons of social, economic and environmental sustainability.</u>
REP-687b	<u>Panel's note of Information Proposed by Interested Parties - Item 6 - Note confirming that non material changes to the development would not breach the limits of deviation.</u>
REP-687c	<u>Panel's note of Information Proposed by Interested Parties - Item 8</u> <u>Note on extent of defence to statutory nuisance proposed with respect to the policy in NPS EN-1 paragraph 4.14.3 and responding to concerns of the LA.</u>
REP-687d	<u>Panel's note of Information Proposed by Interested Parties - Item 15 - Note including evidence of the accuracy and sufficiency of total sum of compulsory acquisition of liabilities.</u>
REP-688	<u>Tourism Swansea Bay</u>
Late submissions 1 September 2014 Statements of Common Ground	
REP-689	<u>TLSB Plc - Cover letter from applicant regarding SoCGs</u>
REP-690	<u>TLSB Plc - SoCG Letter and Appendices Index</u>
REP-691	<u>TLSB Plc - SoCG Status Matrix</u>
REP-692	<u>TLSB Plc - Draft High Level SoCG - Natural Resources Wales - HRA (Version 1)</u>
REP-693	<u>TLSB Plc - Draft High Level SoCG - Natural Resources Wales - Birds (Version 1)</u>
REP-694	<u>TLSB Plc - Draft High Level SoCG - Natural Resources Wales - Coastal Processes (Version 1)</u>
REP-695	<u>TLSB Plc - Draft High Level SoCG - Natural Resources Wales - Fish (Version 1)</u>
REP-696	<u>TLSB Plc - Draft High Level SOCG - Natural Resources Wales - Flood (Version 1) SoCG D</u>
REP-697	<u>TLSB Plc - Draft High Level SOCG - Natural Resources Wales - Seascape and Landscape Visual Impact Assessment (Version 1) J</u>

REP-698	<u>TLSB Plc - Draft High Level SOCG - Natural Resources Wales - Terrestrial ecology & Sites of Special Scientific Interest (Version 1)</u>
REP-699	<u>TLSB Plc - SoCG - Associated British Ports (Version 1)</u>
REP-700	<u>TLSB Plc - SoCG - City and County of Swansea Council (Version 2)</u>
REP-701	<u>TLSB Plc - SoCG - Monkstone Cruising and Sailing Club (Version 1)</u>
REP-702	<u>TLSB Plc - SoCG - Neath Port Authority (FINAL)</u>
REP-703	<u>TLSB Plc - SoCG - Neath Port Talbot County Borough Council (Version 2)</u>
REP-704	<u>TLSB Plc - SoCG - Pontardawe and Swansea Angling Society Ltd (Version 1)</u>
REP-705	<u>TLSB Plc - SoCG - Royal Yachting Association (Version 1)</u>
REP-706	<u>TLSB Plc - SoCG - Welsh Government (Version 2)</u>
REP-707	<u>TLSB Plc - SoCG letter from Natural Resources Wales</u>
Late submissions 1 September 2014	
Other submissions	
REP-708	<u>TLSB Plc - Draft DCOb between the applicant and The City and County of Swansea Council and Neath Port Talbot County Borough Council</u>
REP-709	<u>TLSB Plc - Response to Natural Resources Wales advice on update Flood Consequence Assessment</u>
REP-710	<u>Natural Resources Wales - Letter relating to submission of environmental information during examination</u>
Late submissions 7 September 2014	
Other submissions	
REP-711	<u>TLSB Plc – Signposting document to aid external consultation and navigation of documentation during the examination</u>
Compulsory Acquisition – Submissions in relation to ss127 and 138 – Published 29 September 2014	
REP-712	<u>TLSB Plc – Covering Letter</u>
REP-713	<u>TLSB Plc - submission under ss127 and 138 in relation to Dwr Cymru Welsh Water</u>

REP-714	<u>TLSB Plc - submission under ss127 and 138 in relation to Telephonica O2 UK Limited</u>
REP-715	<u>TLSB Plc – Submission under ss127 and 138 in relation to Associated British Ports</u>
REP-716	<u>TLSB Plc - Submission under s138 in relation to Wales and West Utilities</u>
REP-717	<u>TLSB Plc - Submission under s138 in relation to Virgin Media</u>
REP-718	<u>TLSB Plc - Submission under s138 in relation to SSE Swalec</u>
REP-719	<u>TLSB Plc - Submission under s138 in relation to British Telecom</u>
REP-720	<u>TLSB Plc - Submission under ss127 and 138 in relation to Western Power Distribution</u>
REP-721	<u>TLSB Plc - Submission under ss127 and 138 in relation to National Grid Electricity Transmission Plc</u>
REP-722	<u>TLSB Plc - Submission under ss127 and 138 in relation to Baglan Operations Ltd</u>

DOCUMENTS RECEIVED FOR DEADLINE IV – 7 October 2014

- Any outstanding comments from interested parties on documents submitted for Deadlines II and III
- Comments on documents submitted on 1 September 2014 by the applicant (Environmental information)
- Comments received on public consultation
- All post hearing documents (including any revised DCO from the applicant)
- All written summaries of oral cases made at all hearings and any requested related information.

Comments outstanding from deadlines II and III

REP-723	<u>Pontardawe and Swansea Angling Society Ltd – Response to TLSB comments at Deadline III</u>
Comments on documents submitted on 1 September 2014 by the applicant (Environmental information)	
REP-724	<u>Carmarthenshire County Council – Comments on Environmental Information</u>

REP-725	<u>Fish Legal – Comments on AEMP</u>
REP-726	<u>Fulcrum Pipelines Ltd – Comments on Environmental information</u>
REP-727	<u>Pontardawe and Swansea Angling Society Ltd – Comments on Environmental information</u>
REP-728	<u>Pontardawe and Swansea Angling Society Ltd – Comments on updated WFD Assessment</u>
REP-729	<u>Pontardawe and Swansea Angling Society Ltd – Comments on updated AEMP</u>
REP-730	<u>Rhossili Working Group Part 1 - Comments on Porpoise and HRA</u>
REP-731	<u>Rhossili Working Group Part 2 – Comments on Shadow HRA</u>
REP-732	<u>Rhossili Working Group Part 3 – Interim response to Addendum to Marine Mammals Appendix</u>
Comments received on public consultation	
REP-733	<u>Doug Probert – Written Representation Accepted by the Examining Authority</u>
REP-734	<u>Kaye Chambers – Written Representation Accepted by the Examining Authority</u>
REP-735	<u>Michael Kirby – Written Representation Accepted by the Examining Authority</u>
REP-736	<u>Royal Mail – Request to register as Interested Party</u>
All post hearing documents (including any revised DCO from the applicant) and All written summaries of oral cases made at all hearings and any requested related information.	
REP-737	<u>Associated British Ports – Comments on Draft Protective Provisions</u>
REP-738	<u>Associated British Ports – Written Summary of Oral Case</u>
REP-739	<u>Baglan Bay Company Limited – Written Representation</u>
REP-740	<u>Baglan Operations Ltd, Baglan Pipelines Ltd and Baglan Generating Ltd 1 – Notice of exhibits prior to 30 September Hearing</u>

REP-741	<u>Baglan Operations Ltd, Baglan Pipelines Ltd and Baglan Generating Ltd 2 – Written Submission of Oral Case at 30 September 2014 hearing</u>
REP-742	<u>Dan Morrissey (UK) Ltd – Written Representation</u>
REP-743	<u>Dr Pamela Muirhead – Written submission of Oral Case at hearing on 17 September 2014</u>
REP-744	<u>Monkstone Cruising and Sailing Club – Written Representation</u>
REP-745	<u>National Grid Electricity Transmission Plc – Update on Protective Provisions</u>
REP-746	<u>Natural Resources Wales – Comments in relation to the WFD</u>
REP-747	<u>Natural Resources Wales – Written Representation</u>
REP-748	<u>Natural Resources Wales – Written submission of Oral Case at hearing on 16 September 2014</u>
REP-749	<u>Natural Resources Wales – Response to Panel's Action Note</u>
REP-750	<u>Neath Port Talbot County Borough Council – Written Representation</u>
REP-751	<u>Pontardawe and Swansea Angling – Comments in relation to Protective provisions</u>
REP-752	<u>Porthcawl Environment Trust – Written Representation</u>
REP-753	<u>Public Health England – Written Representation</u>
REP-754	<u>Public Health Wales – Written Representation resubmitted</u>
REP-755	<u>Public Health Wales – Written Representation</u>
REP-756	<u>Royal Mail – Written Representation</u>
REP-757	<u>Royal Society for the Protection of Birds – Written Representation</u>
REP-758	<u>St Modwen Developments Ltd, St Modwen Properties Plc and St Modwen Properties VIII Sarl – Summary of Oral Case</u>
REP-759	<u>Swansea City and Council – Comments on Seascape and Landscape Visual Impact Assessment</u>

REP-760	<u>Swansea City and Council – Comments on Draft DCO</u>
REP-761	<u>Swansea City and County – Response to Agenda points and Summary of Oral Case</u>
REP-762	<u>Swansea City and County – Response to Panel's Action Note</u>
REP-763	<u>Swansea Environmental Forum – Written Representation</u>
REP-764	<u>Swansea Fishermen Group Members – Letter Withdrawing representations</u>
REP-765	<u>Swansea Fishermen's Group – Letter withdrawing objections</u>
REP-766	<u>Swansea University – Letter providing comments prior to attending hearings</u>
REP-767	<u>TLSB Plc – Cover letter</u>
REP-768	<u>TLSB Plc – Written Summary of Oral Representation at ISH commencing 16 September</u>
REP-769	<u>TLSB Plc – Written Summary of Oral Representation at CA Hearing 30 September 2014</u>
REP-770	<u>TLSB Plc – Draft DCO (Clean)</u>
REP-771	<u>TLSB Plc – Draft DCO (changes shown)</u>
REP-772	<u>TLSB Plc – AEMP (Clean)</u>
REP-773	<u>TLSB Plc – CEMP (Clean)</u>
REP-774	<u>TLSB Plc – CEMP (changes shown)</u>
REP-775	<u>TLSB Plc – Outline OEMP (Clean)</u>
REP-776	<u>TLSB Plc – Outline OEMP (changes shown)</u>
REP-777	<u>TLSB Plc – Updated Water Framework Directive Assessment V2 (changes shown)</u>
REP-778	<u>TLSB Plc – Updated Consents and Licences required under other legislation (Clean)</u>
REP-779	<u>TLSB Plc – Updated Consents and Licences required under other legislation (changes shown)</u>
REP-780	<u>TLSB Plc – Schedule of Plans</u>

REP-781	<u>TLSB Plc – Updated Sheet 3A of 18</u>
REP-782	<u>TLSB Plc – Updated Works Plan Sheet 1 of 9</u>
REP-783	<u>TLSB Plc – Updated Works Plan Sheet 2 of 9</u>
REP-784	<u>TLSB Plc – Updated Works Plan Sheet 3 of 9</u>
REP-785	<u>TLSB Plc – Updated Works Plan Sheet 7 of 9</u>
REP-786	<u>TLSB Plc – Updated Works Plan Sheet 8 of 9</u>
REP-787	<u>TLSB Plc – Updated Works Plan Sheet 9 of 9</u>
REP-788	<u>TLSB Plc – Updated Marine Works Seawall Sections Sheet 1</u>
REP-789	<u>TLSB Plc – Updated Marine Works Seawall Sections Sheet 2</u>
REP-790	<u>TLSB Plc – Updated Marine Works Seawall Sections Sheet 3</u>
REP-791	<u>TLSB Plc – Updated Marine Works Seawall Sections Sheet 4</u>
REP-792	<u>TLSB Plc – Updated Marine Works Seawall Section Sheet 5</u>
REP-793	<u>TLSB Plc – Marine Works Typical Sections</u>
REP-794	<u>TLSB Plc – Updated Masterplan Key Plan</u>
REP-795	<u>TLSB Plc – Updated Offshore building public realm sections</u>
REP-796	<u>TLSB Plc – Updated Marine Works 7m Turbine House Typical Section (Doc ref 2.4.25A)</u>
REP-797	<u>TLSB Plc – Updated Marine Works Sluice House Typical Section (Doc ref 2.4.26A)</u>
REP-798	<u>TLSB Plc – Updated Marine Works Turbine and Sluice Gate Housing Elevation (Doc ref 2.4.27A)</u>
REP-799	<u>TLSB Plc – Updated Marine Works Dredging General Arrangement</u>
REP-800	<u>TLSB Plc – Updated Land and Works Plan Overlay Sheets</u>
REP-801	<u>TLSB Plc – Updated Book of Reference Parts 1 – 5</u>
REP-802	<u>TLSB Plc – Summary note on distribution of grey seal in Swansea Bay</u>

REP-803	<u>TLSB Plc – Commentary on Panel’s Note of Information proposed by interested parties – ISH Commencing 16 September 2014</u>
REP-804	<u>TLSB Plc - Response to Panel’s note – Action Point 1, Agreed list of main elements of key importance as part of the application</u>
REP-805	<u>TLSB Plc – Response to Panel’s note – Action Point 4, Updated SoCG on Coastal Processes</u>
REP-806	<u>TLSB Plc – Swansea Bay Site of Importance for Nature Conservation</u>
REP-807	<u>TLSB Plc – Response to Panel’s note – Action Point 9</u>
REP-808	<u>TLSB Plc – Note relating to the use of adaptive environmental management</u>
REP-809	<u>TLSB Plc – Note on Mitigating Flood Risk at Mumbles</u>
REP-810	<u>TLSB Plc – Response to Panel’s Note – Action Point 14 (1 of 2)</u>
REP-811	<u>TLSB Plc– Response to Panel’s Note – Action Point 14 (2 of 2)</u>
REP-812	<u>TLSB Plc – Response to Panel’s Note – Action Point 16 – Precedents in relation to the Water Framework Directive</u>
REP-813	<u>TLSB Plc – Updated Piling Areas Plan</u>
REP-814	<u>TLSB Plc – Updated Land and Works Plans Overlay Sheets</u>
REP-815	<u>TLSB Plc – Note on secured work in other/comparable DCOs</u>
REP-816	<u>TLSB Plc – Technical Notes – Project Access Road and Cable Route realignments</u>
REP-817	<u>TLSB Plc – Technical Notes – Project Cable Route realignment</u>
REP-818	<u>TLSB Plc – Schedule of draft Protective Provisions to be included in the DCO</u>
REP-819	<u>Trinity House – Comments on Draft DCO</u>
REP-820	<u>University of Wales Trinity Saint David – Written Submission in lieu of Oral Case</u>

REP-821	<u>Welsh Government – Letter prior to attending hearing on 16 September</u>
REP-822	<u>Welsh Government – Written Submission</u>
REP-823	<u>Welsh Government – Comments on Environmental Information</u>
REP-824	<u>Wildfowl and Wetlands Trust – Comments on Environmental Information</u>
REP-824a	<u>Health and Safety Executive – late submission</u>
DOCUMENTS RECEIVED FOR DEADLINE V – 28 October 2014	
- All post hearing documents (including any revised DCO from the applicant) - All written summaries or oral cases made at DCO hearings	
REP-825	<u>Associated British Ports</u>
REP-826	<u>Baglan Bay Company Limited</u>
REP-827	<u>Baglan Operations Limited, Baglan Pipeline Limited, and Baglan Generating Limited</u>
REP-828	<u>City and County of Swansea</u>
REP-829	<u>Dan Morrissey Limited</u>
REP-830	<u>Fish Legal</u>
REP-831	<u>Natural Resources Wales</u>
REP-832	<u>Neath Port Talbot County Borough Council</u>
REP-833	<u>Pontardawe and Swansea Angling Society Ltd</u>
REP-834	<u>Porthcawl Environment Trust</u>
REP-835	<u>Rhossili Working Group</u>
REP-836	<u>St Modwen Developments Limited</u>
REP-837	<u>St Modwen Properties plc</u>
REP-838	<u>St Modwen Properties VIII Sarl</u>
REP-839	<u>Swansea University</u>

REP-840	<u>TLSB Plc - Cover Letter</u>
REP-841	<u>TLSB Plc - Index of Submissions</u>
REP-842	<u>TLSB Plc - Summary of Oral Case ISH 21/22 Oct + Design & News Release Annexes</u>
REP-843	<u>TLSB Plc - Summary of Oral Case made CAH 23 Oct</u>
REP-844	<u>TLSB Plc - Draft DCO (doc ref 3.1) - (Clean)</u>
REP-845	<u>TLSB Plc - Draft DCO (doc ref 3.1) (changes shown)</u>
REP-846	<u>TLSB Plc - AEMP (doc ref 6.2, app 4.1) - (changes shown only)</u>
REP-847	<u>TLSB Plc - Updated list of other consents required (doc ref 5.6) - (Clean)</u>
REP-848	<u>TLSB Plc - Updated list of other consents required (doc ref 5.6) (changes shown)</u>
REP-849	<u>TLSB Plc - Flood defences plan referred to in requirement 27 of draft DCO</u>
REP-850	<u>TLSB Plc - Report on article 4.7 Water Framework Directive derogation and summary (panel note item 6)</u>
REP-851	<u>TLSB Plc - Note addressing Natural Resources Wales Comments on AEMP (Panel Note Item 11)</u>
REP-852	<u>TLSB Plc - Paper of alternative DCO drafting (Panel Note Item 20)</u>
REP-853	<u>TLSB Plc - Note addressing (i) access & (ii) boating (Panel Note Item 21)</u>
REP-854	<u>TLSB Plc - Response to requests for information in relation to coastal processes by Natural Resources Wales</u>
REP-855	<u>TLSB Plc - TLSB - Natural Resources Wales SoCG - Onshore traffic, noise, dust & vibration</u>
REP-856	<u>TLSB Plc - TLSB - Natural Resources Wales SoCG – Seascape and Landscape Visual Impact Assessment and natural and built environment</u>
REP-857	<u>TLSB Plc - TLSB - Natural Resources Wales SoCG - Flooding</u>

Ref not used	TLSB Plc – Note addressing mitigation and management plans-OEMP (panel item 11) – Superseded, see REP-883
Ref not used	TLSB Plc - Note addressing mitigation and management plans-AEMP (panel item 11) – Superseded, see REP-884
Ref not used	TLSB Plc - Note addressing mitigation and management plans-CEMP (panel item 11) – Superseded, see REP-885
Extended Deadline V Submissions 4 November 2014	
REP-858	<u>Dr Hywel Francis MP</u>
REP-859	<u>Fish Legal</u>
REP-860	<u>Natural Resources Wales</u>
REP-861	<u>Pontardawe and Swansea Angling Society Ltd</u>
Ref not used	Rhossili Working Group – Response to ExA 1 st Written Questions, published 3/11/2014 for Deadline II – See REP-513
REP-862	<u>Siân James MP</u>
REP-863	<u>TLSB Plc – Cover letter</u>
REP-864	<u>TLSB Plc – Draft development consent order (changes shown)</u>
REP-865	<u>TLSB Plc – Draft development consent order (clean)</u>
REP-866	<u>TLSB Plc – Commentary on Draft development consent order (panel item 31)</u>
REP-867	<u>TLSB Plc – Index of submission</u>
REP-868	<u>TLSB Plc – Schedule of plans</u>
REP-869	<u>TLSB Plc – Updated land plans</u>
REP-870	<u>TLSB Plc – Access and public rights of way key plan</u>
REP-871	<u>TLSB Plc – Access and public rights of way key plan (sheet 2)</u>
REP-872	<u>TLSB Plc – Access and public rights of way key plan (sheet 3)</u>
REP-873	<u>TLSB Plc – Updated CEMP (changes shown)</u>

REP-874	<u>TLSB Plc – Updated CEMP (clean)</u>
REP-875	<u>TLSB Plc – Updated OEMP (changes shown)</u>
REP-876	<u>TLSB Plc – Updates OEMP (clean)</u>
REP-877	<u>TLSB Plc – Draft section 106 agreement (panel item 1)</u>
REP-878	<u>TLSB Plc – Note addressing suitability of aspects of the project to adaptive management (panel item 2)</u>
REP-879	<u>TLSB Plc – Note addressing relevance of worst case scenarios (panel item 3)</u>
REP-880	<u>TLSB Plc –Note addressing costal process (panel 4 item)</u>
REP-881	<u>TLSB Plc – Note addressing likely significant effects on Crymlyn Burrows (panel item 5)</u>
REP-882	<u>TLSB Plc – Note addressing mitigation actions and management plans – OEMP (panel item 11)</u>
REP-883	<u>TLSB Plc – Note addressing mitigation actions and management plans – AEMP (panel item 11)</u>
REP-884	<u>TLSB Plc – Note addressing mitigation actions and management plans – CEMP (panel item 11)</u>
REP-885	<u>TLSB Plc – Note addressing heavy metals (panel item 36)</u>
REP-886	<u>TLSB Plc – Note addressing seaward extent of plots 16005 and 0510 (panel item 38)</u>
REP-887	<u>TLSB Plc - Note addressing ship simulation</u>
REP-888	<u>TLSB Plc – Updates commentary on panels note of information</u>
REP-889	<u>TLSB Plc – Representations made outside of deadline</u>
REP-890	<u>TLSB Plc – Response to deadline IV</u>
REP-891	<u>TLSB Plc – Updated book of reference</u>
Representations Accepted by the Examining Authority in to the Examination Between Deadlines V and VI	
REP-892	<u>Miss. E. Harry</u>
REP-893	<u>Gerald Conyngham</u>
REP-894	<u>Peter A. Ross</u>

REP-895	<u>Matthew Cartmill</u>
DOCUMENTS RECEIVED FOR DEADLINE VI – 25 November 2014	
- Comments on the Report on the Implications on European Sites (RIES) - Comments on any changes to the DCO in the consultation draft only (including any revised DCO from the applicant)	
REP-896	<u>TLSB Plc – Copy of notification of consultation</u>
REP-897	<u>Associated British Ports</u>
REP-898	<u>Baglan Operations Limited, Baglan Pipeline Limited, and Baglan Generating Limited</u>
REP-899	<u>City and County of Swansea</u>
REP-900	<u>Dan Morrissey (UK) Limited</u>
REP-901	<u>Dwr Cymru Welsh Water</u>
REP-902	<u>Fish Legal</u>
REP-903	<u>Jill and Brian Burgess</u>
REP-904	<u>Maritime and Coastguard Agency</u>
REP-905	<u>Natural Resources Wales – Copy of letter sent from Natural Resources Wales Legal Services (25 November 2014) to the applicant’s legal representatives (Late submission)</u>
REP-906	<u>Natural Resources Wales Part 1</u>
REP-907	<u>Natural Resources Wales Part 2</u>
REP-908	<u>Neath Port Talbot County Borough Council</u>
REP-909	<u>Pontardawe and Swansea Angling Society</u>
REP-910	<u>Porthcawl Environment Trust</u>
REP-911	<u>Public Health England</u>
REP-912	<u>Rhossili Working Group</u>
REP-913	<u>Royal Society for the Protection of Birds</u>
REP-914	<u>Swansea University</u>

REP-915	<u>The Crown Estate</u>
REP-916	<u>Tony Colburn</u>
REP-917	<u>Trinity House</u>
REP-918	<u>Welsh Government</u>
REP-919	<u>Western Power Distribution</u>
REP-920	<u>TLSB Plc - Covering letter</u>
REP-921	<u>TLSB Plc – Index of Submissions</u>
REP-922	<u>TLSB Plc – AEMP – 25 November 2014 (changes shown)</u>
REP-923	<u>TLSB Plc – Book of Reference – 25 November 2014</u>
REP-924	<u>TLSB Plc – CEMP – 25 November (clean)</u>
REP-925	<u>TLSB Plc - CEMP – 25 November 2014 (changes shown)</u>
REP-926	<u>TLSB Plc – DCO Validation Report</u>
REP-927	<u>TLSB Plc – Draft DCO – 25 November 2014 (clean)</u>
REP-928	<u>TLSB Plc – Draft DCO – 25 November 2014 (changes shown from 4 November 2014 version)</u>
REP-929	<u>TLSB Plc – Draft DCO – 25 November 2014 (changes shown from original application version)</u>
REP-930	<u>TLSB Plc – Land Plans (2.1.3c, 2.1.4b – 2.1.20b)</u>
REP-931	<u>TLSB Plc – Works Plans (ref 2.2.2B – 2.2.10B)</u>
REP-932	<u>TLSB Plc – Appendix A to Note on Crown Consents</u>
REP-933	<u>TLSB Plc – Appendix B to Note on Crown Consents</u>
REP-934	<u>TLSB Plc – Appendix C to Note on Crown Consents</u>
REP-935	<u>TLSB Plc – Note Addressing Crown Consents</u>
REP-936	<u>TLSB Plc – Commentary on ExA Note of Information</u>
REP-937	<u>TLSB Plc – Note Addressing DCO Guidance (panel note item 4)</u>
REP-938	<u>TLSB Plc – Note Addressing Piling in Area F Slurry Wall (panel note item 9)</u>

REP-939	<u>TLSB Plc – Note Addressing Sediment Sources and Dredging (panel note items 7 & 8)</u>
REP-940	<u>TLSB Plc - Table Addressing Open Space (R2)</u>
REP-941	<u>TLSB Plc - Table Addressing Statutory Undertakers and Relevant Land Plots (panel note item 1)</u>
REP-942	<u>TLSB Plc – Note Addressing s.150 Consents</u>
REP-943	<u>TLSB Plc – Appendix A to Note Addressing s.150 Consents</u>
REP-944	<u>TLSB Plc – Appendix B to Note Addressing s.150 Consents</u>
REP-945	<u>TLSB Plc – Appendix C to Note Addressing s.150 Consents</u>
REP-946	<u>TLSB Plc – Note Addressing s.106 Agreement</u>
REP-947	<u>TLSB Plc - Appendix A to Note Addressing s.106 Agreement</u>
REP-948	<u>TLSB Plc – Appendix B to Note Addressing s.106 Agreement</u>
REP-949	<u>TLSB Plc – s.106 Appendix E – Draft DCO</u>
REP-950	<u>TLSB Plc – Section 106 Planning Agreement – 25 November 2014 (clean)</u>
REP-951	<u>TLSB Plc – Section 106 Planning Agreement – 25 November 2014 (showing changes)</u>
REP-952	<u>TLSB Plc – Commentary on ExA's Version of Draft DCO Published 11 November 2014</u>
REP-953	<u>TLSB Plc – Cover Note with Response to Natural Resources Wales Comments on Crymlyn Burrows Note</u>
REP-954	<u>TLSB Plc – Note Addressing Likely Significant Effects on Crymlyn Burrows</u>
REP-955	<u>TLSB Plc - Note Addressing Updated Plans Submitted 25 November 2014</u>
REP-956	<u>TLSB Plc – Overlay Plans (2.5.2C, 2.5.3B – 2.5.10B)</u>
REP-957	<u>TLSB Plc – RIES (changes shown)</u>
REP-958	<u>TLSB Plc – Submission Addressing the RIES</u>
REP-959	<u>TLSB Plc – SoCG – TLSB and City and County of Swansea Council</u>

REP-960	TLSB Plc – SoCG – TLSB and Natural Resources Wales
REP-961	TLSB Plc – SoCG – TLSB and The Royal Yachting Association
REP-962	TLSB Plc – Comment on Responses to 4 November Consultation
REP-963	TLSB Plc – Commentary on Updated DCO
REP-964	TLSB Plc – Response to Deadline V Submissions
REP-965	TLSB Plc – Draft DCO - 25 November 2014 (clean) (Word version)
REP-966	TLSB Plc – Draft DCO – 25 November 2014 (changes shown from original application version) (Word version)
REP-967	TLSB Plc – Draft DCO – 25 November 2014 (changes shown from 4 November 2014 version) (Word version)
REPRESENTATIONS ACCEPTED BY THE EXAMINING AUTHORITY IN TO THE EXAMINATION BETWEEN DEADLINES VI AND VII	
Ref Not Used	Geraint Davies MP See CORR-0018
DOCUMENTS RECEIVED FOR DEADLINE VII – 4 December 2014	
- Comments on responses received on deadline VI - Any outstanding s106 agreements or other obligations	
REP-969	Associated British Ports
REP-970	Baglan Operations Limited, Baglan Pipeline Limited, and Baglan Generating Limited
REP-971	City and County of Swansea
REP-972	Natural Resources Wales
REP-973	Neath Port Talbot County Borough Council
REP-974	Pontardawe and Swansea Angling Society Ltd
REP-975	Swansea University
REP-976	Welsh Government
REP-977	Welsh Government – s135 Update

REP-978	<u>TLSB Plc – Covering Letter</u>
REP-979	<u>TLSB Plc – Index of Submissions</u>
REP-980	<u>TLSB Plc – Responses to representation made at Deadline VI</u>
REP-981	<u>TLSB Plc – Appendix 1 Response to Deadline VI representations</u>
REP-982	<u>TLSB Plc – Appendix 2 Response to Deadline VI representations - TLSB Response to comments on the AEMP</u>
REP-983	<u>TLSB Plc – Appendix 3 Response to Deadline VI representations</u>
REP-984	<u>TLSB Plc – Appendix 4 Response to Deadline VI representations (Document also submitted by Natural Resources Wales post Deadline VIII, REP-1045)</u>
REP-985	<u>TLSB Plc – Appendix 5 - Environment Agency - Screening for Intake and Outfalls: a best practice guide</u>
REP-986	<u>TLSB Plc – Section 106 Planning Agreement (04.12.2014)</u>
REP-987	<u>TLSB Plc – Appendix A to s106 Agreement</u>
REP-988	<u>TLSB Plc - Appendix B to s106 Agreement</u>
REP-989	<u>TLSB Plc – Appendix C to s106 Agreement</u>
REP-990	<u>TLSB Plc - Appendix D to s106 Agreement</u>
REP-991	<u>TLSB Plc - Appendix E to s106 Agreement</u>
REP-992	<u>TLSB Plc - Appendix F to s106 Agreement</u>
REP-993	<u>TLSB Plc – Appendix G to s106 Agreement</u>
REP-994	<u>TLSB Plc - Appendix H to s106 Agreement</u>
REP-995	<u>TLSB Plc - Appendix I to s106 Agreement</u>
REP-996	<u>TLSB Plc – Plans to s106 Agreement</u>
Ref not used	REP-997
REP-998	<u>TLSB Plc – Table addressing certain parties who have made relevant representations</u>

REP-999	<u>TLSB Plc – Table addressing landowners whose land is to be compulsorily acquired</u>
REP-1000	<u>TLSB Plc – Draft DCO – 4 December 2014 (changes shown from 25 November 2014 version)</u>
REP-1001	<u>TLSB Plc – Draft DCO – 4 December 2014 (changes shown from original application version)</u>
REP-1002	<u>TLSB Plc –Draft DCO – 4 December 2014 – (clean)</u>
REP-1003	<u>TLSB Plc – Commentary on iteration of draft DCO submitted 4 December 2014</u>
REP-1004	<u>TLSB Plc – Draft DCO – 4 December 2014 – Validation Report</u>
REP-1101	<u>TLSB Plc – Note providing update in respect of various awards and public announcements</u>
REP-1102	<u>TLSB Plc – Annexe A to Note providing update - Article regarding Swansea Bay Tidal Lagoon winning the President's Award at the Landscape Institute Awards</u>
REP-1103	<u>TLSB Plc – Annexe B to Note providing update - Article regarding Swansea Bay Tidal Lagoon winning the Strategic Landscape Planning category at the Landscape Institute Awards</u>
REP-1104	<u>TLSB Plc – Annexe C to Note providing update in respect of Project - Tidal lagoon Swansea Bay shortlisted and Highly Commended for Wales Planning Award 2014</u>
REP-1105	<u>TLSB Plc - Annexe D to Note providing update - Article regarding ministers announce negotiations to offer funding for project</u>
REP-1106	<u>TLSB Plc – Annexe E to Note providing update - National Infrastructure Plan 2014</u>
REP-1107	<u>TLSB Plc – CEMP – 4 December 2014 (clean)</u>
REP-1108	<u>TLSB Plc – CEMP – 4 December 2014 (changes shown)</u>
REP-1109	<u>TLSB Plc - OEMP – 4 December 2014 (changes shown)</u>
REP-1110	<u>TLSB Plc – OEMP – 4 December 2014 (clean)</u>

DOCUMENTS RECEIVED FOR DEADLINE VIII – 8 December 2014

- Responses to questions in Rule 17 Letter of 2 December 2014

REP-1005	<u>Associated British Ports</u>
REP-1006	<u>City and County of Swansea</u>
REP-1007	<u>Natural Resources Wales</u>
REP-1008	<u>TLSB Plc - Covering Letter to Deadline VIII Submissions</u>
REP-1009	<u>TLSB Plc - Index of Submissions - Deadline VIII</u>
REP-1010	<u>TLSB Plc - s.106 Agreement (Completed) – The City and County of Swansea Council, Neath Port Talbot County Borough Council, TLSB And Associated British Ports</u>
REP-1011	<u>TLSB Plc - s.106 – TLSB – Front and Execution Pages</u>
REP-1012	<u>TLSB Plc - s.106 – Neath Port Talbot County Borough Council – Front and Execution Pages</u>
REP-1013	<u>TLSB Plc - s.106 – The City and County of Swansea Council, Neath Port Talbot County Borough Council, TLSB And Associated British Ports – Front and Execution Pages</u>
REP-1014	<u>TLSB Plc - s.106 – Associated British Ports – Front and Execution Pages</u>
REP-1015	<u>TLSB Plc - s.106 Agreement – Appendix A: Framework Construction Phase Travel Management</u>
REP-1016	<u>TLSB Plc - s.106 Agreement – Appendix B: Framework Operational Phase Travel Management</u>
REP-1017	<u>TLSB Plc - s.106 Agreement – Appendix C: Visitor Centre Specification</u>
REP-1018	<u>TLSB Plc - s.106 Agreement – Appendix D: Deed of Adherence</u>
REP-1019	<u>TLSB Plc - s.106 Agreement – Appendix E: Draft DCO</u>
REP-1020	<u>TLSB Plc - s.106 Agreement – Appendix F: Offshore Building Drawings</u>

REP-1021	<u>TLSB Plc - s.106 Agreement – Appendix G: Western Landfall Drawings</u>
REP-1022	<u>TLSB Plc - s.106 Agreement – Appendix H: New Pontoon</u>
REP-1023	<u>TLSB Plc - s.106 Agreement – Appendix I: Improvements Works to Existing Highway, Fabian Way Junction</u>
REP-1024	<u>TLSB Plc - Plans to s.106 Agreement</u>
REP-1025	<u>TLSB Plc - Response to Representations Made at Deadline VII</u>
REP-1026	<u>TLSB Plc - Annex 1 to Response to Representations Made at Deadline VII</u>
REP-1027	<u>TLSB Plc - Annex 2 to Response to Representations Made at Deadline VII – Chemistry Certificate of Analysis (Metals)</u>
REP-1028	<u>TLSB Plc - Annex 3 to Response to Representations Made at Deadline VII - Chemistry Certificate of Analysis (Organotins)</u>
REP-1029	<u>TLSB Plc - Annex 4 to Response to Representations Made at Deadline VII –Use of Action Levels in Dredged Material Assessments</u>
REP-1030	<u>TLSB Plc - Commentary on ExA Note of Information</u>
REP-1031	<u>TLSB Plc - Annex A to Commentary on ExA Note of Information</u>
REP-1032	<u>TLSB Plc - Water Framework Directive and Human Health</u>
REP-1033	<u>TLSB Plc - Note Addressing Eels (Panel note item 1)</u>
REP-1034	<u>TLSB Plc - Marine Licence Application (Panel note item 2)</u>
REP-1035	<u>TLSB Plc - Appendix D s150 consent note (Panel note item 3) – Response to ExA Request for Further Information – (R3) Rule 17, 2 December 2014</u>
Representations Accepted by the Examining Authority in to Examination Post Deadline VIII	
REP-1036	<u>Pontardawe and Swansea Angling Society Ltd</u>
REP-1037	<u>Natural Resources Wales - Marine Licence Progress Note</u>

REP-1038	<u>Natural Resources Wales - Response to TLSB Deadline VIII Submission - Factual correction</u>
REP-1039	<u>Natural Resources Wales - response to Rule 17 - Received late due to a technical issue</u>
REP-1040	<u>Natural Resources Wales - Email submission - Received late due to a technical issue</u>
REP-1041	<u>Natural Resources Wales - Final Water Framework Directive (WFD) report - Received late due to a technical issue</u>
REP-1042	<u>Natural Resources Wales - 2.4.16 Saltmarsh Plan. Appended to WFD report - Received late due to a technical issue</u>
REP-1043	<u>Natural Resources Wales - 2.4.12 Eastern Landfall Plan. Appended to WFD report - Received late due to a technical issue</u>
REP-1044	<u>Natural Resources Wales - Action 14 Note clarifying jobs figures in 22.5.3 16 of ES. Appended to WFD report - Received late due to a technical issue</u>
REP-1045	<u>Natural Resources Wales - TLSB response Natural Resources Wales Article 4.7 info requirements. Appended to WFD report - Received late due to a technical issue (Document also submitted by TLSB Plc at Deadline VI REF-984)</u>
REP-1046	<u>Natural Resources Wales - Action 14B Note on jobs associated with turbine assembly plant. Appended to WFD report - Received late due to a technical issue</u>
REP-1047	<u>Natural Resources Wales - 2.4.13 Eastern Landfall Sections. Appended to WFD report - Received late due to a technical issue</u>
REP-1048	<u>Natural Resources Wales - 2.4.17 Saltmarsh Sections. Appended to WFD report - Received late due to a technical issue</u>
EVENTS	
Preliminary Meeting 10 June 2014	
HE-01	<u>Preliminary Meeting Audio</u>
HE-02	<u>Preliminary Meeting Note</u>

Hearings and Site Visits (Notifications)	
HE-03	<u>Applicant's Notification of Hearings under Rule 13(6)</u>
Open Floor Hearing 29 July 2014	
HE-04	<u>Agendas for hearings - Agendas for the Open Floor Hearing on 29 July 2014 and Issue Specific Hearing on 31 July 2014</u>
HE-05	<u>OFH Audio - Session 1</u>
HE-06	<u>OFH Audio - Session 2</u>
HE-07	<u>OFH Audio - Session 3</u>
HE-08	<u>TLSB Plc - Applicant's presentation from the Open Floor Hearing held on 29 July 2014.</u>
Issue Specific Hearing 31 July 2014	
HE-09	<u>Agendas for hearings - Agendas for the Open Floor Hearing on 29 July 2014 and Issue Specific Hearing on 31 July 2014</u>
HE-10	<u>Welsh Government - Submission made prior to the issue specific hearing held on 31 July 2014 in lieu of oral submission</u>
HE-11	<u>Issue Specific Hearing - Development Consent Order Introductory Issues - Panel's note of information proposed by interested parties at Issue Specific Hearing on 31 July 2014.</u>
HE-12	<u>Issue Specific Hearing Audio. 31 July 2014 – Session 1 - Audio recording of ISH held on 31 July 2014.</u>
HE-13	<u>Issue Specific Hearing Audio. 31 July 2014 – Session 2 - Audio recording of ISH held on 31 July 2014.</u>
HE-14	<u>Issue Specific Hearing Audio. 31 July 2014 – Session 3 - Audio recording of ISH held on 31 July 2014.</u>
HE-15- HE-18	Ref not used
Issue Specific Hearing 16, 17 and 18 September 2014	
HE-19	<u>Agenda for Issue Specific Hearing commencing 16 September 2014</u>
HE-20	<u>Panel's note of information proposed by Interested Parties</u>
HE-21	<u>Issue Specific Hearing Audio. 16 September 2014. Session 1</u>
HE-22	<u>Issue Specific Hearing Audio. 16 September 2014. Session 2</u>

HE-23	Issue Specific Hearing Audio. 16 September 2014. Session 3
HE-24	Issue Specific Hearing Audio. 16 September 2014. Session 4
HE-25	Issue Specific Hearing Audio. 17 September 2014. Session 1
HE-26	Issue Specific Hearing Audio. 17 September 2014. Session 2
HE-27	Issue Specific Hearing Audio. 17 September 2014. Session 3
HE-28	Issue Specific Hearing Audio. 17 September 2014. Session 4
HE-29	Issue Specific Hearing Audio. 18 September 2014. Session 1
HE-30	Issue Specific Hearing Audio. 18 September 2014. Session 2
HE-31	Issue Specific Hearing Audio. 18 September 2014. Session 3
HE-32	Issue Specific Hearing Audio. 18 September 2014. Session 4
Issue Specific Hearing 23 September 2014	
HE-33	Issue Specific Hearing Audio. 23 September 2014. Session 1
HE-34	Issue Specific Hearing Audio. 23 September 2014. Session 2
HE-35	Issue Specific Hearing Audio. 23 September 2014. Session 3
Compulsory Acquisition Hearing 30 September 2014	
HE-36	Agenda for Compulsory Acquisition Hearing commencing 30 September 2014
HE-37	Compulsory Acquisition Hearing Audio. 30 September 2014. Session 1
HE-38	Compulsory Acquisition Hearing Audio. 30 September 2014. Session 2
Issue Specific Hearing/Compulsory Acquisition 21, 22 and 23 October 2014	
HE-39	Hearing Agendas
HE-40	Updated hearing agenda
HE-41	Natural England
HE-42	Issue Specific Hearing Audio. 21 October 2014. Session 1
HE-43	Issue Specific Hearing Audio. 21 October 2014. Session 2
HE-44	Issue Specific Hearing Audio. 21 October 2014. Session 3

HE-45	<u>Issue Specific Hearing Audio. 21 October 2014. Session 4</u>
HE-46	<u>Issue Specific Hearing Audio. 22 October 2014. Session 1</u>
HE-47	<u>Issue Specific Hearing Audio. 22 October 2014. Session 2</u>
HE-48	<u>Issue Specific Hearing Audio. 23 October 2014. Session 1</u>
HE-49	<u>Issue Specific Hearing Audio. 23 October 2014. Session 2</u>
HE-50	<u>Issue Specific Hearing Audio. 23 October 2014. Session 3</u>
HE-51	<u>Issue Specific Hearing Audio. 23 October 2014. Session 4</u>
HE-52	<u>Neath Port Authority</u>
HE-53	<u>Panel's note of information proposed by Interested Parties</u>
Accompanied Site Inspection 30 July 2014	
ASV-01	<u>Accompanied Site Inspection Itinerary</u>
Unaccompanied Site Inspection 09 June 2014	
USV-01	<u>Unaccompanied site Inspection 1</u>
Unaccompanied Site Inspection 07 July 2014	
USV-02	<u>Unaccompanied site Inspection 2</u>
Unaccompanied Site Inspection 24 September 2014	
USV-03	<u>Unaccompanied Site Inspection 3</u>
Unaccompanied Site Inspection 28 October 2014	
USV-04	<u>Unaccompanied site Inspection 4</u>

APPENDIX C: REPORT ON THE IMPACT ON EUROPEAN SITES (RIES)

The Report on the Implications for European Sites (RIES) was issued by the Examining Authority on 11 November 2014. Page 2 of the RIES lists the documents used to inform the report and contained document references which were based on the internal referencing applied by the Planning Inspectorate at the time. Since this date, the document references have been updated and finalised, as detailed in the table below. The updated document reference should be used in correlation with the finalised document library appended to the recommendation report at Annex [B].

REPORT ON THE IMPLICATIONS FOR EUROPEAN SITES – UPDATE OF REFERENCES

The Report on the Implications for European Sites (RIES) was issued for consultation by the Examining Authority on 11 November 2014. Appendix 1 of the RIES listed the documents used to inform the report and contained the document references, which were based on the internal referencing applied by the Planning Inspectorate at the time. Since this date, the document references have been updated and finalised. Amendments to the RIES are therefore detailed in the table below. The updated document reference should be used in correlation with the finalised document library appended to the recommendation report.

Document	Document reference used in the RIES	Updated document reference
Documents Received at Deadline IV (7 October 2014)		
Applicant's Annex 3.7.1. Plan of proposed piling activity	REP-534	REP-1062
Applicant's Annex 5.8.1. Addendum to the Marine Mammals Chapter – Report R2286	REP-542	REP-1072
Documents Received at Deadline III (5 August 2014)		
Applicant's comments on Local Impact Reports made by City and Council of Swansea	REP-632	REP-624
Documents Received at Deadline V (extended to 4 November 2014)		
Applicant's Updated CEMP (Tracked)	REP-874	REP-873
Applicant's Updated CEMP (Clean)	REP-875	REP-874
Applicant's Updated OEMP (Tracked)	REP-876	REP-875
Applicant's Updated OEMP (Clean)	REP-877	REP-876

NB. References to REP-577 within the main body of the RIES were incorrect. This reference should be read as REP-509, NRW's response to ExA's questions.



REPORT on the IMPLICATIONS for EUROPEAN SITES Proposed Tidal Lagoon Swansea Bay

An Examining Authority report prepared with the support
of the Environmental Services Team

11 NOVEMBER 2014

CONTENTS

1	INTRODUCTION.....	1
	Background	1
	Documents Used to Inform the RIES.....	2
	Structure of the RIES.....	2
2	OVERVIEW.....	4
	European Sites Considered	4
	NRW Representations Referring to the Habitat Regulations	7
	Other Representations Referring to the Habitat Regulations	7
3	LIKELY SIGNIFICANT EFFECTS	10
	Applicant's Methodology	10
	Screening of European sites.....	10
	Summary of the HRA Screening Outcome during the Examination ..	12
4	APPROPRIATE ASSESSMENT AND THE INTEGRITY TEST.....	14
	Conservation Objectives.....	14
	The Integrity Test.....	14
	Summary of the HRA Adverse Effects on Site Integrity Outcome during the Examination	22
5	INTEGRITY MATRIX.....	23
	Background	23
	Matrix Key	23
	APPENDIX 1: Documents Used to Inform the RIES.....	27
	APPENDIX 2: European sites identified in the applicant's Updated HRA report [REP-584 and REP-589]	33
	APPENDIX 3: Summary of adverse effects on site integrity and mitigation	47

1 INTRODUCTION

Background

- 1.1 Tidal Lagoon (Swansea Bay) plc (the 'applicant') has applied to the Secretary of State for a Development Consent Order (DCO) under section 37 of the Planning Act 2008 (as amended) (the PA 2008) for the proposed Tidal Lagoon Swansea Bay (the 'application'). The Secretary of State has appointed an Examining Authority (ExA) to conduct an examination of the application, to report its findings and conclusions, and to make a recommendation to the Secretary of State, as to the decision to be made on the application.
- 1.2 The relevant Secretary of State is the competent authority for the purposes of the Habitats Directive¹, the Habitats Regulations² and the Offshore Marine Regulations³ for applications submitted under the PA 2008 regime. The findings and conclusions on nature conservation issues reported by the ExA will assist the Secretary of State in performing the duties under the Habitats Regulations and the Offshore Marine Regulations.
- 1.3 This Report on the Implications for European Sites (the 'RIES') compiles, documents, and signposts information provided within the DCO application, and the information submitted throughout the examination by both the applicant and Interested Parties⁴, up to 4 November 2014 in relation to potential effects to European sites⁵. It is not a standalone document and should be read in conjunction with the DCO application and examination documents referred to in this RIES.
- 1.4 This RIES is issued to ensure that Interested Parties, including the Statutory Nature Conservation Bodies (SNCBs), in this case Natural Resources Wales (NRW) and Natural England (NE), are consulted formally on Habitats Regulations matters. This process may be relied on by the Secretary of State for the purposes of Regulation 61(3) of the Habitats Regulations. Following consultation the

¹ 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')

² The Conservation of Habitats and Species Regulations 2010 (as amended) (the 'Habitats Regulations')

³ The Offshore Marine Conservation (Natural Habitats, &c) Regulations 2007 (as amended) (the Offshore Marine Regulations) will apply beyond UK territorial waters (12 nautical miles) (the 'Offshore Marine Regulations')

⁴ Interested Parties are defined under s102 of the Planning Act 2008 (as amended)

⁵ The term European Sites in this context includes Sites of Community Importance (SCIs), Special Areas of Conservation (SACs), candidate Special Areas of Conservation (cSACs) and Special Protection Areas (SPAs), which are protected under the Habitats Regulations. As a matter of policy, the Government also applies the procedures of the Habitats Regulations to potential SPAs (pSPAs), Ramsar sites, and (in England) proposed Ramsar sites and sites identified, or required, as compensatory measures for adverse effects on any of the above

responses will be considered by the ExA in making their recommendation to the Secretary of State and made available to the Secretary of State along with this RIES. The RIES is not revised following consultation.

- 1.5 The applicant did not identify potential impacts on European sites located in other EEA States⁶ **[APP-169]**⁷. Only UK European sites are addressed in this RIES.

Documents Used to Inform the RIES

- 1.6 All documents used to inform this RIES are listed in Appendix 1 to this RIES. The applicant's HRA reports are described below.
- 1.7 The applicant provided a Report to Inform HRA **[APP-169]**, HRA appendix **[APP-170]**, and HRA figure **[APP-171]** with their DCO application.
- 1.8 In response to the Relevant Representation made by NRW **[REP-141]**, the applicant submitted updated HRA documents for examination Deadline II of 9 July 2014. The updated HRA documents included the following:
- Updated Report to Inform HRA **[REP-584]**
 - Updated Screening (updated HRA document Appendix 1) **[REP-585]**
 - Updated Screening Report (updated HRA document Appendix 2) **[REP-586]**
 - Updated HRA Screening Matrices (updated HRA document Appendix 3) **[REP-589]**
 - Updated HRA Integrity Matrices (updated HRA document Appendix 4) **[REP-590]**
 - Clarification on Coastal Process Effects for Kenfig SAC (HRA document Appendix 5) **[REP-587]**
 - Enhanced Coastal Process Baseline for Kenfig, Crymlyn Burrows and Blackpill (HRA document Appendix 6) **[REP-588]**

Structure of the RIES

- 1.9 The remainder of this RIES is in four parts as follows:

⁶ European Economic Association (EEA) States

⁷ The document references within the RIES refer to the Examination Library, an internal Planning Inspectorate document compiled to record all documents submitted with the application and throughout the examination. This document will be submitted to the Secretary of State with the Recommendation Report.

- Section 2 identifies the European sites that have been considered within the DCO application and during the examination period, up to 4 November 2014 (following examination Deadline V). It provides an overview of the issues that have emerged during the examination.
- Section 3 identifies the European sites and qualifying features screened by the applicant for potential likely significant effects, either alone or in-combination with other projects and plans. This section also identifies where Interested Parties have disputed the applicant's conclusions, together with any additional European sites and qualifying features screened for potential likely significant effects during the examination.
- Section 4 identifies the European sites that have been considered in terms of adverse effects on site integrity, either alone or in-combination with other projects and plans. This section identifies where Interested Parties have disputed the applicant's conclusions, together with any additional European sites and qualifying features considered for adverse effects on site integrity during the examination.
- Section 5 comprises an integrity matrix for the European site Kenfig Special Area of Conservation (SAC), for which the applicant's conclusions were disputed in relation to potential likely significant effects and adverse effects on the integrity of the European site. It summarises the evidence submitted by the applicant and Interested Parties up to 4 November 2014.

2 OVERVIEW

European Sites Considered

- 2.1 The project is not connected with or necessary to the management for nature conservation of any of the UK European sites considered within the assessment.
- 2.2 The applicant considered 19 European sites in their initial HRA screening assessments [**see Appendices 1 and 2 of APP-170**] submitted with the DCO application. The study area applied by the applicant for the HRA is identified in Table 6.1 of the applicant's HRA Report [**APP-169**] and is described as being defined by the potential zone of influence around the project. For mobile receptors the study area is stated to be defined by potential impact pathways for these receptors.
- 2.3 These 19 European sites are listed below in alphabetical order.
- Burry Inlet Special Protection Area (SPA)
 - Burry Inlet Ramsar
 - Cardigan Bay SAC
 - Carmarthen Bay and Estuaries SAC
 - Carmarthen Bay SPA
 - Cleddau Rivers SAC
 - Crymlyn Bog SAC
 - Crymlyn Bog Ramsar
 - Dunraven Bay SAC
 - Kenfig SAC
 - Limestone Coast of South West Wales SAC
 - Lundy SAC
 - Pembrokeshire Marine SAC
 - River Tywi SAC
 - River Usk SAC
 - River Wye SAC
 - Severn Estuary SAC
 - Severn Estuary SPA
 - Severn Estuary Ramsar
- 2.4 Of the 19 European sites identified, the applicant's initial HRA report [**APP-169 and APP-170**] screened out the potential for likely significant effects on all qualifying features of the following 10 European sites:

- Carmarthen Bay and Estuaries SAC
- Carmarthen Bay SPA
- Cleddau Rivers SAC
- Crymlyn Bog SAC
- Crymlyn Bog Ramsar
- Dunraven Bay SAC
- Kenfig SAC
- Limestone Coast of South West Wales SAC
- River Tywi SAC
- Severn Estuary SPA

2.5 The applicant concluded the potential for likely significant effects on the remaining nine European sites **[APP-169 and Appendix 3 of APP-170]**. The applicant went on to conclude no adverse effect on site integrity for all of these nine European sites **[APP-169 and Appendix 4 of APP-170]**. The nine European sites considered in the applicant's initial HRA for adverse effects on site integrity are listed below:

- Burry Inlet SPA
- Burry Inlet Ramsar
- Cardigan Bay SAC
- Lundy SAC
- Pembrokeshire Marine SAC
- River Usk SAC
- River Wye SAC
- Severn Estuary SAC
- Severn Estuary Ramsar

2.6 NRW identified one further European site in their Relevant and Written Representations, Pen Llyn a'r Sarnau SAC, which they considered could be potentially affected by the project **[REP-141 and REP-471]**. This European site was identified by NRW in relation to its grey seal and bottlenose dolphin qualifying features. NRW stated that given the extensive distances grey seals travel, the assessment should have considered any potential impacts on grey seals in the context of all relevant sites within the south-west England and Wales and the Celtic and Irish Sea seal management unit, which includes Pen Llyn a'r Sarnau SAC, in addition to Cardigan Bay SAC and Pembrokeshire Marine SAC identified by the applicant **[REP-471]**. NRW also advised that the bottlenose dolphin qualifying feature of Pen Llyn a'r Sarnau SAC should have been considered; however, NRW also agreed that this qualifying feature could have been screened out by the applicant for the same

reasons as the bottlenose dolphin feature of Cardigan Bay SAC, had it been considered by the applicant **[REP-471]**.

- 2.7 The Relevant and Written Representations made by NRW disputed the applicant's conclusion of no likely significant effect on Crymlyn Bog SAC and Kenfig SAC and stated that an appropriate assessment would need to be carried out for these two European sites **[REP-141 and REP-471]**.
- 2.8 In light of NRW's Relevant Representation, the applicant provided an Updated HRA report at Deadline II **[REP-584]**. The Updated HRA report considered potential likely significant effects and adverse effects on site integrity for Crymlyn Bog SAC, Kenfig SAC, and Pen Llyn a'r Sarnau SAC **[REP-584]**. The applicant also included Crymlyn Bog Ramsar in its assessment of adverse effects on site integrity **[REP-584]**.
- 2.9 All European sites and qualifying features considered by the applicant in their Updated HRA report are included in Appendix 2 to this RIES, including the applicant's screening conclusion for these sites and qualifying features.
- 2.10 The Local Impact Report issued by the City and County of Swansea stated that no reference had been made to Carmarthen Bay and Estuaries SAC in respect of grey seals **[REP-563]**. The City and County of Swansea stated that although grey seals are not listed as a feature of the site, they are present and there may be possible links to grey seal populations on the Pembrokeshire islands or North Devon and Cornwall coasts **[REP-563]**. The qualifying features of Carmarthen Bay and Estuaries SAC were screened by the applicant; however, grey seals are not a qualifying feature of this site. The applicant considered the grey seal population in respect of Cardigan Bay SAC, Lundy SAC, Pen Llyn a'r Sarnau SAC and Pembrokeshire Marine SAC, as grey seal is a qualifying feature of these European sites.
- 2.11 With the exception of Pen Llyn a'r Sarnau SAC, NRW and other Interested Parties have not identified any other European sites or qualifying features that they believe should have been considered by the applicant.
- 2.12 The European sites considered by the applicant for adverse effects on site integrity therefore included the following 13 European sites **[REP-584]**:
 - Burry Inlet SPA
 - Burry Inlet Ramsar
 - Cardigan Bay SAC
 - Crymlyn Bog SAC
 - Crymlyn Bog Ramsar

- Kenfig SAC
- Lundy SAC
- Pembrokeshire Marine SAC
- Pen Llyn a'r Sarnau SAC
- River Usk SAC
- River Wye SAC
- Severn Estuary SAC
- Severn Estuary Ramsar

NRW Representations Referring to the Habitat Regulations

2.13 The HRA issues raised by NRW during the examination period and further explored in Section 4 to the RIES were as follows:

- Whether the applicant had included all relevant European sites designated for grey seals that could be affected by the proposed development.
- Whether the applicant had identified all relevant projects and plans as part of the in-combination assessment, particularly in relation to potential effects on European sites designated for grey seals.
- Whether the applicant had adequately assessed the effects of nitrogen deposition generated by construction traffic on Crymlyn Bog SAC.
- Whether there is sufficient certainty in the physical process modelling and assessment to assess the long-term effects of the spoil sediment disposal options on Kenfig SAC.
- Whether the adaptive monitoring and management proposed in respect of Kenfig SAC is suitable and sufficient to identify potential adverse effects and adequately and appropriately respond to these, including whether the measures are adequately secured and deliverable.

Other Representations Referring to the Habitat Regulations

2.14 Fish Legal, on behalf of a number of angling clubs and riparian owners in the Swansea Bay area, have raised concerns during the examination on the impact of the proposal on salmonids [**REP-079, REP-465, REP-641, and REP-725**]. The Relevant Representations made by Fish Legal [**REP-079**] and Usk Fishing Association [**REP-239**] initially raised concerns regarding impacts on salmonids from rivers in South Wales and as far away as the River Usk, River Wye, and River Severn; however, Fish Legal also stated that the proposed development would principally affect the

salmonid populations of the River Tawe and Neath **[REP-079]**. Fish Legal have not expressed specific concerns regarding the salmonid qualifying features of European sites subsequent to their initial Relevant Representation, as the concerns raised were in respect of salmonids using Swansea Bay and the Rivers Tawe, Neath and Afan **[REP-465, REP-641, and REP-725]**. Therefore, it is considered that the concerns of Fish Legal are not in relation to European sites.

- 2.15 NRW have not disputed the applicant's conclusion with respect to the fish qualifying features of the River Usk SAC, River Wye SAC, and Severn Estuary SAC and Ramsar.

Harbour Porpoise and European Sites

- 2.16 The potential future designation of the Outer Bristol Channel as a European site for harbour porpoise, potentially including the area of Swansea Bay in which the proposed development is located was brought to the attention of the examination. This was a result of Relevant and Written Representations provided by Porthcawl Environment Trust **[REP-160 and REP-476]** and Rhossili Working Group **[REP-172 and REP-477]** and answers provided to Examining Authority's Question 5.10 **[PD-010]** provided by Rhossili Working Group **[REP-512 and REP-513]**. At present there is only one European site designated for harbour porpoise in the UK: the Skerries and Causeway SAC in Northern Ireland.
- 2.17 Ongoing infringement proceedings of the European Commission regarding the UK Government and failure to designate sufficient European sites for harbour porpoise have been drawn to the attention of the examination **[HE-45 and REP-834]**. In response to the ExA's question 5.10 regarding any further information on the matter of designating further European sites for harbour porpoise, particularly with regard to the timescales and locations of the possible SAC, Rhossili Working Group provided a response from Defra in relation to this question **[REP-513]**. The correspondence from Defra stated that the Joint Nature Conservation Committee (JNCC) are undertaking work to analyse extensive datasets on harbour porpoise with the aim of determining whether any further areas suitable for designation as a SAC are present in UK waters. Defra also stated that at this time they are still in the stages of data analysis and no decisions regarding specific sites have yet been made **[REP-513]**.
- 2.18 The applicant provided an additional non-statutory document: 'Shadow report to inform HRA: Cetaceans and Pinnipeds' for Deadline III of the examination on 5 August 2014 **[REP-661]**, which the applicant stated was provided to avoid any possibility that the ExA or the Secretary of State would not have relevant information, should this be required in the future **[REP-633]**. This shadow HRA report considers the potential for likely significant

effects on any future European sites designated for harbour porpoise, which could be affected by the proposed development.

- 2.19 NRW stated in their summary of oral case for the Issue-Specific Hearing (ISH) of 16 September 2014 that there are no European sites featuring harbour porpoise in the marine mammal management unit within which the development site falls. As such, there can be no requirement to carry out an HRA for this species **[REP-748]**. In the absence of a designated site boundary, qualifying features and populations, or timescales for the designation of a European site, the future designation of a European site for harbour porpoise in the UK that could be affected by the proposed development has not been considered within the scope of this RIES.

3 LIKELY SIGNIFICANT EFFECTS

Applicant's Methodology

- 3.1 The applicant has included a description of the stages of the HRA process in their HRA reports submitted with the DCO application **[APP-169 and APP-170]** and in their Updated HRA report **[REP-584]**.
- 3.2 The applicant considered potential in-combination effects with other projects and plans within their HRA report **[APP-169]**. A list of projects and plans screened by the applicant is included at Table 7.1 to the HRA Report **[APP-169]**.
- 3.3 Additional projects were highlighted by NRW in their Relevant Representation **[REP-219]** and also in their detailed Written Representation **[REP-471]**, which they believe should have been considered by the applicant in respect of potential in-combination effects on the grey seal qualifying features of Cardigan Bay SAC, Pembrokeshire Marine SAC, and Pen Llyn a'r Sarnau SAC. NRW advised that the applicant should have considered residual effects on grey seals in-combination with effects from offshore wind farms (specifically Burbo Bank Wind Farm and Rhiannon Wind Farm), as a result of a temporary reduction in foraging habitat and likely effects on the favourable conservation status of seals **[REP-219 and REP-471]**. NRW also stated that the increased risk of collision from the project and tidal array projects (Skerries, St Davids Head and others in the future) should have been considered in respect of the grey seal qualifying feature of these three European sites **[REP-219 and REP-471]**. NRW stated that together these in-combination effects may lead to adverse effects on the grey seal qualifying features of Cardigan Bay SAC, Pembrokeshire Marine SAC, and Pen Llyn a'r Sarnau SAC **[REP-471]**.
- 3.4 As a result of the comments of NRW in their Relevant Representation regarding in-combination projects, the applicant included consideration of Rhiannon Wind Farm, Burbo Bank Wind Farm and the Skerries Tidal Array in their Updated HRA report **[REP-584]**. [NB. On the 13 August 2014 Celtic Array Ltd, the developers of Rhiannon Wind Farm, announced that they had decided to cease development of wind farms in the Irish Sea Zone: <http://infrastructure.planningportal.gov.uk/projects/wales/rhiannon-wind-farm-round-3-irish-sea-zone>].

Screening of European sites

- 3.5 The applicant's HRA report submitted with the DCO application screened 19 European sites for potential likely significant effects **[APP-169 to APP-171]**. In response to NRW's Relevant Representation, the applicant submitted an Updated HRA report at Deadline II to include the Pen Llyn a'r Sarnau SAC, thus 20

European sites in total have been considered by the applicant during the examination **[REP-584 and REP-589]**.

- 3.6 The Relevant Representation made by NRW disputed the applicant's conclusion in their HRA report issued with the DCO application, of no likely significant effect on Crymlyn Bog SAC and Kenfig SAC and stated that an appropriate assessment would need to be carried out for these two European sites **[REP-219]**. NRW's Written Representation and response to ExA's questions provided more detailed explanation for their dispute **[REP-471 and REP-577]**. Summaries of the reasons provided by NRW are included below.
- 3.7 With regard to Crymlyn Bog SAC, NRW stated that they could not agree that the predicted increase of nitrogen deposition during construction, up to 2% of the critical load for the transition mire and quaking bogs qualifying feature of the SAC, was not an insignificant emission and could therefore not agree to no likely significant effects on Crymlyn Bog SAC **[REP-471 and REP-577]**. NRW advised that an appropriate assessment would be required for this site, but they also believed the increase was unlikely to result in an adverse effect on site integrity **[REP-577]**.
- 3.8 With regard to Kenfig SAC, NRW stated that there was insufficient certainty regarding the long-term implications of all proposed dredge spoil disposal options on the integrity of the features of Kenfig SAC, and therefore an appropriate assessment would be required **[REP-471]**. In NRW's response to ExA's written questions, NRW confirm that they consider that the assessment of seabed characteristics and transport pathways in the area between Kenfig shoreline and the Outer Swansea disposal ground (LU130), and the potential effects of dredge spoil disposal deposition arising from the scheme construction and operation over a 120 year timespan, is inadequate **[REP-577]**.
- 3.9 The applicant issued an Updated HRA report **[REP-584]** and Updated Screening Matrices **[REP-589]**, which amended their initial screening conclusions on Crymlyn Bog SAC and Ramsar, and Kenfig SAC and subsequently screened-in the potential for likely significant effects on these three European sites. The Updated HRA report also screened Pen Llyn a'r Sarnau SAC, and concluded a potential for likely significant effects on the grey seal qualifying feature of this site.
- 3.10 Of the 20 sites considered by the applicant in their Updated HRA report, the applicant concluded a potential for likely significant effects on the following 13 European sites:
- Burry Inlet SPA
 - Burry Inlet Ramsar
 - Cardigan Bay SAC
 - Crymlyn Bog SAC

- Crymlyn Bog Ramsar
- Kenfig SAC
- Lundy SAC
- Pembrokeshire Marine SAC
- Pen Llyn a'r Sarnau SAC
- River Usk SAC
- River Wye SAC
- Severn Estuary SAC
- Severn Estuary Ramsar

3.11 NRW and other Interested Parties did not dispute the applicant's screening conclusions on the 20 European sites considered in the Updated HRA report.

3.12 A summary of the applicant's screening conclusions for all 20 European sites considered by the applicant at the point of the Updated HRA report issued for Deadline II of 9 July 2014, is provided in Appendix 2 of the RIES, together with reference to any agreements on the conclusions from Interested Parties.

Summary of the HRA Screening Outcome during the Examination

3.13 A total of 20 European sites were screened by the applicant in their Updated HRA report **[REP-584]**. Of these sites, the applicant concluded that there would be no likely significant effect on seven European sites and their qualifying features. These sites are listed below.

- Carmarthen Bay and Estuaries SAC
- Carmarthen Bay SPA
- Cleddau Rivers SAC
- Dunraven Bay SAC
- Limestone Coast of South West Wales SAC
- River Tywi SAC
- Severn Estuary SPA

3.14 NRW and other Interested Parties have not disputed the applicant's conclusion of no likely significant effects on these European sites and their qualifying features during the examination **[REP-645]**.

3.15 The applicant concluded likely significant effects on qualifying features of 13 European sites in their Updated HRA report **[REP-584 and REP-589]**. These sites are listed below.

- Burry Inlet SPA

- Burry Inlet Ramsar
- Cardigan Bay SAC
- Crymlyn Bog SAC
- Crymlyn Bog Ramsar
- Kenfig SAC
- Lundy SAC
- Pembrokeshire Marine SAC
- Pen Llyn a'r Sarnau SAC
- River Usk SAC
- River Wye SAC
- Severn Estuary SAC
- Severn Estuary Ramsar

3.16 Following submission of the applicant's Updated HRA report, NRW and Interested Parties have not disputed the applicant's conclusion of likely significant effects for these European sites and qualifying features **[REP-645]**. These sites are discussed further in respect of adverse effects on site integrity in Section 4 to this RIES.

4 APPROPRIATE ASSESSMENT AND THE INTEGRITY TEST

Conservation Objectives

- 4.1 The conservation objectives for the 13 European sites identified as being carried forward to an assessment of adverse effects on site integrity by the applicant are included in the applicant's Updated HRA report **[REP-584]**.

The Integrity Test

- 4.2 The applicant considered in their Updated HRA report potential adverse effects on the integrity of 13 European sites. The applicant concluded that the project **will not** adversely affect the integrity of these 13 European sites **[REP-584 and REP-590]**. The European sites screened-in by the applicant are included in the table presented at Appendix 3 to this RIES. The table includes reference to any mitigation relied upon by the applicant when reaching their conclusion, as stated within the Updated HRA report **[REP-584 and REP-590]**. Appendix 3 also includes reference to where the mitigation measures described in the applicant's Updated HRA report have, or have not, been included in the applicant's draft DCO submitted for extended Deadline V of 4 November 2014 **[REP-865 and REP-866]** and also in the applicant's latest environmental management plans **[REP-874, REP-875, REP-876, REP-877, and REP-847]**, as appropriate.
- 4.3 Following submission of the applicant's Updated HRA report and associated appendices, NRW agreed with the conclusion of the no adverse effects on site integrity for all of the European sites, **with the exception of Kenfig SAC [REP-645 and REP-831]**. Although NRW have agreed to a conclusion of no adverse effects on the remaining 12 European sites, consideration of the applicant's conclusion of no adverse effects on integrity for these sites is also included below following the consideration of the Kenfig SAC.

Kenfig SAC

- 4.4 The applicant's Updated HRA report included a shadow assessment of adverse effects on integrity for Kenfig SAC, which concluded a potential for likely significant effects but no adverse effects on site integrity **[REP-584 and REP-590]**. A summary of the applicant's conclusions and proposed mitigation as stated within the Updated HRA report is included in the Table at Appendix 3 to this RIES.
- 4.5 Following submission of the applicant's Updated HRA report and associated appendices, NRW disputed the applicant's conclusion of no adverse effects on the site integrity of Kenfig SAC **[REP-645]**. This European site has therefore been the focus of the examination in relation to HRA.

- 4.6 In their Deadline III submission, NRW were of the view that there is currently insufficient information provided by the applicant to allow the ExA to conclude within an appropriate assessment that the implications of long-term dredge spoil disposal from the proposed installation will not adversely affect the dune features of the Kenfig SAC (i.e. undermine site feature conservation objectives) **[REP-645]**.
- 4.7 NRW's main concern specifically related to whether a progressive increase in the extent and thickness of mud and muddy sand on the seabed west of Kenfig over the anticipated 120 year lifetime of the project could result in a reduction, or even cessation, of sand movement between the outer (western) part of Swansea Bay and the Kenfig shoreline, thereby contributing to increased rates of beach lowering, loss of dune area due to erosion, and further reduction in supply of blown sand from high beach (backshore) areas into the frontal dunes **[REP-645]**. NRW expressed concern that this will undermine the conservation objectives for dune habitat features of the SAC, as well as species features that rely on such habitats **[REP-645]**.
- 4.8 NRW advised that they may not be able to reach a consensus with the applicant regarding the impacts on Kenfig SAC and therefore, advised the applicant to focus on reconciling possible undermining of the conservation objectives via counter-acting measures which could be applied to the project in order to avoid or reduce adverse effects on Kenfig SAC (mitigation measures) **[REP-645]**. NRW stated that the most obvious mitigation measure available to the applicant would be to move the disposal ground for maintenance dredge spoil to another location, where adverse effects to any European site could be ruled out. NRW advised that this option could either be taken now or operated via an early-warning monitoring mitigation scheme which would trigger the mitigation if adverse effects appeared to be more likely in the future **[Rep-645]**. NRW also advised that any such early-warning monitoring mitigation scheme must be secured as part of the DCO in order to legally secure its aims and to allow the Secretary of State to record a legally robust HRA for this project **[REP-645]**.
- 4.9 Representations were made by the applicant and NRW at the Issue-Specific Hearing (ISH) of 16 September 2014 in respect of their position at the time in relation to adverse effects on the integrity of Kenfig SAC **[HE-22, HE-23, and HE-24]**. The applicant maintained its position that the modelling shows that the project will not have significant effects on Kenfig SAC, either by itself or in combination with other projects **[HE-24 and REP-768]**. The applicant stated that given the nature of the environment, deposits of dredged arisings would be dispersed very quickly and it is highly unlikely that a steady build-up of deposits will occur **[HE-24 and REP-768]**. The applicant stated that for the current examination, the ExA needs only to be satisfied that there is a reasonable prospect of the applicant securing a suitable location to deposit

dredged arisings and obtain the necessary marine licence. The applicant stated that the correct time to undertake the HRA for the maintenance dredging is when a licence for the activity is sought. However, should it not be accepted that there would be no likely significant effect on Kenfig SAC as a result of the project and that an appropriate assessment was required, which in turn identified uncertainty, the applicant stated that there are alternatives which could be pursued by the applicant, including the use of an alternative disposal site **[HE-24 and REP-768]**. The applicant stated that there are other disposal grounds in the vicinity that could be used **[HE-24 and REP-768]**.

- 4.10 NRW stated at the ISH of 16 September 2014 that on the basis of the latest HRA report, adverse effects on Kenfig SAC could not be ruled out and that the monitoring measures included in the applicant's Updated HRA report and Adaptive Environmental Management Plan (AEMP) submitted for Deadline III of 5 August 2014 **[REP-662]** were not adequate for the purposes of appropriate assessment **[HE-24 and REP-748]**. NRW disputed the applicant's conclusion of no adverse effects on Kenfig SAC, as NRW was not satisfied that there is sufficient information to advise confidently that 100 years of dredge disposal will not build up on the seabed west of Kenfig SAC **[HE-24]**. NRW stated that they believe there is a lack of confidence in the impacts on Kenfig SAC, including some doubt over the frequency of dredging required and the material generated by the dredging, due to the unprecedented timescales for the dredged disposal **[HE-24 and REP-748]**.
- 4.11 NRW also expressed concerns about the approach put forward by the applicant at the hearings to not deal comprehensively with HRA-issues related to the maintenance dredging within the DCO, as an application for a marine licence would be in the future **[REP-748]**. NRW was concerned that there would be a risk of a 'stranded asset', which would be unable to gain a permission vital to the project, and also that there could be a risk to the consenting body or regulator when consenting this future aspect of the project, as the grant of consent will appear as a 'fait accompli' given that the costly infrastructure is already in place **[REP-748]**.
- 4.12 Following the Issue-Specific hearing of 16 September 2014, NRW issued a Written Representation for Deadline IV which included further advice with regard to Kenfig SAC and the use of an early warning monitoring mitigation scheme **[REP-747]**.
- 4.13 NRW advised that early warning monitoring regimes can often be used to provide effective mitigation within a HRA as they ensure that if there is any departure from the predicted model then this will be identified before it can lead to adverse effects. Effective mitigation can then be put in place to remove the risk of adverse effects occurring **[REP-747]**. NRW advised that it will be crucial for such a scheme, having detected such warning signs, to then effectively make some kind of change to the dredge disposal

activities which would effectively mitigate any possibility of adverse effects on the SAC in the future **[REP-747]**.

- 4.14 NRW also discussed at the ISH of 16 September the identification of trigger points, at which the mitigation to cease using the Outer Swansea disposal site would need to be implemented **[HE-24]**. The applicant raised concerns regarding the use of trigger points, as the Outer Swansea disposal site (LU130) is used by various organisations which could equally result in changes to Kenfig SAC, coupled with potential changes as a result of natural events **[HE-24]**. The applicant was concerned that changes to Kenfig SAC could not necessarily be ascribed to the project. This issue was raised in the ISH of 16 September; however, it was not discussed in subsequent hearings or representations made by the applicant, NRW or other Interested Parties.
- 4.15 At Deadline IV of the examination of 7 October 2014, the applicant submitted a revised draft DCO, which included an additional requirement (Requirement 38) in respect of the protection of Kenfig SAC as a result of the dredged arisings **[REP-770 and REP-771]**. The requirement included for a scheme for the disposal of dredged arisings as a result of maintenance of the proposed lagoon to be submitted and approved in writing by the relevant local authorities in consultation with NRW. The requirement included for provisions within the scheme for monitoring and reference to trigger points **[REP-770 and REP-771]**.
- 4.16 At the ISH held on 21 October 2014, NRW agreed that the potential adverse effects upon Kenfig SAC can be avoided through early warning monitoring and mitigation, for example by using an alternative disposal ground, and that such a scheme can be secured by a requirement in a DCO **[HE-43 and REP-831]**. NRW stated that they had proposed a change to the applicant's draft requirement in respect of Kenfig SAC **[HE-43 and REP-831]**.
- 4.17 The ExA asked at the ISH on 21 October 2014 whether the requirement in relation to Kenfig SAC should be extended to include for the additional dredged arisings generated from the dredging of the channels, in addition to the lagoon **[REP-43]**. The applicant stated that once construction was completed, dredging from the channels would not be the responsibility of the applicant, so it would be inappropriate to extend the requirement to manage dredged arisings from the channels **[REP-842]**. The applicant also stated that additional dredging in the channels was not likely to be required but rather that increased materials would be dredged when the Ports undertake their normal maintenance. However, they also stated that the increase in dredged arisings would be small in absolute and proportional terms when assessed in terms of volume and percentage increase against the current volumes, and there is also a mechanism for regulating this through the licensing control of NRW's Marine Licensing Team and the increase is not

significant enough to need to be controlled by requirement in the DCO **[REP-842]**.

- 4.18 NRW were asked the same question by the ExA and stated that they have taken the view that the additional arisings from the channel during maintenance would not lead to adverse effects and therefore, does not need to be included in the DCO **[HE-43]**.
- 4.19 At Deadline V of 28 October 2014, the applicant submitted a revised draft DCO, which included some changes to the requirement in respect of Kenfig SAC (Requirement 39 of the draft DCO) **[REP-844 and REP-845]**. The applicant also issued a further revised draft DCO for the extended Deadline V of 4 November 2014 **[REP-865 and REP-866]**. The latter included a small number of further changes to Requirement 39 in respect of Kenfig SAC **[REP-865 and REP-866]**.
- 4.20 NRW provided a response at extended Deadline V of 4 November 2014, which confirmed that they were now close to agreement with the applicant on a specific DCO Requirement for surveillance monitoring and trigger levels for action **[REP-860]**. NRW stated that they have provided the applicant with a minor addition to the wording which they consider serves to clarify and avoid any misinterpretation of effects **[REP-860]**. NRW confirmed that if this addition is accepted then they would consider the DCO requirement to be sufficient to provide protection to Kenfig SAC **[REP-860]**. At present, it is unclear whether the applicant's revised wordings to the DCO requirement in relation to Kenfig SAC (Requirement 39) submitted for Deadline V of 28 October 2014 **[REP-844 and REP-845]**, and further updated for extended Deadline V of 4 November 2014 **[REP-865 and REP-866]**, is acceptable to NRW.
- 4.21 No other Interested Parties disputed the conclusion of the applicant's Updated HRA report during the examination.

Burry Inlet SPA and Ramsar

- 4.22 The applicant's Updated HRA report included an assessment of adverse effects the integrity of Burry Inlet SPA and Ramsar, in respect of likely significant effects on the teal, dunlin, oystercatcher, curlew, shelduck and redshank qualifying features **[REP-584 and REP-590]**. The Royal Society for the Protection of Birds (RSPB) stated in their Comments on Applicant's Written Representations and Responses to Panel's 1st Written Questions at Deadline III, that they recognised that there is significant doubt that many of the birds using Swansea Bay are directly linked to Burry Inlet SPA and Ramsar **[REP-650]**. The RSPB did, however, raise a number of points on the applicant's Updated HRA report in relation to the assemblage of Burry Inlet SPA and Ramsar and sanderling and ringed plover (interest features of Blackpill Site of Special Scientific Interest (SSSI)), which the RSPB also indicate form part of the assemblage of Burry Inlet **[REP-650]**. Sanderling

and ringed plover are not included in the Natura 2000 citation form for Burry Inlet SPA, as used by the applicant in their Updated HRA report, or mentioned in the SPA review for Burry Inlet. These species are also not specifically mentioned on the Information Sheet on Ramsar Wetlands for Burry Inlet Ramsar. The applicant screened out likely significant effects on the assemblage qualifying features of Burry Inlet SPA and Ramsar as the number of birds recorded in Swansea Bay that are species of the SPA and Ramsar assemblage was less than 10% of the assemblage population. The figure of 10% was stated to be applied by the applicant due to the distance between Swansea Bay and Burry Inlet SPA and Ramsar, approximately 13km **[REP-584 and REP-589]**.

- 4.23 The applicant described a number of mitigation measures in their Updated HRA report to avoid disturbance effects on bird species during construction; these are associated with the timing and phasing of seawall construction activities **[REP-584 and REP-590]**. These mitigation measures are currently included in Section 6 of the applicant's draft Construction Environmental Management Plan (CEMP) for the project **[REP-874 and REP-875]**, which is secured by Requirement 6 of the draft DCO **[REP-865 and REP-866]**.
- 4.24 The applicant's conclusion of no adverse effects on the site integrity of Burry Inlet SPA and Ramsar was not disputed during the examination by NRW **[REP-645]**. Burry Inlet SPA and Ramsar have not formed a main issue during the examination.

Migratory Fish qualifying features of River Wye SAC, River Usk SAC, and River Severn SAC and Ramsar

- 4.25 The applicant also included an assessment of adverse effects on the integrity of the River Wye SAC, River Usk SAC, and River Severn SAC and Ramsar in relation to their fish qualifying features, including Atlantic salmon, sea trout, allis shad, twaite shad, sea lamprey and European eel **[REP-584 and REP-590]**. The Relevant Representations made by Fish Legal **[REP-079]** and Usk Fishing Association **[REP-239]** initially raised concerns regarding impacts on salmonids from rivers in South Wales and as far away as the River Usk, River Wye, and River Severn; however, Fish Legal also stated that the proposed development would principally affect the salmonid populations of the River Tawe and Neath **[REP-079]**. Subsequent representations made by Fish Legal have not included specific concerns regarding the salmonids qualifying features of European sites **[REP-465, REP-641, and REP-725]**. The fish qualifying features of the River Wye SAC, River Usk SAC, and River Severn SAC and Ramsar have not been identified as a main issue during the examination.
- 4.26 The applicant states that the number of migratory fish in Swansea Bay that are associated with European sites is low; however, the applicant has also proposed a number of mitigation measures in

their Updated HRA report to minimise impacts on migratory fish during construction and operation **[REP-584 and REP-590]**. Mitigation measures in respect of migratory fish have been included in the applicant's latest CEMP **[REP-876 and REP-877]** and AEMP **[REP-846]**. The CEMP and AEMP are secured by Requirements 6 and 7 of the draft DCO, respectively **[REP-865 and REP-866]**. Mitigation measures proposed by the applicant are summarised in the Table at Appendix 3 to this RIES.

- 4.27 NRW have not disputed the applicant's conclusion of no adverse effects on the integrity of these four European sites; however, they have disputed the applicant's decision not to install acoustic fish deterrents for the operational scheme unless monitoring of sea trout determines these are necessary **[REP-747 and REP-860]**. NRW have requested that the DCO include a requirement to ensure that no part of the authorised development shall commence until a written specification for the acoustic deterrent measures and their performance levels for fish has been submitted to and approved in writing **[REP-860]**. NRW have stated that the AFD operation shall be optimised for the benefit of salmonids and clupeids and be deployed for the lifetime of the turbine operation **[REP-860]**. This matter is still to be agreed; however, it is assumed that NRW do not dispute the applicant's conclusion of no adverse effect on site integrity for these European sites.
- 4.28 NE have not commented on the applicant's conclusions of no adverse effects on the integrity of the River Wye SAC, Severn Estuary SAC, and Severn Estuary Ramsar, in relation to potential effects on migratory fish. These are cross-boundary European sites that fall under the remit of both NRW and NE.

The grey seal qualifying features of Cardigan Bay SAC, Lundy SAC, Pembrokeshire Marine SAC, and Pen Llyn a'r Sarnau SAC

- 4.29 The Written Representation provided by NRW at Deadline II of 9 July 2014 stated that due to the relatively low number of grey seals in the vicinity of the project, they considered it unlikely that the project would significantly adversely affect the integrity of Cardigan Bay SAC, Pembrokeshire Marine SAC, and Pen Llyn a'r Sarnau SAC alone; however, NRW could not agree to no adverse effects on the integrity of these SACs due to insufficient information on in-combination projects **[REP-471]**.
- 4.30 Following the Relevant Representation made by NRW **[REP-141]**, the applicant carried forward in their Updated HRA report the consideration of adverse effects on site integrity on the grey seal qualifying features of Cardigan Bay SAC, Lundy SAC, Pembrokeshire Marine SAC, and Pen Llyn a'r Sarnau SAC, as a result of potential in-combination effects with the following projects: Burbo Bank Wind Farm, Rhiannon Wind Farm and the Skerries Tidal Array. The applicant concluded in their Updated HRA report no adverse effects on the integrity of all four European sites

[REP-584 and REP-590]. The applicant proposed a number of mitigation measures in Environmental Statement (ES) Chapter 10 **[APP-187]** and their Updated HRA report **[REP-584 and REP-590]** to minimise impacts on grey seals during construction and operation. Mitigation measures have been included in the applicant's latest CEMP **[REP-874 and REP-875]** and AEMP **[REP-846]**, in respect of marine mammals, including grey seals. The CEMP and AEMP are secured by Requirements 6 and 7 of the DCO, respectively **[REP-865 and REP-866]**. Mitigation measures proposed by the applicant for the grey seal qualifying features of Cardigan Bay SAC, Lundy SAC, Pembrokeshire Marine SAC, and Pen Llyn a'r Sarnau SAC are summarised in the Table at Appendix 3 to this RIES.

- 4.31 NRW confirmed in their late response submitted at Deadline III that they agree that there will be no adverse effects on site integrity alone or in-combination on all European sites, with the exception of Kenfig SAC, on this basis it is assumed that NRW are in agreement with the applicant's conclusions regarding Cardigan Bay SAC, Pen Llyn a'r Sarnau SAC, and Pembrokeshire Marine SAC, which fall under the remit of NRW **[REP-645]**. In respect of mitigation measures for marine mammals, these have been included as part of the applicant's CEMP **[REP-875 and REP-875]** and AEMP **[REP-846]**; however, NRW have also suggested, in their representation made at Deadline V to the examination, that a requirement be included in the DCO to ensure that no part of the authorised development shall commence until a written strategy for the monitoring and mitigation of the impacts of the authorised development on marine mammals has been submitted to and approved in writing **[REP-860]**.
- 4.32 NE, in their response to NRW's request for comments on the marine licence dated 23 April 2014, stated that they agree with the applicant's conclusion that with adequate mitigation there will be no adverse impact on site integrity **[HE-41]**. NE also stated that they would like the developer to follow the proposed mitigation in the Environmental Statement, to ensure that impacts to grey seals are minimised **[HE-41]**. Following the applicant's response to NE's letter (as provided to NE by NRW on 20 August 2014), NE confirmed by email to NRW on 2 September 2014 that they are satisfied with the applicant's response and agree with the applicant's conclusion of no adverse effect on site integrity for Lundy SAC **[HE-41]**.

Crymlyn Bog SAC and Ramsar

- 4.33 Following concerns expressed by NRW in their Relevant Representation, the applicant's Updated HRA report carried out a shadow assessment of adverse effects on the site integrity of Crymlyn Bog SAC and Ramsar, in respect of changes to air quality as a result of construction traffic **[REP-584]**. The applicant concluded no adverse effects on site integrity for both of these

European sites on the basis that the emissions will be temporary in nature and the predicted increase in emissions of just over 1% of the critical load for the European site will be “adequately mitigated by overall reductions in pollutant deposition across Wales, due to improvements in industrial and vehicle emissions and the fact that the emission is short-lived” (see Paragraph 12.3.1.9 of the Updated HRA report) **[REP-584 and REP-590]**. The applicant states in their Updated HRA report that this conclusion has been discussed with NRW **[REP-584 and REP-590]**.

- 4.34 NRW advised in their Written Representation that they believed that the increase of emissions predicted from the project during construction was unlikely to result in an adverse effect on site integrity **[REP-577]**. NRW subsequently confirmed that they agreed with the applicant’s conclusion of no adverse effects on site integrity alone or in-combination in their late response issued for Deadline III of 5 August 2014 **[REP-645]**.

Summary of the HRA Adverse Effects on Site Integrity Outcome during the Examination

- 4.35 NRW stated during the examination that the only European site of concern with regard to adverse effects on site integrity was Kenfig SAC, due to the uncertainty surrounding potential changes that could occur to the dune features, and species dependent on the dune features, as result of the long-term maintenance dredge disposal at the Outer Swansea disposal ground (LU130) **REP-645 REP-831, and REP-860]**.
- 4.36 NRW concluded that it would be possible for the applicant to implement an early warning monitoring mitigation plan to monitor for adverse changes, before adverse effects on integrity would occur, and then put in effective mitigation **[REP-747 and REP-831]**.
- 4.37 The applicant agreed to include a requirement in the draft DCO to include for such a scheme. The draft DCO submitted by the applicant at Deadline IV of 28 October 2014 included Requirement 39 in relation to the dredged disposal and the protection of Kenfig SAC **[REP-844 and REP-845]**. The applicant also submitted a revised draft DCO at extended Deadline V of 4 November 2014 **[REP-865 and REP-866]**. NRW stated at both Deadline IV and V of the examination that they have provided the applicant with amendments to the requirement **[REP-747 and REP-860]**. At extended Deadline V of 4 November 2014 NRW stated that they are close to agreement with the applicant on a specific DCO Requirement for surveillance monitoring and trigger levels for action **[REP-860]**; however, at the point of writing this RIES, NRW had not yet confirmed they are content with the revised wording of the requirement in the applicant’s DCO.

5 INTEGRITY MATRIX

Background

- 5.1 The applicant's conclusions with regard to the potential effect of the project on Kenfig SAC were disputed by NRW during the course of the examination. The information submitted by the applicant and NRW during the examination, up to 4 November 2014, in relation to the contested site and qualifying features is summarised in the matrix below.

Matrix Key

- ✓ = Adverse effect on integrity cannot be excluded
 - × = Adverse effect on integrity can be excluded
 - C = Construction
 - O = Operation
 - D = Decommissioning
- 5.2 Evidence supporting the conclusions is detailed in footnotes for each table with reference to relevant supporting documentation.
- 5.3 Where an impact is not considered relevant for a feature of a European site, the cell in the matrix is formatted as follows:

Stage 2 Matrix A: Kenfig SAC

Site Code: UK0012566

Distance to project: 11.5km

European site qualifying features	Adverse Effect on Site Integrity					
	Maintenance dredgings disposal			In-combination Effects		
	C	O	D	C	O	D
Fixed dunes 'grey dunes'		✓a			✓b	
Dunes with <i>Salix repens</i> spp. <i>Argentea</i>		✓a			✓b	
Humid dune slacks		✓a			✓b	
Petalwort		✓a			✓b	

Notes:

- a. The applicant predicts no adverse effects on site integrity **[REP-584 and REP-590]**. This is stated to be due to the ongoing maintenance dredging for the project, commencing approximately 15 years post-construction, equating to approximately 1 million tonnes being removed every two years, which is stated to fall well within the historic capacity of the Outer Swansea disposal ground, and is also less than the current licensed disposal for the maintenance of Swansea and Port Talbot. The applicant states that there is no evidence to suggest that disposal of mud at the Outer Swansea disposal grounds will hinder the transport of sand to the beaches along the eastern shoreline of Swansea Bay. The disposal site was selected as a highly dispersive site with little to no change observed to the surveyed depths, despite the disposal of an average of 2.6 million wet tonnes of fine material each year. As a result of the dispersive nature of the site it is considered that deposited material does

not form a permanent 'barrier' to any sand source that might be present in the region (not specifically within the spoil ground), thereby hindering its transport. The applicant stated that an extensive monitoring programme is also proposed within the AEMP **[REP-584 and REP-590]**.

NRW disputed the applicant's conclusion of no adverse effects on Kenfig SAC, as NRW was not satisfied that there is sufficient information to advise confidently that 100 years of dredge disposal will not build up on the seabed west of Kenfig SAC. NRW believe there is a lack of confidence in the impacts on Kenfig SAC, including some doubt over the frequency of dredging required and the material generated by the dredging, due to the unprecedented scale of disposal **[HE-22 to HE-24 and REP-748]**. NRW also advised that the mitigation proposed by the applicant was not adequate for the purposes of appropriate assessment. However, NRW agreed that the potential adverse effects upon Kenfig SAC can be avoided through early warning monitoring and mitigation, for example using an alternative disposal ground **[REP-748]**. NRW advised that any such scheme must be secured as part of the DCO in order to legally secure its aims and to allow the Secretary of State to record a legally robust HRA for this project **[REP-747]**.

The applicant included in the draft DCO submitted for Deadline IV of 7 October 2014 a requirement in relation to Kenfig SAC (Requirement 38) **[REP-770 and REP-771]**. The requirement included for a scheme for the disposal of dredged arisings as a result of maintenance to be submitted and approved in writing by the relevant local authorities in consultation with NRW. The requirement included for provisions within the scheme for monitoring and reference to trigger points **[REP-770 and REP-771]**.

NRW stated at NRW stated at the ISH held on 21 October 2014 that they had proposed a change to the applicant's draft requirement in respect of Kenfig SAC, which it considered to be necessary **[REP-831]**. The applicant submitted two further drafts of the DCO for Deadline V of the examination, including revised wording to the requirement in respect of Kenfig SAC and dredge disposal (Requirement 39) **[REP-844, REP-845 and REP-865 and REP-866]**.

NRW have confirmed that they are now close to agreement with the applicant on a specific DCO Requirement for surveillance monitoring and trigger levels for action **[REP-860]**. NRW stated that they have provided the applicant with a minor addition to the wording, which they consider serves to clarify and avoid any misinterpretation of effects and that if this addition is accepted by the applicant then they would consider the

DCO requirement to be sufficient to provide protection to Kenfig SAC **[REP-860]**. At present, it is unclear whether the applicant's revised wordings to the DCO requirement in relation to Kenfig SAC (Requirement 39) submitted for extended Deadline V of 4 November 2014 **[REP-865 and REP-866]** is acceptable to NRW and therefore, due to the uncertainty remaining the RIES has recorded potential for adverse effects on the integrity of Kenfig SAC.

- b. The applicant predicts no adverse effects on the integrity of Kenfig SAC in-combination with other ongoing dredging campaigns, including maintenance dredging along the Tawe, Neath, and Port Talbot channels, and dredging at Monkstone Cruising and Sailing Club, Swansea Marina and the Porthcawl Regeneration Scheme **[REP-584 and REP-590]**. The applicant concluded for the same reasons noted for the project alone, that there would be no adverse effect on site integrity in-combination **[REP-590]**.

As discussed for the project alone, NRW considered that the inclusion of an early warning monitoring and mitigation scheme, secured through the DCO, would provide a mechanism to ensure no adverse effects on site integrity **[REP-747 and REP-748]**. The applicant included in the draft DCO submitted for Deadline IV of 7 October 2014 a requirement in relation to Kenfig SAC (Requirement 38) **[REP-770 and REP-771]**, which was subsequently amended by the applicant for Deadline V of 28 October 2014 **[REP-844 and REP-845]** and also for the extended deadline of 4 November **[REP-865 and REP-866]**. NRW stated at both Deadline IV and Deadline V of the examination that they provided the applicant with a minor addition to the wording which they consider serves to clarify and avoid any misinterpretation of effects and that if this addition is accepted by the applicant then they would consider the DCO requirement to be sufficient to provide protection to Kenfig SAC **[REP-860]**. At present, it is unclear whether the applicant's revised wordings to the DCO requirement in relation to Kenfig SAC (Requirement 39) submitted for extended Deadline V of 4 November 2014 **[REP-865 and REP-866]** is acceptable to NRW and therefore, due to the uncertainty remaining the RIES has recorded potential for adverse effects on the integrity of Kenfig SAC.

APPENDIX 1: Documents Used to Inform the RIES

Application Documents

- Information to Inform HRA (undated) **[APP-169]**
- HRA Appendices **[APP-170]** comprising the following appendices:
 - Appendix 1 Habitats Regulation Assessment Screening (July 2013)
 - Appendix 2 Habitats Regulations Assessment: Updated Screening Report (February 2014)
 - Appendix 3 The Planning Inspectorate Screening Matrices
 - Appendix 4 Planning Inspectorate Integrity Matrices
- Habitats Regulations Assessment Figure 1 (12 December 2013) **[APP-171]**
- The Environmental Statement (ES) with particular reference to the following Volume 1 ES Chapters and their supporting appendices contained in Volumes 2 and 3 to the ES:
 - Chapter 6 Coastal Processes Sediment Transport and Contamination **[APP-183]**
 - Chapter 8 Intertidal and Subtidal Benthic Ecology **[APP-185]**
 - Chapter 9 Fish Including Recreational and Commercial Fisheries **[APP-186]**
 - Chapter 10 Marine Mammals and Turtles **[APP-187]**
 - Chapter 11 Coastal Birds **[APP-188]**
 - Chapter 12 Terrestrial Ecology **[APP-189]**
 - Chapter 23 Mitigation and Monitoring **[APP-200]**
- ES Volume 3 Chapter 4 Appendix 4.1 Construction Environmental Management Plan (CEMP) **[APP-330]**
- ES Volume 3 Chapter 4 Appendix 4.2 Operational Environmental Management Plan (OEMP) **[APP-331]**
- ES Volume 3 Chapter 23 Appendix 23.1 Adaptive Environmental Monitoring Plan (AEMP) **[APP-379]**

Relevant Representations

- Carmarthenshire County Council **[REP-038]**
- Crickhowell and District Angling Society **[REP-050]**
- Fish Legal **[REP-079]**
- Gwent Angling Society **[REP-089]**
- Neath Port Talbot County Borough Council **[REP-144]**
- NRW **[REP-141]**

- Porthcawl Environmental Trust **[REP-160]**
- Rhossili Working Group **[REP-172]**
- Usk Fishing Association **[REP-239]**

Procedural Decisions

- Examining Authority's First Round of Written Questions **[PD-010]**

Responses to Rule 6 letter issued by the ExA on 15 May 2014

- Pontardawe and Swansea Angling Society Ltd **[REP-427]**
- Rhossili Working Group **[REP-428]**
- Afan Valley Angling Club **[REP-420]**

Documents received at Deadline II (9 July 2014)

- Written Representations from:
 - Carmarthenshire County Council **[REP-460]**
 - Fish Legal **[REP-465]**
 - NRW **[REP-471]**
 - Pontardawe and Swansea Angling Society Ltd **[REP-475]**
 - Porthcawl Environment Trust **[REP-476]**
 - Rhossili Working Group **[REP-477]**
- Local Impact Reports from:
 - City and County of Swansea **[REP-563]**
 - Neath Port Talbot County Borough Council **[REP-565]**
- Written Representation information provided by applicant at Deadline II:
 - Applicant's revised CEMP **[REP-491 and REP-492]**
 - Applicant's revised OEMP **[REP-497 and REP-498]**
 - Applicant's Written Representation - Response to Rule 6 Principal Issues **[REP-501]**
 - Applicant's Updated Report to Inform HRA **[REP-584]**
 - Applicant's HRA Screening (Appendix 1) July 14 **[REP-585]**
 - Applicant's Updated HRA Screening Report (Appendix 2) July 14 **[REP-586]**
 - Applicant's Updated HRA Kenfig Clarification (Appendix 5) **[REP-587]**
 - Applicant's Updated HRA Kenfig, Blackpill and Crymlyn Clarification -R2295TN (Appendix 6) **[REP-588]**
 - Applicant's Updated HRA Screening Matrices (Appendix 3) July 14 **[REP-589]**

- Applicant's Updated HRA Integrity Matrices (Appendix 4) July 14 **[REP-590]**
- Responses to ExA's Questions:
 - Applicant's Section 1.0 - Responses to Written Questions 1 **[REP-517]**
 - Applicant's Section 3.0 - Responses to Written Questions 3 **[REP-519]**
 - Applicant's Section 4.0 - Responses to Written Questions 4 **[REP-520]**
 - Applicant's Section 5.0 - Responses to Written Questions 5 **[REP-521]**
 - Applicant's Section 8.0 - Responses to Written Questions 8 **[REP-524]**
 - Applicant's Annex 3.7.1 Plan of proposed piling activity **[REP-534]**
 - Applicant's Annex 5.8.1 Addendum to the Marine Mammals Chapter - Report R2286 **[REP-542]**
 - Natural England **[REP-508]**
 - NRW **[REP-509]**
 - Rhossili Working Group **[REP-512 and REP-513]**
 - Wildfowl & Wetlands Trust **[REP-562]**

Documents received at Deadline III (5 August 2014)

- Applicant's Comments on relevant representations made by interested parties **[REP-591]**
- Applicant's Comments on written representations made by Natural Resources Wales **[REP-592]**
- Applicant's Comments on written representations made by Pontardawe and Swansea Angling Society Ltd **[REP-602]**
- Applicant's Comments on written representations made by Rhossili Working Group **[REP-608]**
- Applicant's Comments on written representations made by Fish Legal **[REP-610]**
- Applicant's Comments on written representations made by Porthcawl Environment Trust **[REP-616]**
- Applicant's comments on Local Impact Reports made by Neath Port Talbot County Borough Council **[REP-623]**
- Applicant's comments on Local Impact Reports made by City and Council of Swansea **[REP-632]**
- Applicant's Comments on responses to ExA's written questions made by Rhossili Working Group **[REP-633]**

- Applicant's Comments on responses to ExA's written questions made by Wildfowl and Wetlands Trust **[REP-636]**
- Applicant's Appendix 4.1 Construction Environmental Management Plan (clean version) **[REP-656]**
- Applicant's Appendix 4.1 Construction Environmental Management Plan (changes shown) **[REP-657]**
- Applicant's Appendix 4.2 Outline Operation Environmental Management Plan (clean version) **[REP-658]**
- Applicant's Appendix 4.2 Outline Operation Environmental Management Plan (changes shown) **[REP-659]**
- Applicant's Shadow HRA relating to Cetaceans and Pinnipeds **[REP-661]**
- Applicant's Updated Adaptive Environmental Management Plan (AEMP) (doc ref 6.2 App 23.1) **[REP-662]**
- Applicant's Draft DCO, comparison document between V2 and V3 **[REP-663]**
- Applicant's Draft Development Consent Order, Version 3 **[REP-664]**
- RSPB - Comments on Applicant's Written Representations and responses to Panel's 1st written questions **[REP-650]**
- Written summaries of oral case made at Open Floor Hearing on 29 July 2014:
 - Porthcawl Environmental Trust **[REP-680]**
 - Rhossili Working Group **[REP-681]**
- NRW Further written response submitted for Deadline III of 5 August 2014 (Late submission) **[REP-645]**

Documents received at Deadline IV (7 October 2014):

- Fish Legal Comments on AEMP **[REP-725]**
- Rhossili Working Group Part 1 of 3 – Comments on Porpoise and HRA **[REP-730]**
- Rhossili Working Group Part 2 of 3 – Comments on Shadow HRA **[REP-731]**
- Rhossili Working Group Part 3 of 3 – Interim response to Addendum to Marine Mammals Appendix **[REP-732]**
- Natural Resources Wales Part 2 of 4 – Written Representation **[REP-747]**
- Natural Resources Wales Part 3 of 4 – Written submission of Oral Case at hearing on 16 September 2014 **[REP-748]**
- Natural Resources Wales Part 4 of 4 – Response to Panel's note of actions **[REP-749]**

- Porthcawl Environment Trust – Written Representation **[REP-752]**
- Royal Society for the Protection of Birds – Written Representation **[REP-757]**
- Applicant's Written Summary of Oral Representation at ISH commencing 16 September **[REP-768]**
- Applicant's Draft DCO (Clean) **[REP-770]**
- Applicant's Tidal Lagoon (Swansea Bay) Plc 4 – Draft DCO (Tracked Changes) **[REP-771]**
- Applicant's AEMP (Clean) **[REP-772]**
- Applicant's CEMP (Clean) **[REP-773]**
- Applicant's CEMP (Tracked Changes) **[REP-774]**
- Applicant's outline OEMP (Clean) **[REP-775]**
- Applicant's outline OEMP (Tracked Changes) **[REP-776]**
- Applicant's Updated Piling Areas Plan **[REP-813]**

Documents received at Deadline V (28 October 2014):

- NRW Summary of Case made at the Issue Specific Hearings on 21 – 22 October 2014 **[REP-831]**
- Porthcawl Environment Trust **[REP-834]**
- Rhossili Working Group **[REP-835]**
- Applicant's Summary of Oral Case ISH 21/22 Oct + Design & News Release Annexes **[REP-842]**
- Applicant's Draft DCO (doc ref 3.1) - (Clean) **[REP-844]**
- Applicant's Draft DCO (doc ref 3.1) - (Tracked) **[REP-845]**
- Applicant's AEMP (doc ref 6.2, app 4.1) - (Tracked Only) **[REP-846]**

Documents received at Deadline V (extended to 4 November 2014):

- Applicant's Draft DCO (Tracked) **[REP-865 and REP-866]**
- Applicant's Updated CEMP (Tracked) **[REP-874]**
- Applicant's Updated CEMP (Clean) **[REP-875]**
- Applicant's Updated OEMP (Tracked) **[REP-876]**
- Applicant's Updated OEMP (Clean) **[REP-877]**
- NRW **[REP-860]**

Hearing Documents

- Audio Recording of the Issue Specific Hearing (ISH) held on 16 September 2014. Session 1 **[HE-21]**

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

- Audio Recording of the Issue Specific Hearing (ISH) held on 16 September 2014. Session 2 **[HE-22]**
- Audio Recording of the Issue Specific Hearing (ISH) held on 16 September 2014. Session 3 **[HE-23]**
- Audio Recording of the Issue Specific Hearing (ISH) held on 16 September 2014. Session 4 **[HE-24]**
- Natural England Representation **[HE-41]**
- Audio Recording of the Issue Specific Hearing (ISH) held on 21 October 2014. Session 1 **[HE-42]**
- Audio Recording of the Issue Specific Hearing (ISH) held on 21 October 2014. Session 2 **[HE-43]**
- Audio Recording of the Issue Specific Hearing (ISH) held on 21 October 2014. Session 3 **[HE-44]**
- Audio Recording of the Issue Specific Hearing (ISH) held on 21 October 2014. Session 4 **[HE-45]**

APPENDIX 2: European sites identified in the applicant's Updated HRA report [REP-584 and REP-589]

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
Burry Inlet SPA	Pintail	No	Yes - NRW [REP-645] ⁹
	Shoveler	No	Yes - NRW [REP-645] ⁹
	Teal	Yes	Yes - NRW [REP-645] ⁹
	Wigeon	No	Yes - NRW [REP-645] ⁹
	Dunlin	Yes	Yes - NRW [REP-645] ⁹
	Knot	No	Yes - NRW [REP-645] ⁹
	Oystercatcher	Yes	Yes - NRW [REP-645] ⁹
	Curlew	Yes	Yes - NRW [REP-645] ⁹
	Grey plover	No	Yes - NRW [REP-645] ⁹

⁸ Taken from applicant's Updated HRA Screening matrices [REP-589]

⁹ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised [REP-645]

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Shelduck	Yes	Yes - NRW [REP-645] ¹⁰
	Redshank	Yes	Yes - NRW [REP-645] ¹⁰
	Over wintering waterfowl assemblage	No	Yes - NRW [REP-645] ¹⁰
Burry Inlet Ramsar	Redshank	Yes	Yes - NRW [REP-645] ¹⁰
	Pintail	No	Yes - NRW [REP-645] ¹⁰
	Knot	No	Yes - NRW [REP-645] ¹⁰
	Oystercatcher	Yes	Yes - NRW [REP-645] ¹⁰
	Over wintering waterfowl assemblage	No	Yes - NRW [REP-645] ¹⁰
Cardigan Bay SAC	Sandbanks which are slightly covered by sea water all the time	No	Yes - NRW [REP-645] ¹⁰
	Reefs	No	Yes - NRW [REP-645] ¹⁰
	Submerged or partially submerged sea caves	No	Yes - NRW [REP-645] ¹⁰
	Sea lamprey	No	Yes - NRW [REP-645] ¹⁰

¹⁰ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised **[REP-645]**

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	River lamprey	No	Yes - NRW [REP-645] ¹¹
	Bottlenose Dolphin	No	Yes - NRW [REP-645] ¹¹
	Grey seal	Yes	Yes - NRW [REP-645] ¹¹
Carmarthen Bay and Estuaries SAC	Estuaries	No	Yes - NRW [REP-645] ¹¹
	Mudflats and sandflats not covered by seawater at low tide	No	Yes - NRW [REP-645] ¹¹
	Sandbanks which are slightly covered by sea water all the time	No	Yes - NRW [REP-645] ¹¹
	Large shallow inlet and bays	No	Yes - NRW [REP-645] ¹¹
	<i>Salicornia</i> and other annuals	No	Yes - NRW [REP-645] ¹¹
	Atlantic salt meadows	No	Yes - NRW [REP-645] ¹¹
	Sea lamprey	No	Yes - NRW [REP-645] ¹¹
	River lamprey	No	Yes - NRW [REP-645] ¹¹
	Allis shad	No	Yes - NRW [REP-645] ¹¹

¹¹ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised [REP-645]

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Twaite shad	No	Yes - NRW [REP-645] ¹²
	Otter	No	Yes - NRW [REP-645] ¹²
Carmarthen Bay SPA	Common scoter	No	Yes - NRW [REP-645] ¹²
Cleddau Rivers SAC	Watercourses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	No	Yes - NRW [REP-645] ¹²
	Active raised bogs	No	Yes - NRW [REP-645] ¹²
	Alluvial forests with alder and ash	No	Yes - NRW [REP-645] ¹²
	Sea lamprey	No	Yes - NRW [REP-645] ¹²
	River lamprey	No	Yes - NRW [REP-645] ¹²
	Brook lamprey	No	Yes - NRW [REP-645] ¹²
	Bullhead	No	Yes - NRW [REP-645] ¹²
	Otter	No	Yes - NRW [REP-645] ¹²

¹² It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised [REP-645]

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
Crymlyn Bog SAC	Transition mires and quaking bogs	Yes	Yes - NRW [REP-645] ¹³
	Calcareous fens with <i>Cladium mariscus</i> and species of <i>Caricion davallianae</i>	Yes	Yes - NRW [REP-645] ¹³
	Alluvial forests with alder and ash	No	Yes - NRW [REP-645] ¹³
Crymlyn Bog Ramsar	Valley floodplain topogenous mire and fen	Yes	Yes - NRW [REP-645] ¹³
	Slender cotton-grass	Yes	Yes - NRW [REP-645] ¹³
	Assemblage of vascular plants	Yes	Yes - NRW [REP-645] ¹³
Dunraven SAC	Shore Dock	No	Yes - NRW [REP-645] ¹³
Kenfig SAC	Fixed dunes ('grey dunes')	Yes	Yes - NRW [REP-645] ¹³
	Dunes with <i>Salix repens</i> ssp. <i>argentea</i>	Yes	Yes - NRW [REP-645] ¹³
	Humid dune slacks	Yes	Yes - NRW [REP-645] ¹³
	Petalwort	Yes	Yes - NRW [REP-645] ¹³

¹³ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised **[REP-645]**

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp.	No	Yes - NRW [REP-645] ¹⁴
	Atlantic salt meadows	No	Yes - NRW [REP-645] ¹⁴
Limestone Coast of South West Wales SAC	Vegetated sea cliffs of the Atlantic and Baltic coasts	No	Yes - NRW [REP-645] ¹⁴
	Fixed dunes ("grey dunes")	No	Yes - NRW [REP-645] ¹⁴
	European dry heaths	No	Yes - NRW [REP-645] ¹⁴
	Semi-natural dry grasslands and scrubland facies: on calcareous substrates (<i>Festuco-Brometalia</i>)	No	Yes - NRW [REP-645] ¹⁴
	Caves not open to the public	No	Yes - NRW [REP-645] ¹⁴
	Submerged or partially submerged sea caves	No	Yes - NRW [REP-645] ¹⁴
	Greater horseshoe bat (<i>Rhinolophus ferrumequinum</i>)	No	Yes - NRW [REP-645] ¹⁴
	Petalwort (<i>Petalophyllum ralfsii</i>)	No	Yes - NRW [REP-645] ¹⁴
	Early Gentian (<i>Gentianella anglica</i>)	No	Yes - NRW [REP-645] ¹⁴

¹⁴ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised [REP-645]

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
Lundy SAC	Sandbanks which are slightly covered by sea water all the time	No	Yes – NE [HE-41] ¹⁵
	Reefs	No	Yes – NE [HE-41] ¹⁵
	Submerged or partially submerged sea caves	No	Yes – NE [HE-41] ¹⁵
	Grey seal	Yes	Yes – NE [HE-41] ¹⁵
Pembrokeshire Marine SAC	Sandbanks which are slightly covered by sea water all the time	No	Yes - NRW [REP-645] ¹⁶
	Estuaries	No	Yes - NRW [REP-645] ¹⁶
	Mudflats and sandflats not covered by seawater at low tide	No	Yes - NRW [REP-645] ¹⁶
	Coastal lagoons	No	Yes - NRW [REP-645] ¹⁶
	Large shallow inlets and bays	No	Yes - NRW [REP-645] ¹⁶
	Reefs	No	Yes - NRW [REP-645] ¹⁶
	Atlantic salt meadows	No	Yes - NRW [REP-645] ¹⁶

¹⁵ It is assumed that NE are in agreement with the applicant's conclusion that there would be no likely significant effect on these qualifying features of Lundy SAC **[HE-41]**. Comments received by NE are in relation to grey seal only.

¹⁶ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised **[REP-645]**

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Submerged or partially submerged sea caves	No	Yes - NRW [REP-645] ¹⁷
	Sea lamprey	No	Yes - NRW [REP-645] ¹⁷
	River lamprey	No	Yes - NRW [REP-645] ¹⁷
	Allis shad	No	Yes - NRW [REP-645] ¹⁷
	Twaite shad	No	Yes - NRW [REP-645] ¹⁷
	Shore dock	No	Yes - NRW [REP-645] ¹⁷
	Grey seal	Yes	Yes - NRW [REP-645] ¹⁷
	Otter	No	Yes - NRW [REP-645] ¹⁷
Pen Llyn a'r Sarnau SAC	Sandbanks which are slightly covered by sea water all the time	No	Yes - NRW [REP-645] ¹⁷
	Estuaries	No	Yes - NRW [REP-645] ¹⁷
	Mudflats and sandflats not covered by seawater at low tide	No	Yes - NRW [REP-645] ¹⁷
	Coastal lagoons	No	Yes - NRW [REP-645] ¹⁷

¹⁷ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised **[REP-645]**

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Large shallow inlets and bays	No	Yes - NRW [REP-645] ¹⁸
	Reefs	No	Yes - NRW [REP-645] ¹⁸
	Atlantic salt meadows	No	Yes - NRW [REP-645] ¹⁸
	<i>Salicornia</i> and other annuals colonising mud and sand	No	Yes - NRW [REP-645] ¹⁸
	Submerged or partially submerged sea caves	No	Yes - NRW [REP-645] ¹⁸
	Otter	No	Yes - NRW [REP-645] ¹⁸
	Bottlenose dolphin	No	Yes - NRW [REP-645] ¹⁸
	Grey seal	Yes	Yes - NRW [REP-645] ¹⁸
River Tywi SAC ¹⁹	Brook lamprey	No	Yes - NRW [REP-645] ¹⁸
	Sea lamprey	No	Yes - NRW [REP-645] ¹⁸
	River lamprey	No	Yes - NRW [REP-645] ¹⁸

¹⁸ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised **[REP-645]**

¹⁹ The applicants HRA Screening Matrix **[REP-589]** includes Atlantic salmon; however, this is not a qualifying feature of the River Tywi SAC

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Allis shad	No	Yes - NRW [REP-645] ²⁰
	Twaite shad	No	Yes - NRW [REP-645] ²⁰
	Bullhead	No	Yes - NRW [REP-645] ²⁰
	Otter	No	Yes - NRW [REP-645] ²⁰
River Usk SAC	Water courses of plain to montane levels with the <i>Ranunculus fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	No	Yes - NRW [REP-645] ²⁰
	Brook lamprey	No	Yes - NRW [REP-645] ²⁰
	Sea lamprey	Yes	Yes - NRW [REP-645] ²⁰
	River lamprey	No	Yes - NRW [REP-645] ²⁰
	Allis shad	Yes	Yes - NRW [REP-645] ²⁰
	Twaite shad	Yes	Yes - NRW [REP-645] ²⁰
	Salmon	Yes	Yes - NRW [REP-645] ²⁰

²⁰ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised [REP-645]

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Bullhead	No	Yes - NRW [REP-645] ²¹
	Otter	No	Yes - NRW [REP-645] ²¹
River Wye SAC	Watercourses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation	No	Yes - NRW [REP-645] ²¹
	Transition mires and quaking bogs	No	Yes - NRW [REP-645] ²¹
	Freshwater white-clawed crayfish	No	Yes - NRW [REP-645] ²¹
	Brook lamprey	No	Yes - NRW [REP-645] ²¹
	Sea lamprey	Yes	Yes - NRW [REP-645] ²¹
	River lamprey	No	Yes - NRW [REP-645] ²¹
	Allis shad	Yes	Yes - NRW [REP-645] ²¹
	Twaite shad	Yes	Yes - NRW [REP-645] ²¹
	Salmon	Yes	Yes - NRW [REP-645] ²¹

²¹ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised [REP-645]

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Bullhead	No	Yes - NRW [REP-645] ²²
	Otter	No	Yes - NRW [REP-645] ²²
Severn Estuary SAC	Estuaries	No	Yes - NRW [REP-645] ²²
	Mudflats and sandflats not covered by seawater at low tide	No	Yes - NRW [REP-645] ²²
	Sandbanks which are slightly covered by sea water all the time	No	Yes - NRW [REP-645] ²²
	Reefs	No	Yes - NRW [REP-645] ²²
	Atlantic salt meadows	No	Yes - NRW [REP-645] ²²
	Sea lamprey	Yes	Yes - NRW [REP-645] ²²
	River lamprey	No	Yes - NRW [REP-645] ²²
	Twaite shad	Yes	Yes - NRW [REP-645] ²²
Severn Estuary SPA	Bewick's swan	No	Yes - NRW [REP-645] ²²
	European white-fronted goose	No	Yes - NRW [REP-645] ²²

²² It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised [REP-645]

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Dunlin	No	Yes - NRW [REP-645] ²³
	Redshank	No	Yes - NRW [REP-645] ²³
	Shelduck	No	Yes - NRW [REP-645] ²³
	Gadwall	No	Yes - NRW [REP-645] ²³
	Over wintering waterfowl assemblage	No	Yes - NRW [REP-645] ²³
Severn Estuary Ramsar	Estuaries (form and function)	No	Yes - NRW [REP-645] ²³
	Mudflats and sandflats not covered by seawater at low tide	No	Yes - NRW [REP-645] ²³
	Sandbanks which are slightly covered by sea water all the time	No	Yes - NRW [REP-645] ²³
	Atlantic salt meadows	No	Yes - NRW [REP-645] ²³
	Bewick's swan	No	Yes - NRW [REP-645] ²³
	European white-fronted goose	No	Yes - NRW [REP-645] ²³
	Dunlin	No	Yes - NRW [REP-645] ²³

²³ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised **[REP-645]**

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

European site	Qualifying features	Screening result ⁸ : likely significant effect alone or in combination?	Agreed with SCNB and/or other Interested Parties?
	Redshank	No	Yes - NRW [REP-645] ²⁴
	Shelduck	No	Yes - NRW [REP-645] ²⁴
	Gadwall	No	Yes - NRW [REP-645] ²⁴
	Over wintering waterfowl assemblage	No	Yes - NRW [REP-645] ²⁴
	Atlantic salmon	Yes	Yes - NRW [REP-645] ²⁴
	Sea trout	Yes	Yes - NRW [REP-645] ²⁴
	Sea lamprey	Yes	Yes - NRW [REP-645] ²⁴
	River lamprey	No	Yes - NRW [REP-645] ²⁴
	Eel	Yes	Yes - NRW [REP-645] ²⁴
	Twaite shad	Yes	Yes - NRW [REP-645] ²⁴
	Allis shad	Yes	Yes - NRW [REP-645] ²⁴

²⁴ It is assumed that NRW are in agreement with the applicant's conclusion with respect to this qualifying feature as no dispute or objection was raised **[REP-645]**

APPENDIX 3: Summary of adverse effects on site integrity and mitigation

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
Burry Inlet SPA and Ramsar			
Teal	No [Stage 2 Matrices 1 and 2 in REP-590]	Yes - NRW [REP-645]	<p>The applicant has proposed mitigation in the form of the planned schedule of Lagoon seawall construction activities during April to September (outside of the winter period) to avoid indirect displacement/ disturbance effects on birds using parts of Swansea Bay, in particular on the eastern side of the Bay as the works are considered to occur within disturbance distances recorded for birds [REP-584 and REP-590]. The applicant has also proposed that dredging works will primarily be undertaken outside of the overwinter period, thereby avoiding indirect effects on prey during construction [REP-584 and REP-590].</p> <p>Section 6 of the Construction Environmental Management Plan (CEMP) includes two points relating to phasing and timing of the seawall construction works [REP-874 and REP-875]. The CEMP is secured through Requirement 6 of the DCO [REP-865 and REP-866].</p>
Dunlin	No [Stage 2 Matrices 1 and 2 in REP-590]		
Oystercatcher	No [Stage 2 Matrices 1 and 2 in REP-590]		
Curlew	No [Stage 2 Matrices 1 and 2 in REP-590]		
Shelduck	No [Stage 2 Matrices 1 and 2 in REP-590]		
Redshank	No [Stage 2 Matrices 1 and 2 in REP-590]		

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
Migratory fish population of the River Severn SAC and Ramsar, River Usk SAC, and River Wye SAC			
Atlantic salmon	No [Stage 2 Matrices 3, 4 and 6 in REP-590]	Yes - NRW [REP-645]	<p>The applicant has proposed mitigation in the form of a short period of piling during construction (10-15 days), which will predominantly comprise of vibro-piling in preference over impact piling. Where impact piling occurs, the applicant states that this will be of short duration and a soft-start procedure will be applied. The applicant has included this mitigation measure in Section 4 of the CEMP (see Paragraph 4.0.0.9) [REP-874 and REP-875]. The CEMP is secured through Requirement 6 of the DCO [REP-865 and REP-866].</p> <p>During operation, the applicant states that fish that are hearing specialists would be deterred from the turbines through the implementation of Acoustic Fish Deterrents (AFDs) [REP-584 and REP-590]. The DCO includes for a 'fish and shellfish mitigation strategy' as Requirement 28 [REP-865 and REP-866]. Fish behavioural guidance devices were originally included in the applicant's fish and shellfish mitigation strategy within earlier versions of the draft DCO [APP-081 and REP-614]; however, the applicant is currently proposing to only include for acoustic fish deterrents should STRIKER modelling of the selected turbines predict a level of mortality of 2% in relation to sea trout [REP-865 and REP-866].</p> <p>Mitigation is proposed by the applicant to include directional lighting and minimising light spill [REP-</p>
Sea trout	No [Stage 2 Matrix 6 in REP-590]		
Allis shad	No [Stage 2 Matrices 3, 4 and 6 in REP-590]		
Twaite shad	No [Stage 2 Matrices 3 to 6 in REP-590]		
Sea lamprey	No [Stage 2 Matrices 3 to 6 in REP-590]		
European eel	No [Stage 2 Matrix 6 in REP-590]		

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
			<p>584 and REP-590]. A construction and security lighting scheme is included as Requirement 25 in the DCO [REP-865 and REP-866].</p> <p>The applicant has also proposed mitigation measures to reduce the release of suspended sediment into the water column during construction (see Paragraph 10.5.0.25) [REP-584]. The applicant has included measures for impacts on fish and shellfish as a result of suspended sediment and deposition in Section 4 of the CEMP (see Paragraphs 4.0.0.1 to 4.0.0.8) [REP-874 and REP-875].</p> <p>Despite the proposal of a number of mitigation measures in the Updated HRA report, the applicant also states that the number of migratory fish in Swansea Bay that are associated with European sites is low [REP-584 and REP-590].</p>
Grey seal population of Cardigan Bay SAC, Lundy SAC, Pembrokeshire Marine SAC, and Pen Llyn a'r Sarnau SAC			
Grey seal	No [Stage 2 Matrices 7 to 10 in REP-590]	Yes – NRW [REP-645] Yes – NE [HE-41]	<p>To mitigate for impacts of noise during construction on marine mammals, the applicant has proposed mitigation in their Updated HRA report in the form of a short period of piling during construction (10 to 15 days), which will predominantly comprise of vibro-piling [REP-584 and REP-590]. Where impact piling occurs, the applicant states that this will be of short duration [REP-584 and REP-590]. A soft-start piling methodology is proposed to be employed for all piling in the Updated HRA report [REP-584]. The applicant stated in their Updated HRA report that</p>

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
			<p>no night-time works are proposed and the adoption of JNCC's 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals during piling' [REP-584].</p> <p>Mitigation measures have been included in Section 5 of the CEMP for piling activities associated with the dolphin piles and measures associated with all other piling activities [REP-874 and REP-875]. Measures for all piling activities except for the dolphin piles include the following: the use of low-noise piling techniques, such as vibro-piling, where possible; no piling to be undertaken during the hours of darkness or poor visibility; the switch to percussive piling to take place within 20 minutes of cessation of vibro-piling – beyond 20 minutes additional measures are specified to be put in place; and soft-start for percussive piling; and percussive piling to commence using an agreed soft-start procedure [REP-874 and REP-875]. It is noted that the latest version of the CEMP states that there will be no piling 'during the hours of darkness and in poor visibility, as shown on the piling plan TLP-SWANSEA BAY-141003-V0.2' [REP-874 and REP-875]; however, the latest piling plan submitted for Deadline IV of 7 October 2014 includes for piling of Area F 'Slurry wall in bund wall' 24/7 over a period of 6 weeks [REP-813].</p> <p>In respect of piling associated with the installation of the dolphin piles for the project, the applicant has stated that mitigation and monitoring during any</p>

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
			<p>vibro-piling or impact piling will follow JNCC's 'Statutory nature conservation agency protocol for minimising the risk of injury to marine mammals during piling' [REP-874 and REP-875]. The installation of the dolphin piles will be undertaken in daylight only and a soft-start procedure will be applied [REP-874 and REP-875]. During the installation of the dolphin piles, marine mammal monitoring will be carried out by a Marine Mammal Observer and acoustically using appropriate Passive Acoustic Monitoring (PAM), within an established 500m mitigation zone around the piling activity [REP-874 and REP-875]. A number of conditions are also included in the CEMP [REP-874 and REP-875]. The applicant has included an objective in the AEMP relating to minimising and further understanding the potential effects of construction on marine mammals (See Section 9.3.2) [REP-846]. The AEMP is secured through Requirement 7 of the DCO [REP-865 and REP-866].</p> <p>To mitigate for potential collision risk impacts during construction, the applicant has proposed speed restrictions. Paragraph 5.0.0.7 of the CEMP includes for a speed restriction of 6 knots maximum for work vessels when moving about the site (where possible) and a proposal to follow JNCC guidance on reducing the risk of corkscrew injuries is included in Paragraph 5.0.0.8 [REP-874 and REP-875]. The precise guidance and detail of any measures to be followed is not specified in the CEMP. The CEMP is secured</p>

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
			<p>through Requirement 6 of the draft DCO [REP-865 and REP-866].</p> <p>In respect of turbine collision risk impacts during operation, the applicant states given the low number of grey seals recorded the risk of collision with the turbines is low. The applicant also states that notwithstanding this, a package of adaptive monitoring and mitigation measures will be agreed with NRW [REP-584]. In addition, the applicant states that the AFDs proposed for fish will also provide some early acoustic warning for marine mammals [REP-584]. It is noted that no acoustic fish deterrents are currently proposed to be installed for the project unless modelling of the selected turbines predict a level of mortality of 2% in relation to sea trout [REP-865 and REP-866].</p> <p>The applicant stated that turbine collision risk monitoring as part of the adaptive monitoring and mitigation strategy may include the detection of mammals using both surface detection (using a qualified Marine Mammal Observer) and an active sonar system [REP-584]. The applicant also acknowledged that software is being developed for the detection and classification of marine mammals using active sonar which could be developed as part of an automated system [REP-584]. The applicant has also proposed that prior to the installation of acoustic deterrents, acoustic modelling of the proposed devices should be undertaken to ensure the</p>

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
			<p>spread of noise is not excessive, which might interfere with the natural movement of marine mammals [REP-584]. To assess the potential noise effects of the operational turbines and the effectiveness of AFDs, the applicant had proposed to examine marine mammal reaction to noise, by using both acoustic data loggers and visual observation from survey vessels [REP-584]. The applicant states that carcass surveillance and reporting of collision events or near misses will also be used to inform the mitigation and monitoring protocols [REP-584]. Section 9.3.3 of the AEMP includes for monitoring and management of the potential for interaction of marine mammals with the project during operation, including reference to modelling of acoustic deterrents and surface detection and PAM monitoring of marine mammals during operation [REP-846]. The AEMP is secured through Requirement 7 of the DCO [REP-865 and REP-866].</p> <p>The applicant has considered that the lagoon does not form a barrier to grey seal movement, and given the small numbers of grey seals that use Swansea Bay, the applicant considers that the risk of animals becoming trapped in the lagoon is considered not significant in terms of the European sites, a capture and release protocol is proposed to be developed by the applicant with guidance of appropriate stakeholders [REP-584]. The applicant has included in the draft Operational Environmental Management</p>

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

Features	Applicant’s position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
			Plan (OEMP) at Section B (Contents of the outline OEMP) for a capture and release procedure to be implemented [REP-876 and REP-877] . Section 9.3.3 of the AEMP includes further information relating to the management of marine mammals found within the lagoon (see Paragraphs 9.3.3.23 and 9.3.3.24) [REP-846] . The OEMP is secured through Requirement 6 of the DCO and the AEMP is secured through Requirement 7 [REP-865 and REP-866] .
Crymlyn Bog SAC			
Transition mires and quaking bogs	No [Stage 2 Matrix 10 in REP-590]	Yes – NRW [REP-645]	The applicant concludes the effect will be temporary in nature and the predicted increase in emissions of just over 1% of the critical load for the European site will be adequately mitigated by overall reductions in pollutant deposition across Wales, due to improvements in industrial and vehicle emissions, and the fact that the emission is short-lived [REP-590] .
Calcareous fens with <i>Cladium mariscus</i> and species of <i>Caricion davallianae</i>	No [Stage 2 Matrix 10 in REP-590]		
Crymlyn Bog Ramsar			
Valley floodplain topogenous mire and fen	No [Stage 2 Matrix 11 in REP-590]	Yes – NRW [REP-645]	The applicant concludes the effect will be temporary in nature and the predicted increase in emissions of just over 1% of the critical load for the European site will be adequately mitigated by overall reductions in pollutant deposition across Wales, due to improvements in industrial and vehicle emissions, and the fact that the emission is short-lived [REP-
Slender cotton-grass	No [Stage 2 Matrix 11 in REP-590]		

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
Assemblage of vascular plants	No [Stage 2 Matrix 11 in REP-590]		590].
Kenfig SAC			
Fixed dunes ('grey dunes')	No [Stage 2 Matrix 12 in REP-590]	No – NRW [REP-645 and REP-747]	<p>The applicant concluded no adverse effects on the integrity of Kenfig SAC on the basis of the following [REP-584]:</p> <ul style="list-style-type: none"> • The volumes of both capital and maintenance dredge material required for the project fall well within the historic capacity of the Outer Swansea disposal ground (LU130). The worst case scenario for the volume of dredged disposal generated by the project annually during operation is 1 million wet tonnes. The applicant anticipates that the maintenance dredging of the lagoon would not need to commence until 10 to 15 years after the completion of construction and would then be performed approximately every two years. • The current licensed disposal for both Swansea and Port Talbot allow for up to 4.1 million m³ (equivalent to c. 5.3 million wet tonnes); • The numerical modelling undertaken for the project found that any predicted increase in Suspended Sediment Concentrations (SSC) tends to be constrained to the deeper central
Dunes with <i>Salix repens</i> ssp. <i>Argentea</i>	No [Stage 2 Matrix 12 in REP-590]		
Humid dune slacks	No [Stage 2 Matrix 12 in REP-590]		
Petalwort	No [Stage 2 Matrix 12 in REP-590]		

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
			<p>region of Swansea Bay;</p> <ul style="list-style-type: none"> • The predicted changes in SSC adjacent to Kenfig SAC are within the range of background variation; • No long-term sedimentation is predicted to occur across Kenfig Sands; • Any sediment deposited over slack water is shown to be remobilised on the subsequent tide and further dispersed; • There has been no distinguishable accretion of mud across Kenfig Sands historically even though dredging and disposal activities have been ongoing; • There was no observed accretion of mud either across Kenfig or Margam Sands during 1996, when the greatest volume of sediment (9.1 million wet tonnes) was deposited at the licensed disposal ground (LU130); • There is no evidence to suggest that the disposal of mud at the Outer Swansea disposal ground (LU130) will hinder the transport of sand to beaches along the eastern shoreline of Swansea Bay (i.e. Kenfig Sands); • The Outer Swansea disposal ground (LU130) was selected as a highly dispersive site with little or no change observed to the surveyed depths, despite the disposal of an average of

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
			<p>2.6 million wet tonnes of fine material each year;</p> <ul style="list-style-type: none"> • It is considered that deposited material does not form a permanent barrier to any sand source that may be present in the region; and • Recent accretion to Kenfig Sands suggests that sand supply to Kenfig has been relatively healthy between 2008 and 2013, and it is reasonable to surmise that sand material continues to be aperiodically transported from the offshore region to Kenfig Sands, despite the continuing disposal activity at the licensed disposal ground (LU130). <p>The applicant proposed in their Updated HRA report to use ongoing and additional beach profile data collected by Swansea and Carmarthen Bay Coastal Engineering Group (SCBCEG) [REP-584]. The applicant stated that the need for TLSB to undertake its own monitoring at any of the SCBCEG sites will be undertaken if ongoing monitoring by SCBCEG is not carried out or if the reported results indicate that additional assessment is needed [REP-584]. The applicant also proposed to undertake a review of historical aerial images for the area and to undertake high-resolution surveys of the coastal area from Mumbles to Kenfig [REP-584]. In addition, the applicant proposed to undertake photographic records at key areas and bathymetric surveys every</p>

Tidal Lagoon Swansea Bay
Report on the Implications for European Sites

Features	Applicant's position regarding adverse effect on integrity?	Agreed with Interested Parties?	Comments
			<p>five years [REP-584].</p> <p>The applicant states that the need to dredge will be monitored and based on this monitoring, a dredging strategy will be developed and a licence for disposal will be discussed and agreed with NRW [REP-584].</p>

APPENDIX D: EVENTS IN THE EXAMINATION

The table below lists the main events occurring during the examination and the main procedural decisions taken by the Examining Authority.

Date	Examination Event
09 June 2014	Unaccompanied Site Visit – Swansea Bay
10 June 2014	Examination begins
17 June 2014	Issue by ExA of: <ul style="list-style-type: none"> • Examination timetable • Examining Authority's First Written Questions
24 June 2014	Interested Parties Deadline I <p>For receipt of:</p> <ul style="list-style-type: none"> • Notification of wish by an interested party to be heard at an open floor hearing • Notification by an affected person of wish for compulsory acquisition hearing to be held • Notification of wish to make oral representations at the issue-specific hearing • Submission of suggested locations/sites for the Panel to include as part of the accompanied site visit (ASV) • Notification from statutory parties that they wish to be considered an interested party • Notification by interested party of their intention to attend the Panel's inspection of sites in the company of interested parties.
07 July 2014	Unaccompanied Site Visit – Swansea Bay
09 July 2014	Interested Parties Deadline II <p>For the receipt of:</p> <ul style="list-style-type: none"> • Summaries of all Relevant Representations (RRs) exceeding 1500 words • Written representations (WRs) by all interested parties • Summaries of all WRs exceeding 1500 words • Local Impact Report from any local authorities • Statements of Common Ground requested by ExA • Responses to ExA's first round of written questions • Any updated documents from the applicant including updated HRA matrices • Comments on any submissions received prior to the Preliminary Meeting
29 July 2014	Open Floor Hearing

30 July 2014	Accompanied Site Visit Inspection of the site in the company of interested parties
31 July 2014	Issue Specific Hearing <ul style="list-style-type: none"> • The draft DCO: Introductory issues
05 August 2014	Interested Parties Deadline III: For the receipt of: <ul style="list-style-type: none"> • Comments on RRs and on WRs (including any revised DCO from the applicant) • Comments on Local Impact Reports • Comments on responses to ExA's first round of written questions • Written summaries of oral cases made at hearings held in the week commencing 28 July 2014 and any related information
16 September 2014	Issue Specific Hearing <ul style="list-style-type: none"> • Habitats Regulation Assessment (HRA) (including methodology and impacts on marine mammals) • Impacts on other protected species and habitats • Impacts on fishing and navigation • Hydrology and physical processes • Waste water impacts • Construction impacts and socio-economic matters • Monitoring, management and mitigation plans and provisions
16 September 2014	Issue Specific Hearing <ul style="list-style-type: none"> • HRA
17 September 2014	Issue Specific Hearing <ul style="list-style-type: none"> • HRA (including methodology and impacts on marine mammals) • Impacts on other protected species and habitats • Impacts on fishing and navigation • Hydrology and physical processes • Waste water impacts • Construction impacts and socio-economic matters • Monitoring, management and mitigation plans and provisions
18 September 2014	Issue Specific Hearing

	<ul style="list-style-type: none"> • HRA (including methodology and impacts on marine mammals) • Impacts on other protected species and habitats • Impacts on fishing and navigation • Hydrology and physical processes • Waste water impacts • Construction impacts and socio-economic matters • Monitoring, management and mitigation plans and provisions
23 September 2014	Issue Specific Hearing <ul style="list-style-type: none"> • Continuation of issue specific hearing • HRA
24 September 2014	Unaccompanied Site Visit – Swansea
30 September 2014	Compulsory Acquisition Hearing
07 October 2014	Interested Parties Deadline IV For receipt of: <ul style="list-style-type: none"> • Any outstanding comments from interested parties on documents submitted for Deadlines II and III • Comments on documents submitted on 1 September 2014 by the applicant • Comments received on public consultation • All post hearing documents (including any revised DCO from the applicant) • All written summaries of oral cases made at all hearings and any requested related information
21 October 2014	Issue Specific/Compulsory Acquisition Hearing <ul style="list-style-type: none"> • Compulsory acquisition and outstanding matters including the DCO
23 October 2014	Issue Specific/Compulsory Acquisition Hearing <ul style="list-style-type: none"> • Compulsory acquisition and outstanding matters including the DCO
28 October 2014	Interested Parties Deadline V For receipt of: <ul style="list-style-type: none"> • All post hearing documents (including any revised DCO from the applicant) • All written summaries of oral cases made at DCO hearings
28 October 2014	Unaccompanied Site Visit

11 November 2014	Issue by ExA of: <ul style="list-style-type: none"> • The Report on the Implications on European Sites (RIES) • Draft DCO including any changes proposed by the ExA
17 November 2014	Unaccompanied Site Visit – La Rance Tidal Barrage
25 November 2014	Interested Parties Deadline VI For receipt of: <ul style="list-style-type: none"> • Comments on the Report on the Implications for European Sites (RIES) • Comments on any changed to the DCO in the consultation draft only (including any revised DCO from the applicant) • Comments received on public consultation • Comments on paper alternative DCO drafting • Responses to Rule 17 requests for further information
04 December 2014	Interested Parties Deadline VII For receipt of: <ul style="list-style-type: none"> • Comments on responses received on deadline VI • Submission of any outstanding Section 16 Agreements or other obligations
08 December 2014	Interested Parties Deadline VIII For receipt of: <ul style="list-style-type: none"> • Responses to Rule 17 questions set out in letter dates 02 December 2014
10 December 2014	Close of Examination

APPENDIX E: LIST OF ABBREVIATIONS

Abbreviation or usage	Reference
AA	Appropriate Assessment
ABP	Associated British Ports
ADD	Acoustic Deterrent Devices
AEMP	Adaptive Environmental Monitoring Plan
AFD	Acoustic Fish Deterrents
AONB	Area of Outstanding Natural Beauty
APFP	Applications: Prescribed Forms and Procedures
AP	Affected Person
AQMA	Air Quality Management Area
BAP	Biodiversity Action Plan
BoR	Book of Reference
CA	Compulsory Acquisition
CAA	Civil Aviation Authority
Cadw	The Welsh Government's historic environment service
CCSC	City and County of Swansea Council
CD	Chart Datum
CDM	Construction (Design and Management)
Cefas	Centre for Environment, Fisheries and Aquaculture Science
CEMP	Constructive Environmental Management Plan
CIA	Cumulative Impact Assessment
CIS	Common Implementation Strategy
CPO	Compulsory purchase order, not made under the Planning Act 2008
CRA	Collision Risk Assessment
CRM	Collision Risk Model
CPTMP	Construction Traffic Management Plan
sac	candidate Special Area of Conservation
DAM	Development Advice Map
DBT	Dibutyltin
DCLG	Department for Communities and Local Government
DCLG compulsory acquisition guidance	'Planning Act 2008: Guidance related to procedures for the compulsory acquisition of land', Department of Communities and Local Government, September 2013
DCO	Development consent order (made or proposed to be made under the Planning Act 2008 (as amended))
DCWW	Dwr Cymru Welsh Water
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DIO	Ministry of Defence – Defence Infrastructure Organisation

Abbreviation or usage	Reference
DML	Deemed marine licence
DPD	Development Plan Documents
EA	Environment Agency
EC	European Commission
EEA	European Economic Area
EEZ	Exclusive Economic Zone
EH	English Heritage
EIA	Environmental Impact Assessment
EMF	Electro Magnetic Field
EPR	Examination Procedure Rules
EPS	European Protected Species
ERCoP	Emergency Response Co-operation Plan
ES	Environmental Statement
EU	European Union
ExA	Examining Authority
FCA	Flood Consequence Assessment
FOAK	First of a Kind
FRA	Flood Risk Assessment
GES	Good Environmental Status
GEP	Good Ecological Potential
GCNHSW	Gig/Cymru NHS Wales
ha	Hectare
HDD	Horizontal Directional Drilling
HM	Harbour Master
HMWB	Heavily Modified Water Body
HPA	Health Protection Agency
HRA	Habitat Regulations Assessment
HSC	Historic Seascape Characterisation
HSE	Health and Safety Executive
IBM	Individual Based Modelling
ICNIRP	International Commission on Non-Ionising Radiation Protection
IP	Interested Party
ISH	Issue Specific Hearing
JNCC	Joint Nature Conservation Committee
LA	Local Authority
LAT	Lowest Astronomical Tide
LBAP	Local Biodiversity Action Plan
LBBG	Lesser Black-backed Gull
LDF	Local Development Framework
LFRMS	Local Flood Risk Management Strategy
LIR	Local Impact Report
LPA	Local Planning Authority
MACAA2009	Marine and Coastal Access Act 2009
MCA	Maritime and Coastguard Agency
MCSC	Monkstone Cruising and Sailing Club
MCZ	Marine Conservation Zone

Abbreviation or usage	Reference
MDHC	Mersey Docks and Harbour Company
MEMP	Major Event Management Plan
MES	Major Events Strategy
MHWS	Mean High Water Springs
MLT	Marine Licensing Team
MMMP	Marine Mammal Mitigation Protocol
MMO	Marine Management Organisation
MoD	Ministry of Defence
MPS	Marine Policy Statement
MSCC	Manchester Ship Canal Company Limited
MW	Megawatt
NE	Natural England
NERCA2006	The Natural Environment and Rural Communities Act
NERL	NATs En Route Ltd
NETS	National Energy Transmission System
NFFO	National Federation of Fishermen's Organisations
NGET	National Grid Electricity Transmission plc
nm	Nautical Miles
NMPW	National Marine Plan for Wales
NNR	National Nature Reserve
NOAK	Next of a Kind
NPA	Neath Port Authority
NPPF	National Planning Policy Framework
NPPG	National Planning Practice Guidance
NPS	National Policy Statement
NPTCBC	Neath Port Talbot County Borough Council
NRA	Navigation Risk Assessment
NRW/CNC	Natural Resources Wales / Cyfoeth Naturiol Cymru
NSIP	Nationally Significant Infrastructure Project
OEMP	Operational Environmental Management Plan
OFCOM	The independent regulator and competition authority for UK communications industries
OFGEM	The independent regulator and competition authority for UK gas and electricity markets
OFTO	Offshore transmission owner
OPTMP	Operational Phase Travel Management Plan
PA2008	Planning Act 2008
PAH	Polyaromatic Hydrocarbons
PAM	Passive Acoustic Monitoring
PASAS	Pontardawe and Swansea Angling Society Ltd
PCB	Polychlorinated Biphenyl
PET	Porthcawl Environmental Trust
PPW	Planning Policy Wales
PVA	Population Viability Analysis

Abbreviation or usage	Reference
Ramsar	The Ramsar Convention on Wetlands
RBD	River Basin Districts
RBMP	River Basin Management Plan
RES	Renewable Energy Sources
REWS	Radar Early Warning System
REZ	Renewable Energy Zone
RIES	Report on the Implications for European Sites
RM	Royal Mail
RPD	Radiation Protection Division
RR	Relevant Representation
RSPB	Royal Society for the Protection of Birds
RWG	Rhosilli Working Group
RYA	Royal Yachting Association
SAC	Special Area of Conservation
SAR	Search and Rescue
SAFFA	Salmon and Freshwater Fisheries Act
SEF	Swansea Environmental Forum
SINC	Site of Importance for Nature Conservation
SLVIA	Seascape, Landscape and Visual Impact Assessment
SNCB	Statutory Nature Conservation Body
SNCBs	Statutory nature conservation bodies – a collective reference
SoCG	Statement of Common Ground
SoS	Secretary of State
SPA	Special Protection Area
SPV	Special Purpose Vehicle
SSECC	Secretary of State for Energy and Climate Change
SSSI	Sites of Special Scientific Interest
SUBC	Swansea University Bay Campus
SuDS	Sustainable Drainage Systems
SUP	Shared Use Path
SLVIA	Seascape, Landscape and Visual Impact Assessment
TB	Transboundary
TBT	Tributyltin
TLSB	Tidal Lagoon Swansea Bay
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UV	Ultra Violet
VER	Valued Ecological Receptors
WR	Written Representation
WFD	Water Framework Directive
WPD	Western Power Distribution
WSI	Written Scheme of Investigation

Abbreviation or usage	Reference
WTSWW	Wildlife Trust of South and West Wales
WWF	World Wide Fund for Nature
WWT	Wildlife and Wetlands Trust
WWTW	Waste Water Treatment Works
ZTV	Zone of theoretical visibility