

# The Planning Inspectorate Yr Arolygiaeth Gynllunio

The Planning Act 2008 (as amended)

South Hook Combined Heat and Power Plant

Examining Authority's Report of Findings and Conclusions

and

Recommendation to the Secretary of State for Energy and Climate Change

Jonathan Green

**Examining Authority** 

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# Examining Authority's findings and conclusions and recommendation in respect of South Hook Combined Heat and Power Plant

### File Ref E010054

This application for a development consent order by QPI Global Ventures Limited, dated 31 May 2013, was made under section 37 of the Planning Act 2008 and was received by The Planning Inspectorate on 31 May 2013.

The proposed development comprises a combined heat and power plant burning natural gas with a maximum output of 500 MWe. Heat generated in the plant would be used in the neighbouring liquid natural gas (LNG) terminal to vaporise LNG.

The application was accepted for examination on 26 June 2013 and the Preliminary Meeting was held on 23 October 2103.

The Examination of the application was completed on 23 April 2014.

#### Summary of Recommendation:

The Examining Authority recommends that the Secretary of State should make the Order in the form attached as Appendix 4.

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# ERRATA SHEET – South Hook Combined Heat & Power Station - Ref. EN010054

Examining authority's Report of Findings and Conclusions and Recommendation to the Secretary of State for the Department of Energy and Climate Change, dated **23 July 2014.** 

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

Page No.	Paragraph	Error	Correction
18	3.7	The Carbon Capture Readiness (Electricity Generating Stations) Regulations 2013 (the CCR Regulations) provide that the Secretary of State may not grant a DCO for combustion plant with a rated output of 300 MW or more unless he determines that the CCR conditions are met.	The Carbon Capture Readiness (Electricity Generating Stations) Regulations 2013 (the CCR Regulations) provide that the Secretary of State may not grant a DCO for combustion plant with a rated output of 300 MW or more unless he has determined whether the CCR conditions are met.
67	4.191	The CCR Regulations provide that the Secretary of State may not grant a DCO for a combustion plant with a rated output of 300 MW or more unless he determines that the 'CCR conditions' are met.	The CCR Regulations provide that the Secretary of State may not grant a DCO for a combustion plant with a rated output of 300 MW or more unless he has determined whether the 'CCR conditions' are met.
89	6.25	Requirement 15	Requirement 16

#### 1 INTRODUCTION

- 1.1 This application for a development consent order (DCO) for the South Hook Combined Heat and Power Plant was submitted by QPI Global Ventures Limited (the applicant) on 31 May 2013. The application was formally accepted on 26 June 2013 under the provisions of section 55 of the Planning Act 2008 (as amended) (PA 2008).
- 1.2 The application is for a Combined Heat and Power (CHP) plant (the CHP plant) burning natural gas with a maximum output of 500 MWe. As such it is a Nationally Significant Infrastructure Project (NSIP) as defined in section 14(1)a and section 15 of PA 2008. Heat generated in the plant would be used in the neighbouring Liquid Natural Gas (LNG) Terminal to vaporise LNG. A connection to the national electricity grid would be necessary to export electricity generated but that would be the subject of a separate application.
- 1.3 The application is Environmental Impact Assessment (EIA) development as defined by Regulation 2(1) of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended). It was accompanied by an Environmental Statement (ES) which in my view complies with these Regulations. The ES (APP-018 APP-064) was compiled following consultation on an earlier Scoping Report (PD-004) and takes into account the views of the Secretary of State set out in a Scoping Opinion published in July 2012 (PD-003).<sup>1</sup>
- 1.4 Following acceptance of the application I, an Examining Inspector with the Planning Inspectorate, was appointed as Examining Authority (ExA) on 28 August 2013 to carry out the Examination of the application.
- 1.5 The application has been examined under the provisions of PA 2008 and The Infrastructure Planning (Examination Procedure) Rules 2010 (as amended) (EPR). The accepted application was advertised by the applicant and 32 relevant representations were received from interested parties (IP).
- 1.6 On 26 September 2013 I gave notice of the Preliminary Meeting to be held in Milford Haven on 23 October 2013 and issued an initial assessment of principal issues that I expected to consider during the Examination with a draft timetable for the Examination (DEC-004). On 30 October 2013 I issued the timetable for the Examination, a revised list of issues to be addressed and my first set of written questions and requests for information (DEC-005).

<sup>&</sup>lt;sup>1</sup> References such as APP-018 and PD-003 are to documents submitted by the applicant, statutory bodies and interested parties. These are listed in full in the Examination Library set out at Appendix 1.

A second round of questions was issued later in the Examination (DEC-006) and a number of additional questions and requests for information were also issued (DEC-007, 008, 011).

- 1.7 Local Impact Reports (LIR) were received from the Pembrokeshire Coast National Park Authority (PCNPA) (REP-018) and Pembrokeshire County Council (PCC) (REP-019).
- 1.8 On 15 January 2014 I held an Issue Specific Hearing (ISH) on local environmental issues. An Open Floor Hearing (OFH) was requested and was held on 5 March 2014 and a further ISH on the draft DCO and LIR issues was held on 6 March 2014.
- 1.9 I carried out an accompanied site visit on 14 January 2014 during which I visited the application site, a number of locations in the vicinity from which the proposed development would be visible and local roads that would be used by construction traffic. I also made unaccompanied site visits to other locations from where the application site is visible. A full list of events in the Examination is set out in Appendix 2.
- 1.10 In addition to the DCO the proposed development will require an environmental permit controlling emissions to air and water. An application for this permit was submitted to Natural Resources Wales (NRW) by the applicant on 22 October 2013 and was deemed by NRW to be 'duly made' on 12 November 2013 (REP-009).
- 1.11 The proposed development would be likely to have a significant effect on a number of European sites as defined in Regulation 3 of the Conservation of Habitats and Species Regulations 2010 (the Habitats Regulations 2010) and therefore an appropriate assessment of the implications for any European sites will need to be carried out by the Secretary of State.<sup>2</sup> To assist the Secretary of State a Report on the Implications for European Sites (RIES) has been prepared (REP-047).
- 1.12 As noted above the development would require a connection to the national grid in order to export electricity. This does not form part of the current application and would be the subject of separate consenting procedures depending on the nature of the proposed connection. Nonetheless consideration is given to the grid connection in this report in so far as this is relevant to the assessment of environmental issues in respect of the CHP plant.

<sup>&</sup>lt;sup>2</sup> European sites include Special Areas of Conservation (SACs), candidate SACs (cSACs) and Special Protection Areas (SPAs), which are protected under the Habitats Regulations. As a matter of policy, Government also applies the procedures of the Habitats Regulations to potential SPAs (pSPAs), Ramsar sites, and (in England) listed or proposed Ramsar sites and possible Special Areas of Conservation, and sites identified, or required, as compensatory measures for adverse effects on any of the above sites.

1.13 In accordance with sections 83(1)(b)(i) and (ii) of PA 2008, this report sets out my findings and conclusions in respect of the application and my recommendation to the Secretary of State as to the decision to be made on the application.

#### 2 MAIN FEATURES OF THE PROPOSAL AND SITE

#### The application

- 2.1 The applicant, a subsidiary of Qatar Petroleum International Ltd, has applied to the Secretary of State for a DCO under section 37 of PA 2008 for the proposed South Hook CHP plant (APP-002).
- 2.2 The proposed CHP plant would be located to the west of the existing South Hook Liquefied Natural Gas Terminal (the LNG Terminal) near the village of Herbrandston and outside the town of Milford Haven, Pembrokeshire, Wales.
- 2.3 The proposed CHP plant would be constructed and operated by the applicant, ExxonMobil Power Ltd and Total Gas and Power Business Services S.A.S. (APP-018). It would be a Combined Cycle Gas Turbine (CCGT) with an installed capacity of up to 500 MWe. Natural gas from the LNG Terminal and/or the gas National Transmission System (NTS) would be supplied to the CHP plant and burnt in the gas turbine generator (GTG). The resulting hot combustion gases would pass through a turbine to produce electricity. The electrical output from the GTG would be up to 300 MWe. The surplus heat from the GTG combustion gases would then convert water to steam in the heat recovery steam generator (HRSG). The steam would be fed through the steam turbine generator (STG) to generate up to 200 MWe of electricity (APP-021).
- 2.4 A small percentage of power would be used on site for the LNG Terminal and CHP plant, but the majority of power would be exported to the national grid via a grid connection point at Pembroke Power Station. The grid connection does not form part of the DCO application.
- 2.5 Under normal operating conditions it is intended that the CHP plant would be fully integrated with the working of the adjacent LNG Terminal, with the waste heat produced by the CHP plant used to vaporise LNG at the LNG Terminal for supply to the NTS. At present vaporisation is carried out in submerged combustion vaporisers (SCV) fired with natural gas. Some or all of this natural gas firing (depending on the level of demand for gas) could be replaced by heat from the CHP plant. The CHP plant would be designed to meet the LNG Terminal's demand for heat when it is operating at 70 % of its maximum gas send-out capacity. In this mode of operation the CHP plant is expected to have a thermal efficiency of up to 88 % compared with 48.5 % efficiency for a typical CCGT.
- 2.6 The applicant anticipates four potential modes of operation for the CHP plant and the LNG Terminal, as follows:
  - (a) Scenario 1: Integrated mode (normal operating condition) the CHP plant operating as designed with heat being provided

to the LNG Terminal for LNG vaporisation. This is anticipated to occur 48 weeks per year. Surplus heat would be diverted to standby direct air-cooled fin-fan coolers.

- (b) Scenario 2: Independent mode (a) the LNG Terminal operating as it currently does, without a heat supply from the CHP plant. This would occur while CHP plant maintenance is being performed.
- (c) Scenario 3: Independent mode (b) the CHP plant operating but not providing all of its heat to the LNG Terminal due to lack of heat demand). This would occur while LNG Terminal gas send-out is at a minimum and there is a high demand for electricity from the Grid.
- (d) Scenario 4: Independent mode (c) both the CHP plant and the LNG Terminal operating with the requisite supply and demand of heat available, but without heat being provided to the LNG Terminal (e.g. due to the hot and return water lines between the CHP plant and the LNG Terminal being unavailable as a result of maintenance during a period of high demand for gas and electricity).
- 2.7 When the LNG Terminal's demand for heat is less than the waste heat from the CHP plant, cooling would be provided by air-cooled fin-fan coolers which form part of the application. This cooling system, which does not require any abstraction or discharge of water, would be sized to allow the CHP plant to operate at full capacity independently of the LNG Terminal. Process waste water created by the CHP plant would be subject to treatment and discharged to the Milford Haven Waterway (the Waterway) using the LNG Terminal discharge point which is subject to separate environmental regulation. The different modes of operation for the plant do not affect its maximum output.

#### The application site

- 2.8 The application site lies within the boundary of the LNG Terminal as shown in the proposed site layout plan (APP-012). The applicant's parent company holds a controlling interest in the owner and operator of the LNG Terminal (APP-018) and there is no requirement for the inclusion of compulsory acquisition provisions in the DCO.
- 2.9 The electricity generating station and its ancillary buildings would occupy approximately 10 hectares (ha) of land with a further 4 ha required for a future carbon capture facility. Taking into account drainage and access requirements and interconnections to the LNG Terminal the total area required for permanent works would amount to approximately 31 ha. A further 30 ha would be required for temporary works during construction.
- 2.10 The footprint of the main CHP plant falls entirely within the administrative area of the PCNPA but a portion of the site,

including some of the area for temporary works is within the area administered by PCC.

- 2.11 The LNG Terminal site was previously occupied by the Esso Oil Refinery, constructed in the late 1950s and operational until 1983. The refinery was decommissioned in 1990 and the LNG Terminal was constructed between 2005 and 2009. The LNG Terminal operates under a number of planning permissions, hazardous substance consents and an environmental permit. The area proposed for the CHP plant is land identified in the LNG Terminal planning permission as for 'future expansion'.
- 2.12 The area immediately to the west of the application site which formed part of the Esso Oil Refinery was established and is maintained as a nature conservation area (NCA) under a section 106 agreement entered into in 2004.
- 2.13 The site lies largely within the Pembrokeshire Coast National Park (the National Park) and adjacent to the Waterway which is part of the Pembrokeshire Marine Special Area of Conservation (SAC) and a Site of Special Scientific Interest (SSSI). The Pembrokeshire Coast Path National Trail (the Coastal Path) follows the northern and southern coastlines of the Waterway and the western and southern borders of the LNG Terminal site. Milford Haven Golf Club lies to the east of the application site and borders the LNG Terminal site.
- 2.14 There are several small communities close to the site. The village of Herbrandston is 1.5 km to the north; Hubberston and Hakin are approximately 2 km to the east and Upper Neeston 1 km to the north. The nearest residential properties are just under 1 km to the north of the site for the main CHP plant.
- 2.15 The application site lies within the Milford Haven Waterway Landscape of Outstanding Historic Interest as registered by Cadw: Welsh Historic Monuments and the Countryside Council for Wales (CCW) both of which are now part of NRW. This landscape has a combination of open rural views, heavy industry, villages, towns and the Waterway. Rural and industrial development over the years has heavily influenced the landscape including the development in the second half of the twentieth century of a large petrochemical industry in the area.
- 2.16 There are two scheduled ancient monuments close to the proposed CHP plant. South Hook Fort built between 1859 and 1865 was one of a number of defensive forts built along the Waterway. It lies in the NCA within the LNG Terminal. South Hook Camp, an Iron Age fort lies beyond the Coastal Path outside the LNG Terminal boundary.

#### Principal works

2.17 The principal works as set out in the application are shown in Works Plans Part A (APP-005) and Part B (APP-006). They comprise the following elements (APP-021).

# Permanent Works in Area of Pembrokeshire Coast National Park Authority

Work No. 1A. An electricity generating station with a nominal gross electrical output capacity of up to 500 MWe including:

- (a) Gas/steam turbine generator building (building/structure 1) containing gas turbine generator set and steam turbine generator set;
- (b) Administration office and control room (building/structure 2)
- (c) Workshop and maintenance/warehouse building (building/structure 3);
- (d) Electrical sub-station (HV switchgear indoor gas insulated building and compound) (building/structure 4) and electricity transformer;
- (e) Heat recovery steam generator building (building/structure 5) containing heat recovery steam generator set;
- (f) Standby direct air-cooled fin-fan coolers (building/structure 6);
- (g) Raw/fire water storage tank (building/structure 7), pump house, pipework and hydrants;
- (h) Demineralised water storage tank (building/structure 8), demineralised water treatment plant, and pipework;
- (i) Stack (building/structure 9) for discharge of flue gas;
- (j) Fuel gas lines from (1) existing connection to the Gas NTS and (2) from the LNG Terminal, and gas receiving station;
- (k) Electrical supply power lines;
- (I) Water treatment equipment;
- (m) Electrical export line to electrical sub-station;
- (n) Pumps;
- (0) Hot and return water lines, and support structure (where lines not buried);
- (p) Security fencing, gates and kiosk(s);
- (q) Ground grading, levelling and landscaping works;
- (r) Process waste water treatment plant and pipes to process waste water discharge point.

Work No. 3A. Land reserved for future carbon capture/infrastructure and secure access corridor including:

(a) Ground grading and levelling.

Work No. 4. Infrastructure and secure access corridor including:

(a) Gas supply line (including gas pressure reduction) to gas turbine generator set;

- (b) Utilities (water, electrical power, etc.);
- (c) Security fencing, gates and kiosk(s).

Work No. 5. Integration of hot water circulating system into the existing LNG Terminal SCVs including:

- (a) Modifications to existing SCVs;
- (b) Hot water feed line from steam turbine generator set to the SCV manifold, and support structure (where line not buried);
- (c) SCV water feed lines to each modified SCV, and support structure (where lines not buried);
- (d) Cold water return line from SCVs to recirculation sump, and support structure (where line not buried);
- (e) Gas supply line (including gas pressure reduction) to gas turbine generator set, power supply lines, and utilities;
- (f) Control and measurement systems.

Work No. 6. Return water infrastructure/process waste water tie-in point including:

- (a) Covered cold water recirculation sump for retention of water return from SCVs;
- (b) Pumps and pump header system;
- (c) Cold water return line from recirculation sump to steam turbine generator set, and support structure (where line not buried);
- (d) Tie-in to existing LNG Terminal process waste water discharge line;
- (e) Monitoring equipment relating to process waste water.

#### Permanent Works in Area of Pembrokeshire Coast National Park Authority and Pembrokeshire County Council

Work No. 2. Surface water attenuation basin and drainage tie-in point including:

- (a) Ground grading and levelling;
- (b) Partitioned attenuation basin for surface water;
- (c) Tie-in to existing LNG Terminal surface water drainage discharge line;
- (d) Monitoring equipment relating to surface water.

Work No. 10A. Open storage of excavated materials.

## Temporary Works in Area of Pembrokeshire Coast National Park Authority

Work No. 1B. Demolition and preparatory works including:

- (a) Demolition of existing buildings and structures;
- (b) Isolation of abandoned utilities;
- (c) Security fencing, gates and kiosk(s).

Work No. 3B. Area of land reserved for future carbon capture including:

- (a) Temporary construction storage;
- (b) Temporary rainwater attenuation basin.

Work No. 7. Temporary contractors' car park and temporary project office area including:

- (a) Reinstatement of former temporary car park;
- (b) Temporary offices, canteen, welfare, and related support facilities;
- (c) Repair and/or replacement of fencing and gates.

Work No. 8. Open and covered storage, construction warehouse, workshops and stores including:

- (a) Open storage of construction materials and equipment;
- (b) Warehouses for storage of construction materials and equipment;
- (c) Workshops for repair, maintenance, assembly and testing of equipment.

#### Temporary Works in Area of Pembrokeshire Coast National Park Authority and Pembrokeshire County Council

Work No. 9. Temporary construction offices including:

(a) Temporary offices, canteen, welfare, and related support facilities.

Work No. 10B. Open storage of excavated materials including:

(a) Storage of excavated materials during construction.

#### Temporary Works in Area of Pembrokeshire County Council

Work No. 11. Open storage of excavated materials including:

(a) Storage of excavated materials during construction.

The Scheme may also include further development including:

- (a) habitat creation;
- (b) water supply works, foul drainage provision, process waste water management systems, surface water management systems, and culverting;
- (c) internal site roads and vehicle parking facilities;
- (d) bunds, liners, embankments, swales, landscaping and boundary treatments and fencing;
- (e) the demolition of buildings and structures within the Order limits;
- (f) the provision of footpaths; and

- (g) lighting columns and lighting.
- 2.18 The limits of the area to which the DCO would apply and the boundary between PCC and PCNPA which runs across the site are shown on the Land Plan (APP-007).
- 2.19 During the consultation process prior to submission of the application it was recognised that the visual impact of the plant could not be mitigated just by a combination of screening, bunding and lowering of the plant relative to the surrounding landscape. An approach of 'mitigation by design' was adopted by the applicant. The aim was 'to develop the Scheme such that it achieves a high design standard which sits in the landscape in a manner that is acceptable in visual impact terms.'
- 2.20 A set of design principles was established with a view to the plant's design being:
  - (a) aspirational the CHP plant should establish itself as an exemplar facility and a landmark building that is a positive influence on the locality;
  - (b) sustainable the CHP plant should minimise its effect on the environment and contribute to reducing climate change for the benefit of future generations;
  - (c) safe the CHP plant should be designed to operate and to be constructed in a safe manner; secure - the CHP plant should provide a safe environment for staff and visitors;
  - (d) sympathetic the CHP plant should respond to and complement its sensitive setting;
  - (e) flexible the CHP plant should have the ability to adapt to varying demands for electricity and heat during its lifetime;
  - (f) well-designed the CHP plant should be distinctive, perform its required functions, and sit well within its surroundings.
- 2.21 In order to allow some flexibility in the evolution of the design at a later stage a Rochdale envelope approach was adopted with maximum dimensions for the plant being specified in the application (APP-021).<sup>3</sup>
- 2.22 During the Examination a number of changes were made to the proposed works. These were:
  - (a) Addition to Work No. 1A: new item (j) Roof structures (building /structure 10) with re-lettering of subsequent items in Work No. 1A.
  - (b) Addition to Work No.4: item (d) Planting of hedgerows or the provision of other landscape features approved pursuant to a requirement in the draft DCO.

<sup>&</sup>lt;sup>3</sup> PINS Advice Note 9: Using the Rochdale envelope. http://infrastructure.planningportal.gov.uk/wp-content/uploads/2013/05/Advice-note-9.-Rochdale-envelope-web.pdf

- (c) Addition of Work No. 7A: Provision of landscaping mitigation including: (a) Planting of hedgerows or the provision of other landscape features approved pursuant to a requirement in the draft DCO.
- 2.23 In the original application the location of the power station stack was identified as a fixed position. During the Examination a variation was proposed which would allow a limit on deviation for this location for up to 23 metres east to west.
- 2.24 I sought views from IPs and statutory bodies on these changes (DEC-007, DEC-008)). NRW (HR-027), PCNPA (HR-028) and PCC (HR-031) each agreed that the proposed changes did not represent a material change to the application. No concerns were expressed by IPs. The applicant also carried out further public consultation with a mailshot to 16,000 local residents (AS-013). There were no responses to this consultation
- 2.25 My assessment is that the proposed limits of deviation for the stack and the addition to the Rochdale envelope are relatively small changes which would have a minimal impact on the assessment of the project presented in the ES and which was the subject of public consultation. In particular these changes would only result in small variations in emissions as presented in the ES and would not increase the predicted environmental concentrations. The visual impact of the proposed limits of deviation for the stack would, in my view, be no different from the original proposal. The landscaping proposals resulted from discussions between the applicant and PCNPA to provide some mitigation of the visual impact.
- 2.26 No significant impacts of these changes were identified and I concluded that the proposed changes to the scheme were not 'material' in the sense that accepting them would be likely to result in prejudice to any party. Given this, and having regard to the responses from IPs, statutory bodies and the additional public consultation carried out by the applicant, I concluded, on behalf of the Secretary of State, that the changes should be accepted for consideration in the Examination as part of the proposed development. The applicant, interested parties and statutory bodies were informed of my decision on 10 April 2014. (DEC-010).
- 2.27 Revised Works Plans Parts A and B incorporating these changes (REP-034, AS-008) were submitted by the applicant together with a draft landscaping plan (REP-033). These form the relevant reference documents for the revised application.

#### **Grid connection**

2.28 The connection to the electricity grid does not form part of this application but some detail was provided on the options being considered. At the time of the application the intention was to

connect the CHP plant on the north of the Waterway to the national grid at the Pembroke sub-station which is on the south side of the Waterway. The connection would be by means of landbased cables, buried where feasible, and subsea cables across the Waterway. The subsea cables would either be buried in trenches on the bed of the Waterway or installed in a tunnel constructed under the Waterway. Separate approval would be sought for the grid connection when the chosen method and route had been finalised. Further consideration of the grid connection report in so far as this is relevant to the assessment of environmental issues in respect of the CHP plant is set out in paragraphs 4.178 to 4.190.

#### Associated development

2.29 I am satisfied that all the works as set out in the application and as amended during the course of the Examination are integral to the project. Since the proposed development is located in Wales and does not involve an underground gas storage facility, no proposals for associated development are included in the draft DCO.

#### 3 LEGAL AND POLICY CONTEXT

The application includes a Planning Statement which sets out the policy context for the proposed development (APP-072).
Additional information on local planning policies was provided by PCNPA (REP-018) and PCC (REP-019) as part of their LIRs.

## Planning Act 2008 as amended and National Policy Statements

- 3.2 The proposed development of a gas fired CHP plant with a maximum capacity of 500 MWe is a NSIP as defined in section 14(1)a and section 15 of PA 2008. National Policy Statements (NPS) in respect of this type of development have been published and the Secretary of State must therefore, subject to certain exceptions, decide the application in accordance with the relevant NPS as specified in section 104(3) of PA 2008.
- 3.3 The Overarching National Policy Statement for Energy (EN-1) published in July 2011 sets out the Government's policy for delivery of major energy infrastructure.<sup>4</sup> It was accompanied by five technology specific NPS for the energy sector. The National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2) is relevant to this application.<sup>5</sup>
- 3.4 EN-1 states that the UK 'needs all the types of energy infrastructure covered by the NPS in order to achieve energy security at the same time as dramatically reducing greenhouse gas emissions.' That includes fossil fuel plants such as the proposed development. It also states that applications for development consent should be assessed 'on the basis that the Government has demonstrated that there is a need for those types of infrastructure.'
- 3.5 Fossil fuel generation is recognised as playing a vital role in providing reliable energy supplies providing flexibility in response to changes in supply and demand and diversity in the energy mix. The NPS recognises that fossil fuel plants produce CO<sub>2</sub> and sets a requirement that new plant over 300 MW have to be constructed Carbon Capture Ready (CCR) so that Carbon Capture and Storage (CCS) can be retrofitted to the plant at a later date if required.

<sup>&</sup>lt;sup>4</sup> Overarching National Policy Statement for Energy (EN-1). Department for Energy and Climate Change July 2011.

https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/37046/1938overarching-nps-for-energy-en1.pdf <sup>5</sup> National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2). ). Department

<sup>&</sup>lt;sup>5</sup> National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2). ). Department for Energy and Climate Change July 2011.

https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/37047/1939-nps-forfossil-fuel-en2.pdf

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The NPS concludes that there is a need for CCR fossil fuel generating capacity.

- 3.6 EN-1 requires applicants to demonstrate that the plant is CCR and complies with guidance issued by the Secretary of State in 2009 before consent can be given.<sup>6</sup> That guidance requires:
  - That sufficient space is available on or near the site to accommodate carbon capture equipment in the future;
  - the technical feasibility of retrofitting their chosen carbon capture technology;
  - that a suitable area of deep geological storage offshore exists for the storage of captured CO<sub>2</sub> from the proposed combustion station;
  - the technical feasibility of transporting the captured CO<sub>2</sub> to the proposed storage area; and
  - the economic feasibility within the combustion station's lifetime of the full CCS chain, covering retrofitting, transport and storage.
- 3.7 The Carbon Capture Readiness (Electricity Generating Stations) Regulations 2013 (the CCR Regulations) provide that the Secretary of State may not grant a DCO for combustion plant with a rated output of 300 MW or more unless he determines that the CCR conditions are met.<sup>7</sup> For all of the plant's expected CO<sub>2</sub> emissions:
  - There must be suitable storage sites available;
  - It must be technically and economically feasible to:
  - o Retrofit sufficient capture equipment; and
  - $\circ$   $\;$  Transport the captured CO\_2 to the storage site.
- 3.8 The Secretary of State must base his determination on the basis of an assessment prepared by the applicant and any other available information (particularly about protection of the environment and human health). If the CCR conditions are met, 'the Secretary of State must include a requirement in the relevant consent order that suitable space is set aside for the equipment necessary to capture and compress all of the CO<sub>2</sub> that would otherwise be emitted from the plant.'
- 3.9 EN-2 states that any consent must include requirements requiring operators to retain control over sufficient space for carbon capture equipment, retain their ability to build carbon capture equipment

<sup>&</sup>lt;sup>6</sup> Carbon Capture Readiness (CCR) A guidance note for Section 36 Electricity Act 1989 consent applications. Department for Energy and Climate Change, November 2009. <u>https://www.gov.uk/government/uploads/system/uploads/attachment\_data/file/43609/Carbon\_captur</u> <u>e\_readiness\_-guidance.pdf</u>

<sup>&</sup>lt;sup>7</sup> The Carbon Capture Readiness (Electricity Generating Stations ) Regulations 2013. <u>http://www.legislation.gov.uk/uksi/2013/2696/introduction/made</u>

on that space and to submit update reports on technical aspects of space and to submit update reports on technical aspects of CRR status to the Secretary of State.

- 3.10 The comments in EN-1 on developments in National Parks are of particular relevance to this application. The NPS recognises that 'National Parks, the Broads and AONBs have been confirmed by the Government as having the highest status of protection in relation to the landscape and natural beauty. ... The conservation of the natural beauty of the landscape and countryside should be given substantial weight ... in deciding on applications for development consent in these areas.'
- 3.11 Nonetheless, in the public interest, development consent may be granted in these areas in exceptional circumstances. Consideration should be given to:
  - 'the need for the development, including in terms of national considerations, and the impact of consenting or not consenting it upon the local economy;
  - The cost of, and the scope for, developing elsewhere outside the designated area or meeting the need in some other way ...;
  - Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which they could be moderated.

Projects consented in designated areas should be carried out to high environmental standards, including through the application of appropriate requirements where necessary.

- 3.12 EN-2 recognises that fossil fuel generating stations are large and will have an impact on the surrounding landscape and visual amenity. It states that it is not possible to eliminate the visual impacts associated with a fossil fuel generating station. Mitigation is therefore to reduce the visual intrusion of the buildings in the landscape and minimise impact on visual amenity as far as reasonable practical. If the location is deemed appropriate and the plant has been designed sensitively to minimise harm to landscape and visual amenity then 'the visibility of a fossil fuel generating station should be given limited weight.'
- 3.13 EN-1 and EN-2 both recognise the contribution that CHP can make to reducing emissions and full exploration of the potential for CHP is a requirement of applications for thermal generating stations. EN-1 states that 'To encourage proper consideration of CHP, substantial additional positive weight should therefore be given ... to applications incorporating CHP.'
- 3.14 EN-1 sets out general principles and generic impacts to be taken into account in considering applications for energy NSIPs. It acknowledges that other matters such as local development plans

may also need to be taken into account but states that in the case of any conflict between these other documents and the NPS, the NPS prevails for the purpose of decision taking. Additional specific considerations for fossil fuel generation are set out in EN-2. Where relevant these are considered in section 4 of this report. EN-1 states that the decision maker should start with a presumption in favour of granting consent to applications for energy NSIPs.

#### The National Parks and Access to the Countryside Act 1949

- 3.15 The 1949 Act provided the framework for the establishment of National Parks. The Pembrokeshire Coast was designated as a National Park in 1952.
- 3.16 National Parks have statutory protection. The purposes of designating a National Park are set out in Section 5 of the 1949 Act:

(a) conserving and enhancing the natural beauty, wildlife and cultural heritage of the areas; and

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

3.17 If it appears that there is a conflict between those purposes, greater weight is to be given to conserving and enhancing the natural beauty, wildlife and cultural heritage of the National Park.

#### Welsh Government Policies

- 3.18 There are several Welsh Government policy statements that are relevant to the application. These are:
  - (a) The Climate Change Strategy for Wales (October 2010) which seeks to reduce greenhouse gas emissions by 3 % a year.<sup>8</sup> The focus is principally on improving energy efficiency and the promotion of low-carbon generation;
  - (b) A Low Carbon Revolution Wales' Energy Policy Statement (March 2010) which states that new fossil fuel plant should be carbon capture ready and should maximise energy efficiency through the use of waste heat and co-firing where appropriate;<sup>9</sup>
  - (c) The Wales Spatial Plan (2008) which identifies that maritime access and internationally important energy opportunities in the Haven sub-region of Pembrokeshire help to underpin the

Assembly Government, March 2010

<sup>&</sup>lt;sup>8</sup> The Climate Change Strategy for Wales. Welsh Assembly Government 2010

http://wales.gov.uk/topics/environmentcountryside/climatechange/publications/strategy/?lang=en <sup>9</sup> A Low Carbon Revolution – The Welsh Assembly Government Energy Policy Statement. Welsh

http://wales.gov.uk/docs/desh/policy/100331energystatementen.pdf

economy.<sup>10</sup> It recognises that the industrial potential of the area can be developed in ways which safeguard environmental assets;

- Planning Policy Wales (Fifth edition, November 2012) which (d) confirms that the planning system will play an important role in tackling climate change and reducing greenhouse gas emissions.<sup>11</sup> Sustainability should be at the heart of the decision taking process. The planning system should facilitate delivery of the targets in the earlier Wales' Energy Policy Statement. The planning system should optimise lowcarbon energy generation and facilitate CHP systems. It recognises that in National Parks, special considerations apply to major development proposals but that exceptional circumstances may arise where there is demonstrated to be an overriding public need. Major developments should not take place in National Parks or AONBs except in exceptional circumstances. This may arise where, after rigorous Examination, there is demonstrated to be an overriding public need and refusal would be severely detrimental to the local economy and there is no potential for locating the development elsewhere or meeting the need in some other way. Any construction and restoration must be carried out to high environmental standards. Major developments should include assessment of the three key aspects of the development that have been outlined in EN-1 as set out above in paragraph 3.11.
- (e) Technical Advice Notes (TAN) 8, 12 and 22.<sup>12</sup> TAN 8 relates to renewable energy but also recognises the contribution that CHP can make to reducing carbon emissions. TAN 12 endorses the commitment to good design and sets out the requirement for a Design and Access Statement. TAN 22 requires design and access statements to demonstrate how the development will meet or exceed sustainable building standards and reduce its carbon footprint.

<u>http://wales.gov.uk/topics/planning/policy/tans/tan8/?lang=en</u>. Technical Advice Note (TAN) 12: Design (2009). <u>http://wales.gov.uk/topics/planning/policy/tans/tan12/?lang=en</u>. Technical Advice Note 22: Sustainable Buildings (2010).

 <sup>&</sup>lt;sup>10</sup> People, places, futures. The Wales Spatial Plan. Welsh Assembly Government Revised 2008 http://wales.gov.uk/topics/planning/development-plans/wales-spatial-plan/?lang=en
<sup>11</sup> Planning Policy Wales. Welsh Assembly Government 2012 and 2014.

<sup>&</sup>lt;u>http://wales.gov.uk/topics/planning/policy/ppw/?lang=en</u>. The Fifth edition is cited in the application's Planning Statement. A Sixth edition was published during the Examination in February 2014 but does not contain changes relevant to the application.

<sup>&</sup>lt;sup>12</sup> Technical Advice Note (TAN) 8: renewable energy (2005).

http://wales.gov.uk/topics/planning/policy/tans/tan22/?lang=en

#### Local development plans

#### Pembrokeshire Coast National Park Authority

- 3.19 The PCNPA Local Development Plan (LDP) was adopted in September 2010.<sup>13</sup> Policy 1 of the PCNPA LDP requires all development to be compatible with the National Park purposes and is a key component of assessing development proposals within the National Park area. Policies 8 (Special Qualities), 15 (Conservation of the Pembrokeshire Coast National Park) and 30 (Amenity) require all development to protect and enhance the special qualities of the National Park and not to cause significant visual intrusion, be insensitively and unsympathetically sited within the landscape, introduce or intensify a use which is incompatible with its location, fail to harmonise with or enhance the landform and the landscape character of the National Park, not to lose or fail to incorporate traditional features and not be on a scale incompatible with the surroundings. The PCNPA relies on the Welsh Government's major development test as set out in Planning Policy Wales in assessing applications of this sort. Applications for major developments must include an assessment with regard to three tests which are almost identical with the tests set out in EN-1 cited at paragraph 3.11above.
- 3.20 Policy 29 (Sustainable Design (Strategy Policy)) requires proposals to demonstrate an integrated approach to design and construction and to be well designed in terms of place and distinctiveness, environment and biodiversity, community cohesion and health, accessibility, energy use, energy generation, materials and resources, water and drainage, waste and resilience to climate change. Policies 10 (Local sites of Nature Conservation or Geological Interest) and 11 (Protection of Biodiversity) are also relevant.
- 3.21 In assessing the socio-economic impact of the proposal and any transportation impacts PCNPA LDP Policies 17 (Shore Based Facilities), 42 (Employment sites and Live/Work Units), 43 (Protection of employment Sites and Buildings), 45 (Affordable Housing), 48 (Community Facilities and Infrastructure Requirements), 52 (Sustainable Transport) and 54 (Cycleways) are relevant.
- 3.22 The PCNPA has also adopted Supplementary Planning Guidance (SPG) on Landscape Character. Landscape Character Area 11-Herbrandston adjacent to the proposed development is included in this SPG and is considered by PCNPA to be relevant to the proposed development.

<sup>&</sup>lt;sup>13</sup> <u>http://www.pembrokeshirecoast.org.uk/default.asp?PID=102</u>

#### Pembrokeshire County Council

- 3.23 The PCC LDP was adopted on 28 February 2013 and is the adopted development plan for the area of Pembrokeshire outside of the National Park.<sup>14</sup>
- 3.24 The main relevant general policies (GN) in the PCC LDP are GN.1 (General Development Policy), GN.3 (Infrastructure and New Development) and GN.39 (Transport Routes and Improvement). GN.1 seeks, *inter alia*, to permit development where:
  - (a) The nature, location, siting and scale of the proposed development is compatible with the capacity and character of the site and the area within which it is located;
  - (b) It would not result in a significant detrimental impact on local amenity in terms of visual impact, loss of light or privacy, odours, smoke, fumes, dust, air quality or an increase in noise or vibration levels;
  - (c) It would not adversely affect landscape character, quality or diversity, including the special qualities of the National Park or the adjacent local authority areas;
  - (d) It respects and protects the natural environment including protected habitats and species;
  - (e) It would take place in an accessible location, would incorporate sustainable transport and accessibility principles and would not result in a detrimental impact on highway safety or in traffic exceeding the capacity of the highway network.
- 3.25 GN.3 requires development to fund infrastructure improvements where there is a directly related need generated by that development. GN.39 deals with improvements to the transport network and identifies the Bulford Road link (Johnston to Tiers Cross) to the north of the application site as a specific proposed scheme.
- 3.26 Other relevant policies in the PCC LDP are GN.2 (Sustainable Design), GN.9 (Employment and Land Requirements), GN.37 (Protection and Enhancement of Biodiversity), GN.38 (Protection and Enhancement of the Historic Environment). Strategic policies (SP) SP 1 (Sustainable Development), SP 2 (Port and Energy Related Development) and SP 3 (Employment and Land requirements are also relevant.

#### Local Impact Reports

3.27 LIRs have been submitted by PCNPA and PCC (REP-018 and REP-019). The principal matters raised in the LIRs are:

<sup>&</sup>lt;sup>14</sup> <u>http://www.pembrokeshire.gov.uk/content.asp?nav=1626,109,2045&id=28946&language</u>=

- (a) Location of the proposal within a National Park;
- (b) Visual, landscape and seascape impacts and related design issues;
- (c) Impacts on terrestrial ecology and cultural heritage;
- (d) Impacts on socio-economic issues including housing supply;
- (e) Transportation issues;
- (f) Pollution and hazardous installations;
- (g) Associated development including grid connection to Pembroke Power Station, future carbon capture area and cumulative impacts.
- 3.28 These issues are considered in section 4 of this Report.

#### European Requirements and Related UK Regulations

#### Habitats Directive (Council Directive 92/43/EEC)

3.29 The Habitats Directive (together with the Council Directive 79/409/EEC on the conservation of wild birds (the Birds Directive)) forms the cornerstone of Europe's nature conservation policy.<sup>15</sup> It is built around two pillars: the Natura 2000 network of protected sites and the strict system of species protection. The directive protects animals and plant species and habitat types which are of European importance.

## *Conservation of Habitats and Species Regulations 2010 (as amended) - the Habitats Regulations*

- 3.30 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 had been made to the regulations since they were first made in 1994.
- 3.31 The Habitats Regulations apply in the terrestrial environment and in territorial waters out to 12 nautical miles. Regulation 61 requires that, before giving consent for a project that is likely to have a significant effect on a European site, the Competent Authority (in this case the Secretary of State) must make an 'appropriate assessment' of the implications for such site in view of its conservation objectives.<sup>16</sup>
- 3.32 Six European sites, (four SACs and two SPAs) have been identified as being potentially affected by the proposed development. These are:

<sup>&</sup>lt;sup>15</sup> The 1979 Directive was codified (as amended) in 2009 - Directive 2009/147/EC

<sup>&</sup>lt;sup>16</sup> Unless the project is directly connected with or necessary to the management of the site

- (a) Cleddau Rivers SAC
- (b) Limestone Coast of South and West Wales SAC
- (c) Pembrokeshire Bat Sites and Bosherton Lakes SAC
- (d) Pembrokeshire Marine SAC
- (e) Castlemartin Coast SPA
- (f) Skokholm and Skomer SPA
- 3.33 Potential impacts on these sites are considered further in section 5 of this report.

#### **Transboundary Effects**

- 3.34 Where the Secretary of State is of the view that EIA development is likely to have significant effects on the environment in another European Economic Area State (EEA State), or the state so requests, he is required to consult that state on the application and give it a reasonable time to decide whether to participate in the procedures.<sup>17</sup>
- 3.35 The nearest EEA State that could potentially be affected by the proposed development is the Republic of Ireland. No request to be consulted was received in respect of this application.
- 3.36 The nearest point in the Republic is over 100 km from the application site. Emissions to air and water from the plant would be localised in nature and have been assessed within a radius of 15 km from the plant in line with guidance from NRW.
- 3.37 Under Regulation 24 of the EIA Regulations the Planning Inspectorate on behalf of the Secretary of State carried out a transboundary screening exercise in 2012 and on the basis of the information then available from the applicant concluded that he was of the view that the proposed development was not likely to have a significant effect on the environment in another EEA State (PD-001). Consequently no transboundary consultation took place in relation to this application. There were no changes in circumstances between 2012 and the submission of the application that might require transboundary consultation.

<sup>&</sup>lt;sup>17</sup> Regulation 24, Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 as amended

#### 4 FINDINGS AND CONCLUSIONS IN RELATION TO POLICY AND FACTUAL ISSUES

#### PRINCIPAL ISSUES IN THE EXAMINATION

4.1 At the start of the Examination and following the Preliminary Meeting I set out my assessment of the principal issues arising from the application based on the application documents and the relevant representations received at that stage (DEC-005). These are set out below (listed in alphabetical order).

#### Table 4.1: Principal issues in the Examination

1	Biodiversity and habitats		
	1.1 plants,	Impact on European sites and on specific varieties of , bats, marine life and other species.	
	1.2 approp	Adequacy of matrices required to complete an priate assessment.	
2	Consideration of alternatives		
	2.1 propos	Comparison between the east and west options for the sed CHP plant.	
	2.2 commi	Suggested inclusion of solar panels and provision of unity benefit.	
	2.3	Uncertainty about grid connection.	
	2.4	Proposed provision for carbon capture and storage.	
3	Draft	aft DCO	
	3.1 mitiga	Adequacy of proposed requirements to provide tion for possible adverse effects.	

4	Emissions			
	4.1 Air quality, oxides of nitrogen (NO <sub>x</sub> ) and other gaseous emissions from the proposed CHP plant.			
	4.2	Water discharge to the Waterway.		
	4.3 Noise, vibration and light pollution from the proposed CHP Plant.			
	4.4 propos	Combined impact of the existing LNG plant and the ed CHP plant.		
	4.5	Proposed controls on emissions from the site.		
5	Health and Safety			
	5.1	Health impact in local community.		
	5.2	Site safety and interaction with LNG terminal.		
6	Transport			
	6.1 safety	Potential for traffic congestion and implications for road during construction and provision for heavy loads.		
7	Socio-economic			
	7.1 includii historia	Negative and positive impacts on the community ng impacts on employment, tourism, housing, and c sites.		
8	Visual	impact		
	8.1 PCNPA	Location in the National Park and consistency with planning requirements.		
	8.2 seasca	Impact on local communities and on landscape and pe.		
	8.3 impact	Quality of design and use of design to mitigate visual		

### **Representations from Interested Parties**

4.2 Many of these issues were also raised by PCNPA and PCC in their LIRs (REP-018, REP-019). PCNPA focused in particular on the location of the proposed development in the National Park and on

the visual, landscape and seascape impacts and associated design issues. Demonstration of the need for the development is one of the criteria for the approval of major developments in National Parks set out in EN-1 (see paragraph 3.11 above). PCC's principal concerns were with visual impact, transportation issues and the impact on local housing particularly during the construction phase of the project.

- 4.3 A written representation from NRW submitted early in the Examination identified a number of areas of concern that had not been resolved in discussion with the applicant (REP-009). These included possible impacts on the Pembrokeshire Marine SAC and the Pembrokeshire Bats Sites and Bosherton Lakes SAC. Control on discharges through the LNG Terminal outlet needed to be addressed through legal agreement between the parties or through requirements in the DCO. NRW also set out its view that the Habitats Directive required the implications of the grid connection to be considered alongside the CHP plant. On the issue of visual impact NRW expressed the view that the proposed mitigation by design was fundamental to reducing the visual impacts associated with the proposal.
- 4.4 A written representation from Milford Haven Town Council (REP-008) set out the Council's concerns about heavy construction traffic associated with the development being routed through the town with health and safety concerns particularly for local children.
- 4.5 Marloes and St Brides Community Council submitted a revised representation (REP-005) in which it withdrew an earlier suggestion for a solar PV array on the roof of the power plant but suggested that some other ground level renewable energy installation could form part of the project. This could generate funds for a Community Benefit Scheme.
- 4.6 A number of local residents submitted written representations which reiterated concerns in earlier representations about noise emanating from the existing LNG Terminal, concerns about safety at the site and about visual impact.
- 4.7 The ES provides the main body of evidence that I have drawn on in considering these issues. In addition I asked a number of questions during the course of the Examination to which I received written responses from the applicant and IPs. The ISH on local environmental issues provided an opportunity to clarify points raised in written submissions and the ISH on the draft DCO and LIRs provided a further opportunity to explore mitigation proposals and identify any issues that had not been resolved between the applicant and IPs. Further views from local IPs were provided at the OFH.
- 4.8 During the course of the Examination the applicant engaged in discussion with PCNPA, PCC and NRW to try and address areas of

concern and reach agreement on common ground. A number of draft Statements of Common Ground (SoCG) were submitted during the Examination. Final SoCGs between the applicant and each of these IPs were submitted towards the end of the Examination period (REP-054, REP-055, REP-057). These final SoCGs also identified issues on which agreement had not been reached. A separate SoCG between the applicant, PCNPA and NRW was submitted in respect of seascape, landscape and visual impact (REP-056).

#### Assessing impact

- 4.9 The ES adopted a three stage approach to assessing the impact of the development (APP-022). This involved:
  - (a) assigning an environmental value to (or sensitivity of) a resource or receptor;
  - (b) assigning a level of impact or effect; and
  - (c) assigning a level of significance.
- 4.10 A generic methodology taken from the UK Government's Design Manual for Roads and Bridges (DMRB) was used in the ES.<sup>18</sup> This sets out a five point scale for assessing environmental value or sensitivity and for assigning magnitude of impact (APP-022). The value/sensitivity scale set out in DMRB runs from negligible - very low importance and rarity, local scale, through to very high - very high importance and rarity, international scale and very limited potential for substitution. The scale for the magnitude of adverse effects runs from negligible, - very minor loss or detrimental alteration to one or more characteristics, features or elements, through to major - loss of resource and/or quality and integrity of resource: severe damage to key characteristics, features or elements.
- 4.11 These markings can be combined through an assessment matrix to assign a level of significance to the expected impact. Five levels of significance were considered in the ES: substantial, major, moderate, minor and negligible. Impacts with substantial and major significance indicate potential concerns associated with the project; an impact of moderate significance may not be a key decision taking issue on its own but the cumulative effect of such impacts could result in greater concern. Impacts of minor and negligible significance are unlikely to be of concern in the decision taking process. The assessment of significance takes into account the special characteristics of the National Park.
- 4.12 As far as possible this generic approach to the assessment was used in the ES for each of the types of impact identified for the

<sup>&</sup>lt;sup>18</sup> Design Manual for Roads and Bridges. Volume 11, Environmental Assessment. Highways Agency 2013. http://www.dft.gov.uk/ha/standards/dmrb/vol11/index.htm

proposed development supplemented where necessary by topic specific guidance.

#### EMISSIONS

- 4.13 This section considers the possible impact of emissions to air and water during the construction, operation and decommissioning of the site.
- 4.14 The CHP plant would require an environmental permit from NRW under the Environmental Permitting (England and Wales) Regulations 2010. This would contain conditions based on Best Available Techniques (BAT) aimed at achieving a 'high level of protection of the environment taken as a whole by, in particular, preventing or, where that is not practicable, reducing emissions into the air water and land.' (HR-009). NRW would normally require the continuous monitoring of emissions to air of NO<sub>x</sub> and carbon monoxide (CO). Releases of water would be monitored for any significant chemicals in the release, temperature and flow to protect receiving waters. An application for an environmental permit for the plant was received by NRW on 23 October 2013 and was accepted by NRW as duly made on 12 November 2013. NRW expect the determination process for this application to take at least six months and no decision had been taken by the closure of my Examination (REP-009).
- 4.15 There is an existing environmental permit governing the operation of the LNG Terminal (Permit Number XP3538LD and Variation Number XP3535ME) (APP-086). If, as is proposed, water from the CHP plant is discharged to the Waterway through the LNG Terminal outlet this permit would need to be amended. An application to vary this permit was submitted in March 2014 but had not been determined by the close of my Examination.

#### Emissions to air

- 4.16 During the construction period the main influence on air quality would be dust from the movement of plant vehicles. Without mitigation this was assessed in the ES to have a medium level of impact. Mitigation through 'good housekeeping' practices, as set out in the draft Code of Construction Practice (CCP) (APP-083) and Construction Environmental Management Plan (CEMP) (APP-052) was intended to ensure that emissions of nuisance dusts would be minimised.
- 4.17 In the ES effects on air quality during operation were modelled against a baseline for existing emissions of nitrogen dioxide (NO<sub>2</sub>) and CO (APP-028) which were considered to be the primary pollutants for human health receptors. NO<sub>2</sub> levels measured at the LNG Terminal (which were higher than some other measurements for the area) were taken as the relevant baseline. This was considered by the applicant to be a conservative value.

Department for the Environment, Food and Rural Affairs (Defra) estimates were used for the CO baseline.

- 4.18 For the operational period emissions were modelled for a CHP plant stack height of 75 m. This was considered to be the optimal height. Emissions from the CHP plant together with seven SCVs at the LNG Terminal (operating as designed in CHP mode as its principal mode of operation Scenario 1, see paragraph 2.6 above) were compared with the impacts from the current 15 SCVs. A scenario in which the CHP plant and all 15 SCVs operate at the same time was also considered (Scenario 4). Impacts on air quality at relevant receptor locations including residential and recreational locations were assessed for annual and one hour mean effects for NO<sub>2</sub> and for 8 hour mean effects for CO. These were evaluated against air quality objectives (AQO) and significance criteria using Environment Agency guidance.<sup>19</sup>
- 4.19 This modelling indicated that for Scenario 1, with the operation of the CHP plant and seven SCVs, NO<sub>2</sub> and CO levels would be lower than with the operation of 15 SCVs without the CHP plant (i.e. the existing situation). At all of the locations the levels of emissions would be below limit values set out in the Air Quality Standards Regulations 2010 and the AQO specified under the UK air quality strategy. The impact of the NO<sub>2</sub> emissions was assessed as of minor significance and the effect of CO as insignificant.
- 4.20 The combined operation of the CHP plant and all 15 SCVs (Scenario 4) was considered an abnormal scenario which would only occur for a short period. Consequently this was only analysed for short term pollution NO<sub>2</sub> one 1hour mean and CO eight hour mean not for an annual average. This showed higher levels of emissions than the Scenario 1 but the AQO objective levels were not exceeded at any of the locations. The highest level of NO<sub>2</sub> (at a location on the Coastal Path at South Hook Point) was 89.2% of the AQO.
- 4.21 A separate assessment of the impact of aerial emissions (NO<sub>x</sub>) and catchment-wide acid and nutrient nitrogen deposition on the Milford Haven Waterway SSSI was presented in the ES. A similar assessment was undertaken for European sites as part of the HRA Report (further details can be found in Section 5 of this report). The assessments concluded that depositions from the operation of the CHP plant and the LNG Terminal would be below the levels at which likely significant effects (LSE) would occur on the SSSI and nearby SPA and SACs. As modelled the operation of the CHP plant and Nitrogen (N) deposition compared with the

<sup>&</sup>lt;sup>19</sup> H1 Environmental Risk Assessment Framework, Annex F Air Emissions. Environment Agency. https://www.gov.uk/government/publications/h1-environmental-risk-assessment-for-permits-overview

existing maximum consented level for the LNG Terminal (APP-068).

- 4.22 NRW in its written representation (REP-009) expressed concern that the assessment of the impact on protected sites had taken inadequate account of the sensitivity of site features and conservation objectives. It also argued that as drafted the DCO did not justify the assertion that the LNG Terminal would operate with any agreed level of integration with the CHP plant and that therefore the assertion that there would be a reduction in nitrogen deposition to the catchment of the Pembrokeshire Marine SAC was unfounded. Amendments to the draft DCO were suggested to address these concerns.
- 4.23 Following further discussion between the applicant and NRW changes to the draft DCO were agreed covering limits on aerial emissions so that, in combination with the LNG Terminal, there would be no overall increase in nitrate loads into the Pembrokeshire Marine SAC (Requirement 8) and to ensure that the primary mode of operation of the plant should be as a CHP plant (Article 6) (APP-090).<sup>20</sup>
- 4.24 In its final SoCG with the applicant (REP-054) NRW agreed with the results of the assessment carried out by the applicant which concluded that operation of the CHP plant, operating as designed in CHP mode as its principal mode of operation, would result in a decrease in NO<sub>x</sub> concentrations and N deposition at the nearby SPA and SACs compared with that resulting from the existing maximum consented limit. The assessment also concluded that the operation of the CHP plant, operating as designed in CHP mode as its principal mode of operation, would also result in a decrease in total N input to the Pembrokeshire Marine SAC, compared with that resulting from the existing maximum consented limit for the LNG Terminal.
- 4.25 No significant effects on air quality were identified for the decommissioning phase of the project.

#### **Emissions to water**

- 4.26 The ES considered the effects on hydrology, flood risk and water quality (APP-024) and on the marine environment and ecology (APP-027) during construction, operation and decommissioning.
- 4.27 The application site is in an area at low risk of flooding. During the construction and operation of the plant there could be some risk as a result of increased runoff or water flow on the site. The drainage system would be designed to ensure runoff is discharged

<sup>&</sup>lt;sup>20</sup> References to the DCO in this section of the report are to the final draft of the DCO submitted by the applicant (APP-090).

from the site at the existing rate. Temporary arrangements to prevent water pollution during construction would be put in place and implemented through the CEMP (APP-052).

- 4.28 During operation the waste heat from the CHP plant would be used in the LNG Terminal or, if that was not possible, would be aircooled with fin-fan coolers. As a consequence there would be no requirement to extract water from the Waterway.
- 4.29 Any emissions to water would be controlled through the environmental permit. Process waste water discharges (including temperature, metals, chlorine and ammonia were considered) are expected to discharge contaminants into the Waterway at above the expected Environmental Quality Standard (EQS) concentrations. Dispersion and plume modelling of this discharge showed the impacts of any discharges above EQS concentrations to be of limited size and duration and local to the outfall location. Any residual effects were considered to be minor or negligible. Similarly it was considered that any discharges to the Waterway during decommissioning would have a minor and temporary adverse effect.
- 4.30 The construction and decommissioning phases are expected to have limited effect on the marine environment. The ES considered impacts during the operational phase on a number of marine receptors including plankton, intertidal and subtidal flora and fauna, fish and shellfish and marine mammals. It concluded that the effects on the marine ecology were predicted to be no greater than of minor significance and not significant in EIA terms.
- 4.31 NRW's concerns about possible impacts on the Pembrokeshire Marine SAC outlined at paragraphs 4.22 to 4.24 above in respect of aerial emissions also applied to emissions to water. In addition NRW expressed the view that the implications of the CHP plant and the grid connection should be looked at together. If the trenching option for the grid connection was chosen this could have an effect on the marine environment of the Waterway. Separate consideration is given to the grid connection at paragraphs 4.178 to 4.190 below.
- 4.32 In its final SoCG (REP-054) NRW agreed that the process water discharge would not adversely affect the integrity of the Pembrokeshire Marine SAC based on the mitigation measures secured through Requirement 8 of the draft DCO. Requirement 8 includes provision for drainage systems to be constructed after consultation with NRW and Dwr Cymru (Welsh Water) in accordance with details to be approved by the relevant planning authorities. In combination with the LNG Terminal there should be no increase in nitrate loads into the Pembrokeshire Marine SAC and the Milford Haven Waterway SSSI which forms part of the SAC and no adverse effects on the SSSI or the integrity of the SAC as a result of other emissions.

#### Findings and conclusions on emissions

- 4.33 I have considered the analysis of aerial and water emissions set out in the ES and the measures identified there to mitigate the impact of any emissions. Mitigation measures include adoption of the CCP and CEMP, requirements for approved drainage systems and specific limits on aerial and water discharges to ensure that there would be no increase in nitrate loads into the Pembrokeshire Marine SAC as consented in the environmental permit for the LNG Terminal. The principal operating mode for the plant would be defined as the provision of both heat and power (Scenario 1). These mitigation measures would all be incorporated into the DCO.
- 4.34 Emissions from the plant would be regulated through an environmental permit which has been applied for but not yet determined. NRW was not able to provide a letter of no impediment in respect of this permit during the course of the Examination. There would also need to be a variation to the existing environmental permit for the LNG Terminal. That too has been applied for but not yet determined.
- 4.35 NPS EN-1 states that the planning and pollution control systems are separate but complementary. The Examination should work on the assumption that the relevant pollution control regime will be properly applied and enforced by the relevant regulator. Consent should not be refused on the basis of pollution impacts unless there is good reason to believe that any relevant necessary operational pollution control permits will not subsequently be granted. The ES shows a potential reduction in emissions from the joint operation of the CHP plant and the LNG Terminal and the predicted emission levels for the area (including existing emissions) are below the AQO levels. The draft DCO contains a requirement to ensure no increase in nitrate loads into the Pembrokeshire Marine SAC. Taking these factors into account then, on the basis of the evidence available to me during the Examination and without prejudice to NRW's consideration of the application, I do not see any good reason to believe that permits will not be granted.
- 4.36 On this basis I conclude that, subject to the mitigation measures identified, there should not be any significant adverse effects from emissions to air or water.

#### NOISE

4.37 Concern about noise was raised by a number of local IPs (RR-002, RR-003, RR-007, RR-015, RR-018, RR-026, RR-030). Noise from the LNG Terminal and from tankers unloading at the LNG Terminal jetty represents a long-running source of complaint. Reference was also made to an unspecific source of noise described as a low vibration or humming in some areas and in others as a loud roar. It was suggested that this noise had been measured in

Herbrandston by NRW at 42 decibels (dB) at 53 hertz (Hz). Local concern was that the CHP plant would add to this existing level of disturbance. NRW in its comments on written representations (REP-022) stated that it had measured noise at 63 Hz which corresponded with complaints but that this had been measured on average at 18 dB below the threshold disturbance level of 43 dB.

- 4.38 The assessment in the ES of noise and vibration resulting from the construction and operation of the plant used noise measurements over an extended period at four residential locations to provide a baseline for existing day and night noise (APP-029). Anticipated construction and operational noise at the site that would result from the development was then modelled as an addition to this baseline.
- 4.39 During the construction period there would be additional noise from ground works, piling, concrete batching, concrete works and general site activity. Daytime noise levels at the nearest residence are expected to be below the level at which a significant adverse effect might occur. Night time working would be exceptional but when it did occur noise levels could be close to the threshold for a significant effect. This was considered to be a minor adverse effect. No significant effects from vibration were anticipated. Noise effects during decommissioning were expected to be similar to the construction period but were not analysed in detail.
- 4.40 During the operational phase the plant, like the LNG Terminal would operate on a 24 hour basis. In normal operating mode (Scenario 1) only seven SCVs would be in operation compared with 15 at present. There would therefore be some noise reduction from this source to offset increased noise from the CHP plant. The fin-fan coolers at the CHP plant are potentially a significant contributor to noise from the plant but these would only be used when heat was not being delivered to the LNG Terminal (and during commissioning).
- 4.41 The modelling suggested that there would be a minor adverse effect during normal integrated operating mode and a similar minor adverse effect during independent operation (Scenarios 2, 3 and 4). BAT would be used in the design and construction of the plant to reduce noise from individual elements in the plant. The CEMP would be used to control noise during construction with the aim of minimising disturbance to sensitive receptors.
- 4.42 PCNPA in its LIR (REP-018) commented that the assessment had demonstrated that during the operational phase the development would not represent a source of noise nuisance above and beyond the existing noise climate. Provided construction activities
mitigate noise in accordance with BS 5228 recommendations then there would be no unacceptable impact.<sup>21</sup> PCC submitted similar comments in its LIR (REP -019).

- 4.43 NRW in its written representation (REP-009) noted that detailed examination of noise during operation of the plant would be part of its determination of the application for an environmental permit and subject to control if a permit was granted. NRW suggested that to avoid duplication of regulatory controls any DCO requirement related to noise should be limited to the construction phase of the development.
- 4.44 However NRW did express concern that there was inadequate information on how the background noise data had been calculated. NRW had not received information they had requested. NRW held further discussions with the applicant on this issue and in its final SoCG (REP-054) with the applicant NRW agreed that further monitoring and analysis had been undertaken as part of the environmental permit application. NRW's view was that the basis of design with respect to noise could be controlled using BAT.
- 4.45 Requirement 13 of the draft DCO requires the CEMP to be drawn up in consultation with NRW and submitted to and approved by the relevant planning authorities before commencement of the authorised development.

### Findings and conclusions on noise

- 4.46 I have considered the concerns expressed by IPs, analysis of noise set out in the ES and the measures identified there to mitigate the impact of noise during construction through the CEMP as referenced in Requirement 13 of the draft DCO (APP-090).
- 4.47 Noise from the plant during commissioning and operation of the plant would be regulated through an environmental permit which has been applied for but not yet determined. That will take into account the baseline level of noise from existing operations. NRW was not able to provide a letter of no impediment in respect of this permit during the course of the Examination.
- 4.48 Taking into account the guidance in EN-1 set out at paragraph 4.35 and since the ES only shows the potential for a minor adverse effect from noise during operation below the level for significant impact then, on the basis of the evidence available to me during the Examination and without prejudice to NRW's consideration of the application, I do not see any good reason to believe that the permit will not be granted.

<sup>&</sup>lt;sup>21</sup> BS 5228: Code of practice for noise and vibration control on construction and open sites.

4.49 On this basis I conclude that, subject to the mitigation measures identified for noise during construction, there should not be any significant adverse effects from noise which remain to be addressed.

### TERRESTRIAL ECOLOGY

- 4.50 The ES, as advised in NPS EN-1 and other policy statements, considers the effects of the proposed development on designated sites of ecological importance, protected species and other habitats and species identified as being of importance for the conservation of biodiversity (APP-026). Potential impacts on European sites are considered in Section 5 of this report. This section considers the impact on other sites and on individual species.
- 4.51 The only nationally designated site close to the proposed development is the Milford Haven Waterway SSSI. Impacts from aerial and water emissions on this site, which forms part of the Pembrokeshire Marine SAC, have been considered in paragraphs 4.13 to 4.36 above. The development was not expected to bring about any change to the terrestrial habitats in the SSSI.
- 4.52 Other habitats considered include ephemeral plant communities and ephemeral pools on the site, naturally regenerated grassland, the overall CHP plant area and other former construction areas on the site, the skim pond in the LNG Terminal and the adjoining NCA. These areas have a biodiversity value. The NCA is not subject to a formal nature conservation designation but is considered to be of county level importance for biodiversity. Dittander has colonised the marshy grassland at the base of the bund. This is a rare plant in Pembrokeshire only occurring in this one area.
- 4.53 Greater horseshoe bats (GHS) roost in South Hook Fort and gun emplacements. This site is considered to be of national importance for GHS in winter and of regional importance in summer. These bats are thought to have their origin in the maternity roosts at the Pembrokeshire Bat Sites and Bosherton Lakes SAC which are more than 10 km from the site. The GHS commute from the roost sites in the fort to foraging areas in the wider landscape. However no GHS activity was associated with the CHP plant site which had a low suitability as a foraging site.
- 4.54 Common and soprano pipistrelle bats were recorded in the area. They are likely to fly over the CHP plant site and the LNG Terminal but foraging and commuting activity was limited. Some other bat species were also identified as occasional visitors to the site.
- 4.55 Otters have been recorded at the site in the past but are now thought to be excluded by the fencing installed as part of the LNG

Terminal. The site is not considered suitable for colonisation by badgers.

- 4.56 The site has a low value for breeding birds because of the lack of potential nesting sites for most species. The adjoining NCA does attract a significant number of breeding birds and wintering wetland birds and is of importance at local and county level.
- 4.57 The site has a limited capacity to support reptiles such as slowworms but larger populations may occur in the NCA. The NCA also supports common frogs and palmate newts and a range of invertebrates.
- 4.58 Mitigation measures during each phase of the development would include no access to the NCA (other than allowed at present for monitoring purposes), noise abatement in the design of the plant and during construction, lighting design to minimise disturbance, particularly to bats, pollution prevention in the handling of surface water and construction materials and dust suppression.
- 4.59 In its relevant representations (RR-024) NRW expressed concern that it had not received full details on the bat surveys that had been used to validate the ES and HRA Report findings. NRW was concerned that arrangements for lighting plans for the site which could, in particular, affect bat flight paths had not been adequately specified.
- 4.60 Following further discussions between the applicant and NRW further information on the bat surveys was provided which met NRW's requirements (HR-009). The lighting requirement in the draft DCO (Requirement 16) was amended to include specific reference to limiting the effect on areas used by bats. The draft DCO also includes requirements for the development of an Ecological Management Plan (EMP) in consultation with NRW (Requirement 11) and of a scheme of protection for bats as a European Protected Species (Requirement 20). In its final SoCG (REP-054) with the applicant NRW agreed that the effects on the bat population had been addressed and that there would be no adverse effect on bats if the agreed mitigation was effectively implemented.

### Findings and conclusions on terrestrial ecology

4.61 From the information provided in the ES as supplemented during the Examination and subject to the mitigation measures included in the draft DCO and agreed by NRW, I am satisfied that the proposed development would not have any significant adverse effect on nationally designated sites of ecological importance, protected species and other habitats or species identified as being of importance for the conservation of biodiversity. Consideration of the implications for European sites is set out in section 5 of this report.

## HEALTH AND SAFETY

### Health

- 4.62 A number of IPs expressed concern about possible impacts on health resulting from the development. These concerns related to aerial emissions and noise from the plant, transport movements, particularly during construction and electro-magnetic fields (EMF) (RR-002, RR-003, RR-006, RR-015, RR-016, RR-021, RR-030, REP-008, REP-013, REP-018, REP-019).
- 4.63 The applicant submitted a Health Impact Assessment (APP-075). This noted that there should be a reduction in NO<sub>x</sub> emissions from the combined operation of the CHP plant and the LNG Terminal in normal operating mode. The reduction would not be of a magnitude that would be expected to have an effect on health in the local community. IPs were concerned that the only continuous monitoring of emissions was at Narbeth, 25 km away from the site. As noted above (paragraph 4.17) local monitoring points have been used to set the emissions baseline against which the development has been assessed. Continuous monitoring requirements will normally be set as part of any environmental permit.
- 4.64 The safe and efficient operation of transport during construction would be managed through a Construction Traffic Management Plan (CTMP), and other environmental construction impacts would be managed through the CEMP. The development of these Plans for approval by the relevant planning authorities is set out in Requirements 13 and 14 in the draft DCO (APP-090). I have given further consideration to the concerns about transport safety raised by both PCNPA and PCC in paragraphs 4.75 to 4.87.
- 4.65 Operational noise will also be covered by the environmental permit that has been applied for. As noted at paragraph 4.37, many of the concerns expressed relate to the operation of the existing LNG Terminal and tankers at the Terminal's jetty. These levels of noise form part of the baseline against which any additional noise from the CHP plant needs to be assessed.
- 4.66 Concerns about EMFs were mainly linked to the possibility that the grid connection for the CHP plant would involve overhead lines. This was an option at an early stage in consultation on the development but the application as submitted only considers grid connection by underground cabling which would substantially reduce any measured EMFs. This is considered further below in the section on Grid Connection (see paragraphs 4.178 to 4.190).

### Safety

4.67 The LNG Terminal is classified as a Control of Major Accidents Hazards (COMAH) establishment and operates under Hazardous Substances Consents granted in 2004. In its initial representation the Health and Safety Executive (HSE) drew attention (RR-027) to regulatory issues that if not resolved could potentially result in the LNG Terminal losing its Hazardous Substances Consents (APP-086) or the CHP plant being built but not able to become operational if COMAH regulations were not satisfied. HSE reported that it was engaged in discussions with the applicant and believed that it would be possible to resolve these issues outside of the planning process.

- 4.68 Concern about safety at the site was raised by a number of other IPs (RR-002, RR-018). These cited general concern about safety at existing sites in the area and about the possibility of a gas explosion. The example of an explosion at an LNG plant in Algeria in 2004 was quoted. A more recent explosion in April 2014 at an LNG Terminal in Washington State, USA was also cited (REP-065).
- 4.69 Discussion between the applicant and HSE took place in September 2013. In its record of that meeting, (an extract from which was provided by the applicant (REP-060)), HSE noted that 'In deciding the location of the CHP plant qualitative risk assessment had been used to determine the optimal location (from a safety standpoint - taking into consideration the proximity of the plant to the LNG Terminal).' Further quantitative analysis would be carried out if considered necessary. HSE confirmed that the LNG Terminal would need to consider in its COMAH Safety Report possible external initiators of a major accident including the CHP plant on its boundary. The Safety Report would also need to consider the modifications to the LNG Terminal to integrate it with the CHP plant including a fuel gas feed to the CHP plant and changes to SCV operation.
- 4.70 Late in the Examination, in response to my request for comments on variations to the application for the CHP plant, HSE indicated that it still had concerns about the proposed development. HSE stated (REP-044) that 'The applicant will need to have considered the proposed change to building volume/configuration as part of any risk assessment, for example gas dispersion modelling or size of any credible gas explosion.' HSE could not find evidence of such an assessment. In further comment HSE made it clear that its concerns were not confined to the variations to the application but also applied to the original application (REP-062).
- 4.71 In its final submission (REP-066) HSE stated that 'The suitability/compatibility of the location should have been presented initially. The extent and severity of known hazards with the potential to impact upon local populations, and/or major hazard installations should be established by the applicant via a high level assessment. For an installation which consumes a large quantity of natural gas this would include loss of containment; this could lead to vapour cloud explosion or flash fire.'

4.72 The applicant stated that it takes these risks seriously and had entered into discussions with HSE (REP-067). The applicant in its final submission (REP-067) stated that high level assessments had been undertaken, as previously recorded by HSE and that the CHP plant was fully compatible with the LNG Terminal and presented no risk to the community. It would carry out any further risk assessment to inform the COMAH processes regulated by HSE during the detailed design process. It did not consider that these were matters that needed to be addressed as part of the DCO process.

### Findings and conclusions on health and safety

- 4.73 From the evidence provided I have not identified any health concerns arising from the proposed development which would not be addressed by mitigation measures included in the draft DCO. In addition I note that control on emissions and noise during operation would be subject to controls in any environmental permit issued for the operation of the plant.
- 4.74 I am satisfied that the applicant is fully conscious of the safety issues both at the CHP plant on its own and interactions with the LNG Terminal. At an early stage in the Examination it appeared that the discussions between the applicant and HSE were satisfactory to both parties. It is unfortunate that it was only during the last few days of the Examination that it became clear that HSE still had concerns about the risk assessment that had been carried out. There was only limited time to seek further clarification and the outstanding issues had not been fully resolved by the close of the Examination. That leaves some uncertainty about the operation of the plant, particularly for local residents. However it is clear to me that the applicant is committed to continuing discussions with HSE in order, if possible, to address HSE's concerns. It is also clear to me that the CHP plant and the LNG Terminal adapted to operate in conjunction with the CHP plant will only be able to operate if they meet the HSE's safety requirements and obtain the necessary safety operating permits. These permits would be issued by the local planning authority in consultation with the HSE. In my opinion it is appropriate and consistent with the general approach adopted in EN-1 to avoid the duplication of regulatory regimes for these safety issues to be pursued separately from consideration of the DCO. The applicant would face the risk of not being able to proceed with the project if it failed to meet HSE requirements.

## TRANSPORT

4.75 The transport and traffic assessment in the ES (APP-031, APP-076) focuses principally on potential impacts during the construction of the plant when there would be a peak number of 860 construction employees on site during the day and a peak of 40 HGV arrivals per weekday (80 two-way HGV movements). For worst case scenario assessment purposes it was assumed that construction workers would all arrive between 07:00 and 08:00 and leave between 18:00 and 19:00, although in practice start and finish times would be staggered. It was assumed that the bulk of workers would arrive by car with an average occupancy of 1.7 people per car. In the peak construction period there would be around 440 cars arriving and leaving the site during the start and finish periods. HGV arrivals are assumed to be spread through the day from 08:00 to 17:00 giving an average hourly flow of 8 to 10 two-way HGV movements.

- 4.76 During operations there would only on average be 13 full time and shift staff on site during the day with fewer at night. There could be an additional 15 staff on site during planned maintenance. The operational phase is not expected to create any discernible transport impacts and has not been subject to a full assessment.
- 4.77 The approach to assessing the overall impact of transport and traffic is the same as that described above at paragraphs 4.9 to 4.12. Using this approach generally only effects of substantial or major significance are considered to be important considerations in the decision-making process. Effects of moderate significance are not considered key decision-making factors on their own but the cumulative effect of moderate impacts may be of greater significance.
- 4.78 For the assessment of the impact during the construction period the ES drew on the Guidelines for the Environmental Assessment of Road Traffic (Institute of Environmental Management and Assessment, 1993) - the IEMA Guidelines. The IEMA Guidelines set thresholds above which increases in traffic may have a significant impact depending on the sensitivity of local conditions. For example the effects on severance within a community by increased traffic flows is considered 'slight', 'moderate' and 'substantial' with changes in traffic flows of 30%, 60% and 90% respectively.
- 4.79 Traffic surveys were carried out to establish a baseline level of traffic prior to the development and allowance was made for some natural growth in the level of traffic identified. Statistics on personal injury from traffic incidents were also obtained. Traffic generated during the construction period was modelled to identify the increase in traffic on individual sections of roads in the vicinity.
- 4.80 The modelling of traffic flows at the six junctions that would be most affected by construction traffic suggested that all would be able to operate within capacity (measured as the ratio of flow to capacity (RFC)) during the peak construction period. The busiest point would be the junction between the LNG Terminal access road and Dale Road. This could be close to capacity with an estimated RFC of 0.923 and a queue of eight cars at peak time. Dale Road from the site to the junction with Tiers Cross Road would also be

busy with an RFC of 0.709 with some queuing. Further away from the site the junctions would operate well within capacity with RFC of around 0.2 or less.

- 4.81 There would be significant percentage increases in the volume of traffic on the roads close to the site during some one hour periods, particularly at evening finish time, but only a small number of sections of road where the increase in the 12 hour weekday flow was greater than the 30 % threshold identified in the IEMA Guidelines. These sections, on Dale Road and Tiers Cross Road, were assessed to identify any significant effects on local communities. Only one of these sections was in a built-up area and the increased traffic flow was considered by the applicant to be below the level that could cause severance of the community. Pedestrian activity on these roads was considered to be low and the estimated traffic flows would be below the levels that would cause delays or loss of amenity. The personal injury data for the three years from December 2009 did not show any common features in accidents. These roads were already used by HGV traffic and there would be no significant change in the character of the network. On the basis of the IEMA Guidelines it was considered that the significance of the effect on accidents and safety would be negligible.
- 4.82 A detailed analysis of abnormal or exceptional loads was not carried out for the ES because the proposed method of delivery for these loads had not been finalised. Abnormal loads could be up to 5.2m wide and weigh 300 tonnes. Plans for the management of thes loads would be included in the CTMP which has to be agreed by the relevant planning authorities as specified in Requirement 14 of the draft DCO.
- 4.83 In their LIRs both PCNPA (REP-018) and PCC (REP-019) accepted that the operational phase of the project should not result in a negative impact in terms of accessibility that would be contrary to their local planning policies. A travel plan covering the operational phase reflecting the draft plan included with the application would be a requirement in the DCO.
- 4.84 Both authorities expressed concerns that the impact of traffic during the construction phase would be significant and included deliveries of abnormal loads that could not be catered for on the current highway network. Milford Haven Town Council expressed concern about construction traffic using roads through the town with effects on the health and safety of residents, particularly children (REP-008).
- 4.85 PCC noted that it was already planning improvement to Bulford Road from Johnston to Tiers Cross. Work on this improvement was expected to start in April 2014 and be completed by June 2015 (HR-013). This would provide an alternative to the route through Milford Haven town. However it was considered that the

development would also impact on roads to the west of Tiers Cross. PCC as the Highways Authority identified specific road and junction improvements, the need for bus lay-bys, a shared use path for cyclists and pedestrians and improvements to signage and marking. The total cost of these improvements was estimated to be just over £2m which PCC considered should be funded by the applicant under a section 106 agreement or similar arrangement.

- 4.86 The need for highways improvements was discussed at both the first and second ISH. Additional information on traffic accidents on the road from Tiers Cross to the site was provided by PCC covering a ten year period from October 2003 (HR-013). This included the construction period for the LNG Terminal. PCC identified 23 accidents during this period including two fatalities. PCC further argued that the section of the road from Tiers Cross to the site suffered from severe horizontal and vertical alignment issues making it unsuitable for abnormal loads and high levels of construction traffic. The applicant submitted a detailed swept path analysis of this section of road based on the two largest abnormal load vehicles that could be accommodated on the route (REP-027). This showed that these vehicles could use the existing roads taking account of both the vertical and horizontal layout and without grounding where there were changes of gradient. Detailed planning for exceptional loads would be included in the CTMP which was provided for under Requirement 14 of the draft DCO. In response PCC argued it was possible that larger vehicles could be used and that, therefore, the worst case scenario had not been explored.
- 4.87 Disagreement between the applicant, PCC and PCNPA on the need for road improvements as a necessary condition for approval of the development remained unresolved at the close of the Examination and no section 106 agreement was put in place. Towards the end of the Examination the applicant put forward a proposal for a Community Project Funding Agreement (CPFA) under which £400,000 would be made available for projects related to transport and affordable housing approved by the local planning authorities. This was a voluntary proposal and was not in the form of a planning obligation. It was not accepted by the local planning authorities as a substitute for a section 106 agreement and no agreement was finalised.

### Findings and conclusions on transport

- 4.88 No significant concerns have been identified in respect of traffic during the operational phase of the plant but there is disagreement between the applicant and the local planning authorities on the impact during the construction phase and the need for mitigation measures.
- 4.89 I note that the improvement to Bulford Road is expected to be completed by mid-2015 and should therefore be available for use

by construction traffic in the early stages of any construction work. Routing of construction traffic along the Bulford Road route would be included in the CTMP. That would address the concerns of Milford Haven Town Council with traffic using the improved Bulford Road rather than the road through Milford Haven, Hakin and Hubberston. The remaining concerns are related to the roads to the south and west of the Bulford Road improvement.

- 4.90 It is clear that there will be additional traffic on the road from Tiers. Cross to the construction site. That will be a combination of light and HGV traffic. This route would also be used by any abnormal loads delivered by road. However the estimated increases in traffic flows are generally not at a level that would be considered to have a significant impact on the local community. Peak hour flows would be high in the vicinity of the construction site but the sections of road affected are, for the most part, not residential. The only residential area with high peak flows (Dale Road to the East of Tiers Cross Road) is not one of those identified by PCC as in need of improvement. Accident statistics show a range of types of accident but do not demonstrate a specific existing safety issue that would be exacerbated during the construction period. It appears that there was some increase in accidents on the road south of Tiers Cross during the period of the construction of the LNG Terminal but none of these involved HGVs and most occurred outside of the peak times for arrival and departure of site workers.
- 4.91 The draft DCO includes a provision- Requirement 14 for a CTMP, to be approved by the relevant planning authorities before commencement of the development. This would specify on- and off-site details for traffic management, including the routing of construction traffic and arrangements for exceptional loads. Provisions in the CTMP, for example for the staggering of start and finish times and routing of HGVs, will provide mitigation for the worst case peak flows on which the ES assessment was based.
- 4.92 In my view the case for specific road improvements to further mitigate off-site transport impacts resulting from the proposed development and to be funded through a section 106 agreement has not been made.

### SOCIO-ECONOMIC IMPACTS

- 4.93 The assessment in the ES of the socio-economic effect of the proposed development was that it would be beneficial to the local community in terms of direct employment and multiplier effects, particularly during the construction phase and that it would have a neutral effect on recreation and tourism in the area (APP-032).
- 4.94 PCNPA in its LIR (REP-018) accepted that there would be positive economic benefits from the project and that the effect on tourism would be neutral. PCC in its LIR (REP-019) considered that the proposal was likely to result in a moderate positive social impact

and a major positive economic impact. The proposal was broadly in accordance with the PCC LDP. Both PCNPA and PCC raised concern in their LIRs about the impact on housing in the area. In PCC's view the proposal 'was likely to have a major negative impact on housing provision during the period of construction and, as a result, would prejudice delivery of the strategic housing policy in the LDP in respect of affordable housing.'

4.95 A number of IPs supported the development on grounds of benefit to the local economy (RR-009, RR-010, RR-011, RR-017). Others expressed concern about the impact on tourism and on property prices either in general terms or in respect of individual impacts (RR-003, RR-007, RR-015, RR-018, RR-030, AS-003).

### Housing

- 4.96 PCNPA and PCC both attached the same appendix to their LIRs setting out their analysis of housing implications of the proposed development. This drew on analysis in the Pembrokeshire Haven Spatial Plan (PHSP) of 2005 and a 2011 report for Anglesey County Council on Wylfa Nuclear New Build: Construction Workers Accommodation (the Anglesey Report). The PHSP suggested that for energy projects in the Pembrokeshire Haven area 58% of the jobs might be taken by local employees and 42% by workers travelling in from outside the area and requiring temporary accommodation. The Anglesey Report estimated that only 30% to 40% of employees on the Wylfa project would be local with 60% to 70% travelling in from outside the area. Applying these percentages to the expected workforce for the CHP plant suggested that between 240 and 350 travelling workers could require accommodation.
- 4.97 PNCPA and PCC also drew attention to PCC's experience of an increase in homelessness during the period of construction of LNG Terminals and other energy projects. There had been an increase in homelessness due to loss of privately rented accommodation in the run up to the start of construction in late 2005 with a decline in the following years. Anecdotal evidence was quoted that landlords had terminated tenancies in order to let to LNG Terminal construction workers at higher rents. It was considered that the impact of workers employed in the construction of the CHP plant who were willing to pay higher rents for private accommodation than were affordable to local residents could be significant.
- 4.98 Four options for mitigation of the perceived adverse effect were put forward involving the applicant providing funding for accommodation. The preferred option was for the applicant to construct a workers camp to accommodate between 120 and 150 workers (30% of the average workforce during construction) in the Milford Haven area that could serve a dual purpose as affordable housing provision in the long term. To pre-empt any loss of

affordable housing this would need to come on stream in mid-2014.

- 4.99 The applicant took issue with this analysis arguing both that the scale of work considered and the periods of construction in the two studies were very different from the CHP plant (REP-023). The CHP plant would be on a smaller scale and have a shorter construction period. In addition Pembrokeshire had a much higher availability of accommodation of all sorts than the Anglesey area.
- 4.100 The applicant accepted that around 30% of the workforce might need to find accommodation in the area but argued that this represented a very small percentage of accommodation available. It was, for example, less than 1% of self-catering bed spaces available in Pembrokeshire and less than 2% of the private rented stock in the county. The applicant provided details of the accommodation directory that it had started to compile. This listed potential providers who had expressed an interest in accommodating the workers on the CHP plant. 75 providers had been identified offering around 390 bedspaces. Further properties would be available through letting agencies.
- 4.101 In the applicant's view the expected level of demand could be easily catered for with existing accommodation and there would be no negative effect on the affordable housing stock. There was, therefore, no need for the mitigation measures proposed by PCNPA and PCC.

### Findings and conclusions on socio-economic impacts

- 4.102 In their LIRs PCNPA and PCC agreed that the proposed development would be beneficial in terms of employment and wider multiplier effects but the applicant, PCNPA and PCC were not able to agree on the possible effect on affordable housing which the local planning authorities see as an adverse effect of the proposed development.
- 4.103 The evidence for an adverse effect on affordable housing is largely drawn from analysis carried out for other potential energy projects. Some evidence was provided on homelessness resulting from loss of private sector rented accommodation but the link between this and demand stimulated by energy projects was anecdotal.
- 4.104 I agree with the applicant's view that the scale and duration of the construction of the CHP plant would be less than for the other projects that had been analysed. I also attach weight to the evidence provided on the volume of accommodation available in Pembrokeshire and the specific interest that had already been identified from providers of accommodation. This suggests that the additional demand for accommodation as a result of workers

travelling into the area for the construction of the CHP plant would be small relative to the available supply.

4.105 I cannot rule out that there may be some impact, as PCC and PCNPA have suggested, on availability of affordable housing but no specific evidence of this, related to the proposed development, has been provided. I do not therefore consider that the concerns expressed about an adverse effect on affordable housing are ones to which I should give weight or that specific mitigation measures are required to offset an adverse impact.

### SEASCAPE, LANDSCAPE AND VISUAL IMPACT

- 4.106 The application site is set at 35 to 40 m above ordnance datum (AOD) in a prominent location on the South Hook peninsula on the north shore of the Waterway. To the west of the site there is seascape of high scenic value within the National Park. The landscape and townscape context to the east contains large scale energy and petrochemical installations. The village of Herbrandston and the suburbs of Hakin and Hubberston on the edge of Milford Haven are the closest settlements.
- 4.107 The CHP plant would be a major new structure in the landscape and seascape of the area although the site was previously an oil refinery which closed in 1983 and was decommissioned in 1990. The maximum dimensions for the main buildings (the Rochdale envelope) are for a GTG building 30.5 m high, 126 m long and 101 m wide, a HRSG building 42 m high, 66 m long and 50.5 m wide and for a stack 8 m in diameter and up to 85 m high (APP-021). These are the structures that would be most visible both from nearby and at a distance. In addition the plans include lower level buildings to provide workshops, administration, an electrical substation, standby cooling and storage tanks which would mainly only be visible from closer by.
- 4.108 The seascape, landscape and visual impact assessment (SLVIA) in the ES (APP-025) was carried out using established principles and guidance set out in a number of publications which included the Guidelines for Landscape and Visual Impact Assessment (GLVIA). The assessment was carried out with regard to the second edition of the Guidelines, but was subsequently reviewed in the light of the third edition (APP-056). The approach adopted included use of LANDMAP information prepared by CCW (now NRW) for use in assessing the impact on landscape of projects in Wales.<sup>22</sup> The methodology for assessing the significance of impacts outlined at paragraphs 4.9 to 4.12 was applied in the SLVIA. Using this

<sup>&</sup>lt;sup>22</sup> LANDMAP assesses the diversity of landscapes within Wales. It identifies and explains their most important characteristics and qualities - whether they are ordinary, but locally important landscapes, or nationally recognised spectacular landscapes. http://www.ccw.gov.uk/landscape--wildlife/protecting-our-landscape/landmap.aspx?lang=en

methodology, impacts with substantial and major significance indicate potential concerns associated with the project; an impact of moderate significance may not be a key decision taking issue on its own but the cumulative effect of such impacts could result in greater concern. Impacts of minor and negligible significance are unlikely to be of concern in the decision taking process.

- 4.109 The LANDMAP approach brings together information on five landscape categories as a basis for assessing environmental value or sensitivity. These are:
  - (a) Visual and sensory;
  - (b) Historic landscape;
  - (c) Cultural landscape;
  - (d) Geological landscape; and
  - (e) Landscape habitats.
- 4.110 The character of the surrounding area was analysed for each of these categories and an overall assessment of value arrived at based on all five categories. The assessment for each category was carried out for a 10 km radius from the site to enable a direct comparison to be made. To establish a broader baseline the visual and sensory aspects were also assessed for the wider area within a 10 km to 25 km radius. On the basis of this analysis the site itself and the area to the east where there is existing industrial, commercial and residential development, was categorised as of low to medium landscape value, the land areas to the north and west of the site and on the south of the Waterway were shown as of high value, the Waterway itself and much of the Coastal Path was deemed to be of outstanding value (APP-041).
- 4.111 Photographs and photomontages showing views of the site at present and how these might look after construction of the CHP plant were provided for 22 locations chosen in consultation with PCNPA and PCC (APP-042). During the Examination photomontages were prepared for a further two locations close to the site (REP-023). Each set of photomontages shows the existing view, the basic mass models of the plant structures with the maximum Rochdale envelope and computer models of architectural treatments of the plant in the form it might be constructed. Sequential effects were also considered for users of the Coastal Path and the B 4320 road from Pembroke Dock to Angle and for recreational and commercial users of the Waterway.
- 4.112 A Design Principles Statement setting out design principles to be adopted in the construction of the CHP plant was included with the application (APP-082). These principles include commitments on the layout of the plant, maximum dimensions of the main structures and curved roof profiles. Further detail is provided in the Design and Access Statement (APP-074). The landscape objectives are:

- (a) To restrict the horizontal spread of proposed development and to locate key buildings directly in front of or behind existing development in key views to limit cumulative effects;
- (b) To reflect within the rooflines or top profiles of the buildings existing shapes (low rounded hills) in the surrounding landscape;
- (c) To use the muted colours already present in the surrounding landscape/seascape and to avoid the use of highly reflective surfaces which could draw attention to the CHP plant in distant views;
- (d) To make the cooling system compact and to move it away from the south west corner of the main CHP plant site to reduce visual impact;
- (e) To merge changes in level with existing engineered landform in the south east corner of the Application Site;
- (f) Grassland habitats to be established in broad swathes to provide movement and texture and link with the maritime habitats outside of the Application Site boundary.
- 4.113 The development was assessed for seascape, landscape and visual impacts during both the construction and operational phases.

### Impact during construction

During construction most activities would be visible close to the 4.114 site. High level construction work, including cranes, would be prominent from the seascape and landscape. The assessment in the ES judged that, in the context of the existing large scale industry in the Waterway, the effect on seascape would be negligible close to the site and minor within the wilder parts of the seascape. The direct and indirect effects on landscape were generally considered to be negligible or minor but with some moderate impact from visibility from the Waterway. These were not considered to be significant in EIA terms. Major or moderate adverse visual impacts were identified for residents in the nearby villages of Herbrandston and Upper Neeston, the nearest viewpoint to the site - South Hook Point - and along the Coastal Path between Watch House Point and South Hook Point. These were considered to be of significance. Other visual impacts were considered to be minor or negligible (APP-025, APP-056).

### Impact during operation

4.115 The impact on seascape to the east of the site where there is already a concentration of large scale industrial development was considered to be negligible. Although the scale of the buildings would be larger than existing features on the site it would be comparable in scale to existing infrastructure nearby. To the west of the site there would be moderate effects in the wilder parts of the seascape. However the impact on more distant seascapes which form part of the Atlantic coast was considered to be minor.

- 4.116 The landscape assessment in the ES considered both the direct and indirect effects of the proposed development. The development would represent a significant intensification and extension of existing development in the area. There would also be a significant extension of lighting at the main plant in an area that is currently largely unlit. The long term direct impact of these changes was considered to be moderate in daytime and minor at night. The direct impacts on historic and cultural landscape and on landscape habitat aspects were considered to be minor with negligible effects on geological landscape aspects.
- Indirect effects on landscape relate to any area which lies within 4.117 the 25 km radius from the site. The Great Castle Head Cliff and Cliff Tops aspect area includes the coast line at South Hook and the area to the west of the site on the north of the Waterway. It contains dramatic cliffs and undulating grassy cliff tops and would be closely associated with the proposed development. The ES states that the 'juxtaposition of large scale infrastructure and wild coastline and seascape is strongly characteristic of the Waterway and will not be at odds with the overall character of this part of Pembrokeshire. The CHP plant will form a prominent and large scale addition to the seascape in the context of this narrow strip of natural coastline. The Scheme will influence the wild characteristics of the aspect area and slightly diminish its scenic quality. The sensitivity of the aspect area is high and the magnitude of the change will be medium resulting in a moderate significance of effect in the day and at night.'
- 4.118 St Ann's Head Cliff and Cliff Tops aspect area further to the west of the site defines the wild and dramatic seascape at the mouth of the Waterway. This area has a very high sensitivity but would only undergo a small magnitude of change. The overall assessment in the ES is of an effect of moderate significance for the area's character.
- 4.119 Other areas of high sensitivity are the rolling farmland in the Hill Mountain area to the north and east of the site, Sandy Haven to the north-west of the site, Gelliswick Bay to the east, Angle Bay East on the south of the Waterway and the open rolling lowland and rolling farmland on both sides of the Waterway. For each of these areas the magnitude of the change would be small leading to minor overall effect. The more distant coastal area including the islands of Skomer, Skokholm and Ramsey are also areas of very high sensitivity but the ES states that the tallest buildings on the site, including the stack, would 'be visible as barely perceptible additions to an industrialised seascape seen beyond wild and rural landscapes.' The overall effect on the character of the area was assessed to be minor during the day and negligible at night.
- 4.120 The impacts on historic and cultural landscapes, landscape habitats and geological landscape aspects were considered to be minor or negligible.

- 4.121 Each of the 22 viewpoints for which photomontages had been prepared was assessed for significant effects. On the Coastal Path at South Hook Point new buildings would extend well above the skyline and extend further horizontally than existing development. The new stack will be significantly larger than the existing stacks at the LNG Terminal. This change in view was considered in the ES to result in a major effect which is significant in terms of the assessment methodology. Lighting within the site would represent an extension of existing light sources and result in a moderate effect.
- 4.122 The plant would also be clearly visible from Great Castle Head above the cliffs of South Hook Point and in front of the LNG Terminal storage tanks. The stack would form a strong vertical element reflecting the form of development at the Valero and Murco refineries to the right and left of the view. Curved roof forms and other design techniques could be used to limit the visual impact. Overall the significance of the visual impact from this viewpoint was assessed as moderate in the daytime and minor at night.
- 4.123 The development would also be a prominent feature in the views from Herbrandston and Upper Neeston. For both of these villages the significance of the effect was considered to be major during the daytime and moderate, as a result of increased lighting at night. The impact for all of the other viewpoints was assessed as minor or negligible.
- 4.124 The sequential impact of the development could be significant for users of the Coastal Path. Cliff top walkers on the section of the Coastal Path to the west and south of the South Hook peninsula will have near views of many of the elements of the plant. The main buildings and stack would form prominent, at times dominant, additions to the view around the perimeter of the site. There would be a strong contrast between the existing developments and the undeveloped coastline. The effect on receptors on this section of the Coastal Path was considered to range from major to minor resulting in some significant effects.
- 4.125 Further to the west between Sandy Haven and Watch House Point there would be mid-distance views of the plant across a foreground of sea and coastline. The plant would be a prominent addition to existing industrial development at the site although partially obscured by woodland from some viewpoints. The overall impact was considered to be moderate. Other sequential impacts were assessed as being of minor significance.
- 4.126 The CHP plant would emit a visible plume from the stack under certain weather conditions. The assessment carried out suggested that a plume would only be visible for part of the year and would be more common at night when air temperature is cooler. The form and extent of the plume will change constantly making a

definitive assessment of its effect difficult. The assessment in the ES was that the effect of the plume on visual, landscape and seascape receptors would be minor. Additional information provided during the Examination in response to my first questions stated that modelling of the plume indicated that the length of any plume would usually be less than 400 m and would therefore not extend beyond the site boundary. The modelling carried out for the ES suggested that visible plumes would only extend beyond the site for 101 daylight hours in a year - 2.3 % of daylight hours in a year. Photomontages showing a visible plume were provided (REP-017).

### **Views of Interested Parties**

- 4.127 PCNPA and NRW jointly commissioned external consultants to carry out an appraisal of the SLVIA and this report was submitted as an appendix to PCNPA's LIR (REP-018). The report concluded that the SLVIA followed an appropriate methodology but failed to take account of PCNPA's SPG on Landscape Character. Landscape Character Area 11 - Herbrandston was relevant to the proposal. In PCNPA's view the Landscape Character Assessment provided a further tier of assessment in addition to LANDMAP. The absence of this being taken into account called into question some of the conclusions of the SLVIA.
- 4.128 This was a particular concern in respect of the area of the National Park from Sandy Haven to Great Castle Head. In this area there are expansive views across to the site and the area of the site does not appear industrialised from this location. The Herbrandston Landscape Character Area is identified in the SPG as providing a 'buffer' function between the industrialised development to the east and substantially unaffected areas of the National Park to the west. The introduction of the CHP plant into this landscape character area would result in the loss of this function. In PCNPA's view the impacts to this area would be major adverse and significant and not 'moderate and not significant' as concluded in the SLVIA. This would conflict with the management aims set out in the SPG for Area 11. There would also be major negative visual impacts at close quarters to the site, in particular from the Coastal Path to the south and west of the site.
- 4.129 PCNPA questioned the details of the significance assessment matrix submitted with the SLVIA (REP-016 and REP-042). It argued that the viewpoints within the National Park should have been assigned 'very high' rather than 'high' sensitivity. This would have led to the significance of the impact for seven locations being increased from minor to moderate or major. For the viewpoint at Great Castle Head adoption of the very high sensitivity classification would result in the significance of the impact being either major or substantial. In PCNPA's view the impact of the development on the stretch of coast line from Great Castle Head

to Little Castle Head was significant in EIA terms and potentially the most significant in the National Park.

- 4.130 PCNPA did not consider that the proposal would comply with its first purpose to conserve or enhance the natural beauty and cultural heritage of the National Park, nor meet adopted policies with regard to the protection of the National Park's special gualities. The buildings, as indicated by the Rochdale envelope, were considerably more imposing than would be the case for a scheme where the visual appearance had been carefully designed. The indicative design proposed provided a basis for achieving mitigation to alleviate some of the impacts identified but the Design Principles Statement was considered to be rather vague. In addition landscaping should form an integral part of the design approach. A further concern was that drawings and visualisations often failed to take into account additional processing clutter fitted to structures post-construction leading to deterioration in the visual appearance. Assurances should be provided that all aspects of the development will be depicted in the final design.
- 4.131 PCNPA concluded that while some of the negative aspects of the development could be mitigated by the proposed 'high quality architectural solution' and appropriate landscape mitigation, there would be an adverse effect on landscape quality and character which in some cases would be a major negative impact. This would impact on the qualities of the National Park and on a primary purpose of the PCNPA and the requirements of its adopted development plan policies.
- 4.132 In its written representation NRW agreed that the approach adopted in the SLVIA was consistent with industry guidelines and that there was detailed consideration of the special qualities of the National Park (REP-009). Cumulative impacts had been adequately considered. However it supported PCNPA's view that no assessment had been made with regard to the National Park Landscape Character Areas as defined in the PCNPA SPG. The use of LANDMAP was generally appropriate and comprehensive but came to different conclusions with respect to land immediately surrounding the site than the PCNPA SPG.
- 4.133 NRW identified three areas that would be most affected by the development. These are:
  - (a) The village of Herbrandston. The CHP plant would introduce large scale industrial buildings into a view that is currently free from them. Mitigation by design is essential to limit the harsh impact of the Rochdale envelope proposal. No consideration appeared to have been given to whether offsite planting might mitigate the adverse impact.
  - (b) South Hook Point. NRW suggested that the sensitivity of this receptor should be considered to be very high rather than high but recognised that there was only one stretch of the

Coastal Path from which open views of the site were possible. It questioned whether consideration had been given to the use of earth mounding and planting to soften this view.

- (c) Sandy Haven to Great Castle Head. NRW did not accept the applicant's assessment that the impact on the view from Great Castle Head and, by inference, the section of the National Park from Sandy Haven to Great Castle Head would only be moderate and not significant. There are clear views across to South Hook and although the refinery on the south side of the Waterway is clearly visible, it is more distant. The South Hook peninsula does not appear industrialised from this location. In NRW's view the key mitigation would be through design and the reduction in the overall height and bulk of the CHP plant. The possibility of establishing some structural landscaping should also be considered.
- 4.134 NRW raised concerns about the presentation of the Rochdale envelope in the application and questioned whether the design mitigation measures adequately encompassed the maximum dimensions in the Rochdale outline. The buildings as shown in the Rochdale envelope would be unacceptable in this location and mitigation by design, as proposed, was fundamental to reducing the landscape/seascape/visual issues associated with the current proposals.
- 4.135 PCC in its LIR expressed the view that, subject to good quality final design and satisfactory landscape mitigation, the visual impact of the proposed development was likely to be moderate but possibly major from some limited viewpoints (REP-019). Its impact on landscape character within the PCC area was considered to be minor. Further consideration should be given to landscaping mitigation. PCC also drew attention to the need to control additional processing clutter fitted post-construction. The proposal would be contrary, to a limited degree, with PCC's General Development policy GN.1 but not contrary to its policy GN.38 on Protection and Enhancement of the Historic Environment.
- 4.136 Representations were received from a number of local residents and local community associations expressing concern about the location of the proposed plant in the National Park and its intrusive impact on views from the neighbouring villages, settlements to the west of the site and from marine activities on the Waterway (RR-002, 003, 007, 015, 016, 018, 019, 022, 029, 030). Lighting at the plant was also a concern. Suggestions for mitigation of the impact included use of the eastern part of the LNG Terminal, setting the plant lower in the western part of the site and the setting up of a community fund as an offset for the visual intrusion.
- 4.137 The applicant responded in writing to the points raised by IPs (REP-023) and I asked a number of questions about these issues at the first ISH (HR-007, HR-008). I also visited a number of the

viewpoints during the ASV including Herbrandston, South Hook Point, Sandy Haven and Great Castle Head which have been identified as areas where the visual impact might be classed as of major significance (HR-005).

- 4.138 There continued to be disagreement on the degree of sensitivity to be attached to views from particular locations and the overall significance of the impact at each location. The applicant drew attention to the statement in EN-1 that 'the nature of much infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of an area' and to the guidance in EN-2 that limited weight should be given to concerns over the visibility of a fossil fuel generating station provided that it was in an appropriate location and had been designed sensitively.
- 4.139 At the first ISH the applicant clarified the purpose of the Rochdale envelope as shown on the photomontages. These showed the 'mass model' for the plant representing the volume required to accommodate the main engineering infrastructure for the plant. The 'mass model' set the basic parameters for a minimum built form. The larger Rochdale envelope limits represent the maximum volume required to accommodate the illustrative architectural treatment within the photomontages. The difference in the size of the mass model and Rochdale parameters represent the envelope within which an architectural treatment could be designed.

### Changes proposed by the applicant

- Following the first ISH the applicant held further discussions with 4.140 NRW, PCNPA and PCC. The Design Principles Statement submitted with the application (APP-082) was revised to provide further detail on roof structures in order to address concerns that had been raised (REP-032 and AS-012). The changes include a provision to address the concern about roof top 'clutter' that the roof for the main power plant buildings 'shall be free of external protuberances where possible to create a clean and unobstructed roof line'. The overhang of the roof should 'ensure that as much of the exposed walls is screened as practical and maintain the curved form sympathetic to the rounded rolling hills in the surrounding landscape'. The roofing for the administration building and workshops should 'if practicable, be clad with a green or living roof. This roof structure and cladding is intended to simulate a berm when viewed from the north.'
- 4.141 The applicant also submitted new proposals for landscaping on and adjacent to the site (REP-033). This included hedgerow and tree planting to provide additional screening of the site from the north and west and hedgerow planting on the adjoining NCA to provide an additional screen close to the Coastal Path. That would be

subject to obtaining the necessary land rights or approvals including approval by the Conservation Trustee for the NCA.

- 4.142 A final SoCG in respect of seascape, landscape and visual impact between the applicant, NRW and PCNPA was submitted towards the close of the Examination (REP-056). PCC was not party to this statement but was consulted during its preparation. The applicant stated in this SoCG that it was not aware of any material concerns of PCC that were not addressed.
- 4.143 In this SoCG it was agreed that although the proposed development will have some adverse effects on the landscape of the National Park the proposed design approach (as revised during the course of the Examination) would ensure that these effects would be mitigated as well as could be reasonably expected at such a location. The implementation of the Design Principles Statement and the draft landscape proposals scheme (accepting that no mitigation may be possible on the NCA) would be secured by Requirements 5 and 6 in the DCO.
- 4.144 It was agreed that the execution of the revised design principles to secure the proposed architectural treatment of the CHP plant and the limitation of the scale, mass and height of the facility and the form of the buildings and structures will provide the most significant mitigation of effects on landscape, seascape and visual resources.
- 4.145 Whilst there continued to be elements of disagreement between the parties regarding some elements of the SLVIA and conclusions within the ES, it was agreed that such adverse impacts as arise are confined to the vicinity of the CHP plant, including the Sandy Haven to Great Castle Head coastline, and effects would be relatively localised. It was also agreed that the 'mitigate by design' approach adopted by the applicant remained the most appropriate approach to adopt, regardless of any disagreement between the parties in respect of the conclusions within the SLVIA and ES. The mitigation measures agreed should be incorporated into requirements in the DCO.
- 4.146 There continued to be disagreement on whether PCNPA's SPG guidance had been adequately taken into account in the ES and on the extent to which the existence of 'extensive infrastructure development' in the area should be taken into account in assessing the sensitivity of particular viewpoints and the significance of the impact of the development in these locations.

# Findings and conclusions on seascape, landscape and visual impact

4.147 The SLVIA uses appropriate methodology to provide a thorough appraisal of the possible impact of the development. There is, in my view, an element of subjectivity in the judgements made about

the impact from individual viewpoints particularly in respect of the balance between the industrial context of the site when viewed from the wilder areas in National Park to the west of the site. I agree with NRW and PCPNA's case that higher weight should have been given to the sensitivity of the locations in the area from South Hook Point to Great Castle Head. I also consider the location of the site on the boundary between the industrially developed area and the wilder area to the west, as identified in the PCNPA SPG for Herbrandston, is of relevance but is, in my view, a consideration that cuts both ways. Although the site is just within the National Park boundary and subject to special consideration, it is the site of a former oil refinery and adjacent to the LNG Terminal. The site is clearly a part of the industrialised landscape on both sides of the Waterway. Both aspects need to be taken into account in any assessment of impact.

- 4.148 Mitigation by design is the main way in which the applicant has proposed to offset any adverse impacts. The design proposals have been clarified during the course of the Examination and strengthened by the inclusion of provisions to avoid clutter of small additions to the structure interfering with the main outline of the plant.
- 4.149 Landscaping provisions have also been developed. These include on-site planting and planting in the neighbouring NCA. Both of these elements will be included in the landscaping scheme to be submitted under Requirement 6 but I recognise that planting in the NCA requires agreement with third parties. If that agreement is not forthcoming no alternative landscaping mitigation is proposed. I consider that the proposed landscaping in the NCA would be a desirable addition to the on-site landscaping but I do not consider that it would be proportionate to make agreement on this, which is outside the applicant's control, a requirement in the DCO. For the purpose of my assessment I have, therefore, only taken into account the on-site landscaping proposals.
- 4.150 Even if more weight had been given by the applicant to the sensitivity of certain viewpoints I consider that the proposals put forward for mitigation by design will largely offset the impact of the proposal as shown in the bare Rochdale envelope outlines. Additional on-site landscaping proposals will provide some mitigation of the impact of the development as viewed from nearby locations. Nonetheless and after taking into account the industrial context of much of the area, there will still be a localised adverse impact on the landscape and views from the Coastal Path close to the CHP plant and on the coastline from Sandy haven to Great Castle Head.
- 4.151 NPS EN-2 provides guidance that if a project 'has been designed sensitively ... to minimise harm to landscape and visual amenity, the visibility of a fossil fuel generating station should be given limited weight.' I am satisfied this design condition is met for the

proposed development. However, since it is located in a National Park which has the highest status of protection in relation to landscape and scenic beauty, further consideration must be given to the impact of the development following the guidance in NPS EN-1. This is set out in the following section.

### MAJOR DEVELOPMENT IN A NATIONAL PARK

- 4.152 The relevant legal and policy considerations in respect of major developments in National Parks have been summarised above at paragraphs 3.10 to 3.11 (EN-1), 3.15 to 3.17 (The National Parks Act) and 3.18 (Planning Policy Wales). EN-1 recognises that special status of National Parks and states that substantial weight should be given to the conservation of the natural beauty of the landscape and countryside in considering applications for development consent in these areas. Nevertheless development consent can be granted in National Parks in exceptional circumstances. Development should be given to:
  - 'the need for the development, including in terms of national considerations, and the impact of consenting or not consenting it upon the local economy;
  - The cost of, and the scope for, developing elsewhere outside the designated area or meeting the need in some other way ...;
  - Any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which they could be moderated.'

# Need for the proposed development and impact on the local economy

- 4.153 The proposed development of 500 MWe of fossil fuel generating capacity is an NSIP as defined in section 14(1)a and section 15(2) of PA 2008. As noted above at paragraph 3.2, NPS have been designated covering this type of development and the Secretary of State must have regard to these in deciding on the application for a DCO.
- 4.154 EN-1 states that the UK needs all of the types of energy infrastructure covered by the NPS and that the decision taker (the Infrastructure Planning Commission (IPC) at the time the NPS was designated, now the Secretary of State) 'should assess all applications for development consent for the types of infrastructure covered by the energy NPSs on the basis that the Government has demonstrated that there is a need for those types of infrastructure...' The NPS acknowledges that reducing demand and interconnection with other electricity systems can contribute to meeting the Government's objectives but concludes that 'their effect on the need for large scale energy infrastructure will be limited ...'

- 4.155 Fossil fuel power stations are expected to continue to play an important role in the energy mix with gas fired plant providing vital flexibility to support an increasing amount of low-carbon generation and to maintain security of supply.
- 4.156 In its LIR (REP-018), PCNPA argued that the Planning Statement (APP-072) submitted with the application did not provide a breakdown on progress in the UK generally to achieving the minimum need for new generation capacity identified by the Government. It argued that there was insufficient information provided in the application to make a judgement on whether the development was needed. Following additional information provided by the applicant (REP-023) and discussion at the first IFH, PCNPA accepted that national need for the project had been demonstrated (HR-014).
- 4.157 The impact of the development on the local economy is considered in the ES (APP-032). On average 400-500 jobs are expected to be created during the 26-30 month construction period. Not all of those will be taken by employees from the local area but the effect of the provision of a wide range of construction jobs with some knock-on demand for other local businesses is expected to be beneficial to the local economy. In the operational phase there are expected to be 30 jobs with above average remuneration for the local area. This was considered by the applicant to be beneficial. The effect on tourism in the area was considered to be neutral.
- 4.158 PCC in its LIR (REP-019) and final SoCG (REP-057) considered that the socio-economic impact would generally be positive and would add to the sustainability of South Hook LNG operations. However PCC, expressed concern about an adverse effect on affordable housing.
- 4.159 PCNPA in its LIR (REP-018) and its final SoCG (REP-055) considered that the development would have a minor positive economic impact on the National Park. PCNPA was concerned about a negative impact on users of the coastal path but considered that this would be outweighed by the positive economic contribution through job creation. PCNPA supported PCC's concern about a possible adverse effect on affordable housing. Both PCC and PCNPA agreed that the proposed development would add to the sustainability of South Hook LNG operations and would provide greater resilience in the local electricity supply system which serves the energy hub that is centred around the Waterway.

# Findings on need for the proposed development and impact on the local economy

4.160 I am satisfied that the statements in EN-1 are sufficient, as far as this application is concerned, to establish a national need for this power plant subject to consideration of other impacts of the

proposed development. PCNPA has accepted that the need for the development has been demonstrated. I am also satisfied from the information provided that the development would have a positive effect on the local economy in terms of employment creation and would have a neutral effect on local tourism. In my view, the application meets the first of the three tests for a major development in a National Park. Consideration of the impact on housing is set out above at paragraphs 4.96 to 4.104.

### **Consideration of alternatives**

- 4.161 Given that the proposed CHP plant is intended to provide excess heat to the LNG Terminal, the only locations for the plant considered by the applicant were all within the LNG Terminal site. Initially five possible sites were considered. One was discarded because it was too small. The remaining options were developed into a western and an eastern option and were the subject of preapplication consultation. The western option is located predominantly within the National Park and the eastern option predominantly outside the National Park. The alternative locations are shown in the ES at APP-36.
- 4.162 As set out in the ES, the criteria used to compare the western and eastern options were:
  - size (area, footprint, dimensions);
  - physical proximity to LNG Terminal infrastructure;
  - total emissions and efficiency of the CHP plant;
  - interconnectability between CHP plant and LNG Terminal infrastructure;
  - ground conditions (e.g. load bearing capacity to support the foundation of the CHP plant, and presence of existing contamination);
  - visual impact and noise;
  - proximity to sensitive receptors;
  - accessibility for construction and operational purposes; and
  - ability to accommodate the standby cooling system.
- 4.163 The primary disadvantages of the eastern option were:
  - being a potential area for the expansion of the LNG Terminal;
  - being at a greater elevation in the landscape and therefore more visible from most of the key viewpoints around the Waterway;
  - requiring a considerable volume of material to be excavated;
  - being downwind of the storage tank vents of the LNG Terminal; and
  - being closer to the shoreline, Milford Haven Golf Course and the Hakin area of Milford Haven.
- 4.164 The western option was nearer to the NCA and to the village of Herbrandston but had the advantages of:

- being further from the greatest local concentration of nearby properties;
- being less elevated;
- being located on a gently sloping area requiring considerably less excavation for ground levelling purposes than the eastern option; and
- allowing for a more efficient interconnection with the LNG Terminal.
- 4.165 In the consultation phase less than a third of local residents expressed a view in favour of either location and these were equally divided between the two sites with residents generally favouring the site furthest from their location. Following consultation and the analysis carried out the applicant decided to proceed with the western option which is within the National Park.
- 4.166 In its LIR PCNPA accepted that the eastern location had a number of logistical and physical constraints that would be more difficult to address than the western location. But PCNPA expressed concern that no evidence had been presented to suggest that these difficulties were insurmountable for financial or other reasons. It also argued that meeting the need in some other way than within the LNG Terminal had not been addressed by the applicant.
- 4.167 The applicant provided additional information in response to PCNPA's comments (REP-023). Although the western and eastern options were considered comparable during the first phase of the pre-application consultation it became clear, as engineering assessments progressed, that the eastern option was severely constrained and was not a realistically acceptable location for the CHP plant. In particular the eastern site would locate the CHP plant in close proximity to and downwind from the LNG Terminal flare tower which is an emergency vent system. The area reserved for carbon capture would also be closer to the LNG Terminal tank vents.
- 4.168 It was considered by the applicant that since the CHP plant would be located next to a top tier COMAH facility a fundamental consideration was to achieve a solution that reduced risks as low as reasonably practicable (ALARP). Choice of the western site increased the distance from the flare tower and significantly decreased the hazard risk from the flare tower and other vent systems. This concern, combined with visual impact and construction complexity on the eastern site, led to the choice of the western option.
- 4.169 The applicant also set out reasons why a location for the CHP plant outside of the LNG Terminal was not practicable. Close coordination of the heat demand of the LNG Terminal and the heat supply from the CHP plant was essential and, in the applicant's view, would not be practicable at on off-site location. Increased distance between the CHP plant and the LNG Terminal vaporiser

trains would decrease efficiency, increase power requirements, net emissions and operating costs.

- 4.170 Preliminary assessment of remote options indicated that capital costs would increase by £20 £40 million if the plant was located 2 km from the LNG Terminal. Operating costs would also increase significantly with higher pumping costs, increased heat losses and increased losses in electricity transmission. The National Grid could require reinforcement to supply gas to the plant and there would be environmental and planning issues associated with the additional pipework required to connect the CHP plant and the LNG Terminal. The applicant stated that due to the substantial commercial and environmental advantages of co-locating this particular CHP plant with the LNG Terminal, it would not have submitted an application for a remotely sited CHP project.
- 4.171 This issue was discussed at the first ISH (HR-007) and PCNPA accepted that in the light of additional information there was little scope for developing outside the designated area without resulting in greater impacts on the National Park designated landscape. Available sites away from the existing terminal were considered to be less favourable due to the requirement for the plant to co-exist with the existing LNG Terminal. That view was subsequently ratified by the Chairman of PCNPA and the Chair of the Development Management Committee in line with PCNPA's scheme of delegation on this matter (HR-014).

### Findings on consideration of alternatives

4.172 Taking into account the information on alternative locations for the development provided in the application and the additional information provided by the applicant during the Examination I am satisfied that there has been adequate consideration of the cost of, and the scope for, developing elsewhere outside the designated area or meeting the need in some other way. Co-location with the LNG Terminal is necessary to gain the full benefit of a CHP plant and the western option represents the best location amongst those considered within the site with less impact on the National Park than the alternatives. This is accepted by PCNPA and, in my view, meets the second test for a major development in a National Park.

# Effects on the environment, landscape and recreational opportunities

- 4.173 Effects on the environment and landscape have been considered in the earlier parts of this section of my report. To the extent that adverse effects on the environment have been identified, specific mitigation measures have been put forward for inclusion in the DCO.
- 4.174 EN-2 recognises that it is not possible to eliminate the visual impacts associated with a fossil fuel generating station. In my

view the proposals for mitigation by design and for on-site landscaping would minimise these impacts but there would still be localised adverse effects on landscapes and views within the National Park. The effect of the proposal on tourism in the area was considered by PCNPA and PCC to be neutral.

# Findings on the effects on the environment, landscape and recreational opportunities

4.175 I conclude that while the adverse effects on the environment, landscape and recreation can largely be addressed by mitigation measures there will be some remaining adverse effects on the landscape in the National Park

# Findings and conclusions on a major development in a National Park

- 4.176 I have assessed the proposed development against the three considerations set out in EN-1 and Planning Policy Wales.
  - (a) Need for the project has been established, both through the guidance in EN-1 and additional material provided by the applicant. This has been accepted by PCNPA.
  - (b) It has also been established to my satisfaction and that of PCNPA that there is no alternative site outside the National Park for this development as a CHP plant. The alternative location within the LNG Terminal site would have a number of disadvantages, including greater visual impact than the proposed location.
  - (c) Mitigation by design and on-site landscaping will minimise the impact of the development but there will still be localised adverse effects on landscape and views within the National Park.
- 4.177 I am satisfied that the national need that has been established for the proposed development together with the mitigation measures proposed and incorporated into the draft DCO are such as to outweigh the localised adverse effect on the National Park. In the circumstance I consider that the tests for granting development consent for development in a National Park in exceptional circumstances as set out in EN-1 are met. The environmental permits that have been applied for and the Requirements in the draft DCO should ensure that the development would be carried out to high environmental standards.

### **Grid connection**

4.178 As noted above (paragraph 2.28) the grid connection does not form part of this application but the options for the grid connection were of concern to IPs including PCNPA, PCC, NRW and a number of local residents and a high level consideration of options was included in the ES (APP-069).

- 4.179 Although connection by overhead line had been considered at an early stage in consultation on the project, by the time of the application only two options were under consideration. Both involved connection by sub-sea cables to the grid at the National Grid Pembroke sub-station on the south of the Waterway. The cables would either be buried in a trench in the bed of the Waterway or carried in a tunnel constructed under the Waterway. There would be limited above ground components to make the connections to the CHP plant and the Pembroke sub-station. The type of 3-core cable that would be used has low residual EMF.
- 4.180 The applicant recognised that if the trenched option was pursued this would require a marine licence and would also be subject to an appropriate assessment under the Habitats Regulations. The tunnel option would not impact on the marine environment and would not require a marine licence.
- 4.181 In its written representation (REP-009) NRW stated that the Habitats Directive 'requires that any plan or project likely to have a significant effect, either individually or in combination with other plans or projects, shall be subject to an appropriate assessment.' NRW argued that it was necessary to look at the implications of both the grid connection and the CHP plant together and that the Directive's requirements can only be satisfied if the grid connection element of the project will not adversely affect the integrity of the site and if there is certainty that sufficient mitigation measures for the grid connection will be in place. NRW suggested that this could be achieved through the inclusion of a 'Grampian' condition in the DCO to ensure that the project did not go ahead until all other necessary consents were in place.<sup>23</sup>
- 4.182 I also raised the possibility of a Grampian condition related to the grid connection in my first round of questions. Because the detail of the grid connection had not been finalised it remained possible that an option involving overhead lines could be introduced after granting of a DCO even though no consideration had been given to the cumulative visual or other impacts of such an option in the ES. I asked the applicant to consider whether this concern might be addressed by a Grampian condition that the operation of the CHP plant should not commence until consent had been received for an underground grid connection.
- 4.183 The applicant argued (REP-017) that since the construction of the CHP plant did not involve work in the Waterway there would not be any in-combination effects on any European sites with the

<sup>&</sup>lt;sup>23</sup> A Grampian condition is a condition expressed in a negative form i.e. prohibiting development authorised by the planning permission or other aspects linked to the planning permission (e.g. occupation of premises) until a specified action has been taken (such as the provision of supporting infrastructure). http://planningguidance.planningportal.gov.uk/blog/guidance/use-of-planningconditions/what-approach-should-be-taken-to-imposing-conditions/

trenched option. In addition the installation of the grid connection would be completed before the commencement of operation of the CHP plant. There would therefore also be no in-combination effect on any European site resulting from discharges from the plant.

- 4.184 The applicant did not accept either of these suggestions for Grampian conditions. It argued that if the trenched option was taken forward then it would be subject to the Habitats Regulations in its own right and that any appropriate mitigation would be considered as part of the necessary marine licence application and was not a matter for determination in the DCO for the CHP plant. It argued that a Grampian style condition was inappropriate within the context of PA 2008 which seeks to remove and not add impediments to the delivery of NSIPs. It also argued that since it had no plans for a grid connection using overhead lines there was no need for a Grampian condition related to the underground cables.
- 4.185 In subsequent discussions at the first and second ISH the applicant agreed to the inclusion of a requirement in the draft DCO (Requirement 22) that the grid connection should be by means of underground cable but without the conditionality on timing involved in a Grampian condition. It did not agree to the inclusion of the Grampian condition proposed by NRW in respect of any marine licence.
- 4.186 RWE Npower (RWE) owns the land surrounding the Pembroke substation across which the cable for the grid connection would need to run. In written representations and at the first and second ISH, RWE stated that it was required to retain ownership of the land surrounding the sub-station as a condition of its consent for Pembroke Power Station against the possible future requirement for carbon capture plant. Release of such land would require DECC agreement. The applicant did not accept that the proposed grid connection would compromise RWE's ability to locate a carbon capture plant on the land reserved for that purpose.

### Findings and conclusions on the grid connection

4.187 Since the grid connection does not form part of this application I am not required to reach a conclusion on specific proposals. Nor is it appropriate to comment on any future application for licences or other permits. However I am concerned that any consent for the CHP plant should be consistent with the environmental assessment in the ES. The application does not propose grid connection by means of overhead lines and the ES did not therefore contain any assessment of the cumulative effect of such lines. Any subsequent plan to revert to use of overhead lines would invalidate the ES and the basis on which IPs have responded. This can be addressed by the inclusion of a requirement (Requirement 22) in the DCO (the text of which has been agreed by the applicant) that the grid connection shall be by means of sub-surface cables beneath the Waterway.

- 4.188 NRW's proposal that there should also be a Grampian condition that if a marine licence is required the authorised development should not commence operation until such a licence has been granted appears to me to be unnecessary. If the trenched option is chosen then it is agreed that a marine licence would be required and it goes without saying that the operation of the site cannot commence until that licence has been granted and the underground cable installed. A condition in the DCO is not necessary to achieve that outcome.
- 4.189 The trenched option would affect the Pembrokeshire Marine SAC and a separate appropriate assessment may be necessary which would consider the implications of the grid connection on the integrity of European sites. I agree with the applicant's view that the trenched option and the CHP plant would not, for the reasons set out in paragraph 4.183, have in-combination effects on any European site. It does not appear to me to be necessary to tie that assessment into the DCO for the CHP plant.
- 4.190 The concerns expressed by RWE are outside my remit. The applicant has put forward plans for the grid connection which appear operationally feasible. It is for the applicant and RWE to negotiate on the terms for use of the necessary land.

### CARBON CAPTURE AND STORAGE

- 4.191 As noted above (paragraphs 3.6 to 3.9) EN-1 requires applicants to demonstrate that the plant is CCR compliant and complies with guidance issued by the Secretary of State in 2009 before consent can be given. The CCR Regulations provide that the Secretary of State may not grant a DCO for a combustion plant with a rated output of 300 MW or more unless he determines that the 'CCR conditions' are met.
- 4.192 These requirements apply to the proposed CHP plant and a CCR assessment was included with the application (APP-081). This assessment is intended to provide a high-level feasibility study of whether there are any technical or economic barriers to retrofitting CCS technology to the plant at a later date.

### Technical assessment

4.193 The study reviewed a range of options for capturing the CO<sub>2</sub> including pre-combustion, oxy-combustion and post-combustion collection. Post-combustion, amine based CO<sub>2</sub> capture was selected as the most appropriate technology since this is the most developed and mature currently available but the study recognised that CCS technology was still developing and other technical solutions may be more suitable at the point in the future when CCS retrofitting is required.

- 4.194 Technical details for the chosen post-combustion process were established from existing carbon capture plant, test installations, manufacturers' projections of performance and other public sources. Modelling was carried out to establish the operational parameters of a carbon capture plant either fully integrated with the CHP plant or as a stand-alone unit with a separate heat source. Layout options were explored to establish that the required plant, which includes carbon compression equipment, could be installed in the area that has been set aside for this purpose. Indicative dimensions for the main elements of plant were provided. The tallest element would be the amine stripper with a height of 35 m. For comparison the tallest element in the CHP plant (apart from the stack) would be 42 m.
- 4.195 Two CO<sub>2</sub> transport and storage options were considered. Liquefied CO<sub>2</sub> could be transported by pipeline to a suitable underground storage site. The Hamilton and Morecambe gas fields in the Irish Sea were identified as sites suitable for storage. The assessment considered that capacity at these sites would be adequate to cater for the CO<sub>2</sub> from the plant even after allowing for other possible users of these locations. A pipeline to these locations would have to pass through the Pembrokeshire Marine SAC and an appropriate assessment would be necessary to identify impacts. The applicant considered that mitigation measures would be available to offset impacts from construction of the pipeline. This would be explored in a full EIA as part of any application for consent. A pipeline could be installed which avoided designated offshore windfarm locations. Shipping CO<sub>2</sub> to the chosen storage site was an alternative. This would require the use of specialised transport of the sort that already uses the LNG Terminal jetty. Additional short term storage tanks would be required as part of the on-site infrastructure. These could be accommodated in the designated space on the site.
- 4.196 A number of health and safety issues were identified associated both with the storage and use of amine and the management of liquefied CO<sub>2</sub>. The carbon capture plant might be classified as a COMAH site and require separate Hazardous Substance consent.
- 4.197 At my request NRW carried out a review of the technical feasibility study. NRW reported (HR-010) that adequate space had been allocated for the proposed carbon capture plant and that there were no foreseeable barriers to carbon capture with regards to space and technical feasibility of CO<sub>2</sub> capture. NRWs advice did not extend to the economic feasibility of the proposed approach or to the feasibility of the alternative options for transport of CO<sub>2</sub> to storage sites. NRW regarded those as matters for DECC.

#### Economic assessment

4.198 The economic assessment provided by the applicant looked at the costs of CCS through all stages of operation including capture,

transport and storage. Capital and operating costs at each stage were taken into account based on publically available estimates. At this early stage in the development of CCS technology these costs are subject to considerable uncertainty and sensitivity analysis was used to assess the effect of higher or lower costs on the final outcome.

- 4.199 Financial modelling was used to assess the total capital and operating costs of the proposed CHP plant over a 25 year life with and without CCS (either fully integrated or stand alone, as considered in the technical appraisal). For this analysis it was assumed that the CHP plant would be completed in 2017 and the CCS plant would be completed in 2020. Both would run until 2041. Assumptions about future gas prices were taken from forecasts published by DECC. Credit was included for the value of heat supplied to the LNG Terminal. The output from this modelling is an estimate of the levelised cost of electricity generation (LCOE) which represents the total discounted costs of operation divided by the discounted energy generation and provides a measure of the real (current year) lifetime cost of electricity generation expressed as £/MWh.
- 4.200 If the CHP plant is operated without CCS then it will be required to purchase CO<sub>2</sub> permits under the EU Emissions Trading Scheme (EU ETS). If CCS is installed then it would no longer be necessary to purchase permits for the CO<sub>2</sub> that is captured. The analysis was used to estimate the price of CO<sub>2</sub> permits at which the LCOE would be the same with or without CCS. This is described as the breakeven CO<sub>2</sub> permit price. At permit prices above that level the CHP plant with CCS would have a lower cost than the plant without CCS.
- 4.201 For the central set of cost assumptions the estimated breakeven  $CO_2$  permit price is £96.6/t  $CO_2$  with the carbon capture plant fully integrated with the CHP plant and £135/t  $CO_2$  where it is stand alone. Sensitivity analysis on individual elements of cost shows a range of £84.7 £108.6/t  $CO_2$  for the integrated operation and £110.3 £143.9/t  $CO_2$  for stand-alone mode. The assessment concluded, using the base case assumptions, that 'retrofitting CCS equipment to the plant in 2020 would be economically feasible where the cost of emitting  $CO_2$  was in the region of £97 per tonne. Whilst this is considerably higher than current market prices for  $CO_2$  emissions permits it is conceivable that prices will reach this level if targets for reducing carbon emissions are to be met.'

### Findings and conclusions on carbon capture and storage

4.202 The applicant has submitted an assessment of the options for retrofitting CCS that meets the requirements of EN-1 and the requirements set out in the CCR Regulations. NRW has confirmed the technical feasibility of retrofitting the chosen technology in the space set aside for this purpose. Transport options based on

existing technologies have been identified and storage options identified at sites which are regarded as suitable and which have available capacity. These were not the subject of comment during the Examination and have not been subject to external review but are based on published studies of technical options and associated costs. The retrofitting of carbon capture technology would be subject to a separate planning application and environmental assessment. The transport and storage of CO<sub>2</sub> would also be likely to be subject to separate permitting. Nothing that is said here in any way prejudges those future processes.

- 4.203 The economic appraisal has been carried out using established financial modelling techniques as recommended in EN-1 and has identified the circumstances, in terms of the price of CO<sub>2</sub> permits, in which the retrofitting of equipment, transport and storage of CO<sub>2</sub> would be economic. There is considerable uncertainty surrounding the cost assumptions that feed into this modelling and sensitivity analysis has been carried out to help in the assessment.
- 4.204 In my view the central estimate of a breakeven price for CO<sub>2</sub> permits of £97/t CO<sub>2</sub> represents a reasonable first guide to the point at which CCS retrofitted in 2020 would be economically viable but I note that the breakeven price could be significantly higher or lower than this level. I also note that if the retrofitting took place later than 2020 then the remaining life of the CHP plant, over which the cost of the retrofit would need to be recovered, would be shorter and the breakeven price of CO<sub>2</sub> permits could be significantly higher.
- 4.205 The assessment notes that current CO<sub>2</sub> permit prices are considerably lower than the required breakeven level. I have taken into account estimates of future permit values that the Government has published.<sup>24</sup> These show prices remaining low in the assumed start year of 2020 (a range of £0 £26/t CO<sub>2</sub>) but rising steadily in subsequent years to a range of £77 £232/t CO<sub>2</sub> by the time of plant closure in 2041. Using these assumptions it is feasible that the retrofitting of CCS to the CHP plant could be economic during its assumed lifetime.
- 4.206 Taking into account the information provided in the applicant's Carbon Capture Readiness Assessment, the advice received from NRW and my own review of the analysis presented, I am satisfied that the material provided meets the requirements of EN-1 and that the CCR conditions set out in the CCR Regulations are met.
- 4.207 If the Secretary of State is satisfied that the CCR conditions are met and is minded to grant a DCO he is required to ensure that

<sup>&</sup>lt;sup>24</sup> HM Treasury Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal. Tables 1 - 20. https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal. September 2013

the DCO includes a requirement that adequate space is set aside for the installation of the necessary equipment. The proposed drafting to meet this requirement is considered in the review of the DCO in section 6.
#### 5 FINDINGS AND CONCLUSIONS IN RELATION TO HABITATS REGULATIONS

#### Overview

- 5.1 As noted earlier at paragraphs 1.11 and 3.31 to 3.32, the Conservation of Habitats and Species Regulations 2010 apply in the terrestrial environment and in territorial waters out to 12 nautical miles. Regulation 61 requires that, for a project that is likely to have a significant effect on a European site, the Competent Authority (in this case the Secretary of State) must make an 'appropriate assessment' of the implications for such a site in view of its conservation objectives.
- 5.2 The proposed project is not connected with or necessary to the management for conservation of a European site.
- 5.3 The HRA Report submitted with the application (APP-068) identified six European sites as being potentially affected by the proposed development.<sup>25</sup> These sites were agreed with CCW and EAW, now NRW, and NRW has confirmed (REP-024) that all relevant sites have been considered at screening and appropriate assessment stages of the HRA Report. The European sites identified are:
  - (a) Cleddau Rivers SAC;
  - (b) Limestone Coast of South and West Wales SAC;
  - (c) Pembrokeshire Bat Sites and Bosherton Lakes SAC;
  - (d) Pembrokeshire Marine SAC;
  - (e) Castlemartin Coast SPA;
  - (f) Skokholm and Skomer SPA.
- 5.4 The HRA Report screened the above European sites for likely significant effects (Stage 1) and discussed the effects of the project on the integrity of the sites that were screened in (Stage 2). It also contained screening and integrity matrices that are requested in the Planning Inspectorate's Advice Note 10. Updated screening and integrity matrices and an extended summary of the HRA Report were provided by the applicant in response to my first round of questions (REP-017).
- 5.5 Possible effects in combination with other existing or known future activities were taken into account. These included existing and planned dredging operations, aqueous discharges from a number of other energy related activities in the area, aerial emissions from the LNG Terminal and Pembroke Power Station and interaction

<sup>&</sup>lt;sup>25</sup> The HRA followed the methodology set out in PINS Advice Note 10: Habitat Regulations Assessment relevant to nationally significant infrastructure projects. http://infrastructure.planningportal.gov.uk/wpcontent/uploads/2013/09/Advice-note-10-HRA.pdf

with a number of renewable energy projects. No significant incombination effects were identified in respect of these activities.

# The Report on the Implications for European Sites

- 5.6 In order to assist the Secretary of State in carrying out his responsibility as Competent Authority I have, with the support of the Planning Inspectorate's Environmental Services Team, prepared the RIES (REP-047). The purpose of the RIES (and the consultation responses received in relation to it) is to compile, document and signpost information provided within the DCO application and the information submitted throughout the Examination by both the applicant and interested parties. It is issued to ensure that interested parties including the statutory nature conservation bodies 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.
- 5.7 The RIES takes into account the original HRA Report, updated material submitted by the applicant and comments from IPs including NRW as the statutory nature conservation body.
- 5.8 The RIES was published on 17 March 2014 and comments were invited. NRW commented that 'on the whole' it was happy with the assessments undertaken and agreed with the overall conclusions reached (REP-050). NRW considered that the CHP plant would not adversely affect the integrity of the Pembrokeshire Marine SAC, provided that the conditions of Requirement 8 of the draft DCO in respect of drainage and aerial emissions were implemented. NRW agreed with the conclusions in the RIES in respect of Pembrokeshire Bat Sites and Bosherston Lakes SAC, Skokholm and Skomer SPA, Castlemartin Coast SPA and for the Limestone Coast of South and West Wales SAC. There were no other comments on the RIES.

# **HRA** implications of project

5.9 The potential impacts that the proposed development might have, as identified in the HRA Report, are summarised in Table 5.1.

# Table 5.1: Potential impacts considered within the screening(Stage 1) and effects on integrity (Stage 2) matrices

Potential impacts and pathways detailed in the applicant's HRA	Presented in the screening and integrity
Report	matrices as
Direct habitat loss	Land take
Discharge of pollutants to water during	Aqueous emissions
construction and operation	
Deterioration in water quality	
Increase in aquatic concentrations of	
Increase in water temperature	
(thermal effects)	
Alteration to hydrological	
Increase in atmospheric deposition and	Aerial emissions
atmospheric concentrations of	
pollutants (construction/operation)	
Change in habitat quality through N	
enrichment or acidification	Naisa and vibration
Noise and vibration generated during	Noise and Vibration
construction, operation and	
decommissioning	
Disturbance to species	
Prevention of reduction of bats ability	
to forage and commute along	
the proposed development	
Light spill during construction	Lighting
Light spin during construction,	Lighting
Disturbance to species	
Distuibance to species	
to forage and commute along	
flightlines and in babitat adjacent to	
the proposed development	
Habitat fragmontation by aquoous	Habitat fragmentation
emissions (construction/operation)	
Creation of barrier effect to dispersal	
via discharge of contaminants to Haven	
via discharge of contaminants to Haven	

# **Proposed mitigation measures**

- 5.10 The HRA Report identified a number of measures which the applicant proposed in order to offset any adverse effect of the development. These were amended and added to during the course of the Examination and would be included as requirements in the DCO. Proposed mitigation measures were:
  - surface water drainage scheme for construction and operation (Requirement 8);

- process waste water discharge to be through the existing infrastructure in place from the South Hook LNG Terminal and in accordance with existing discharge limits (Requirement 8);
- ecological management plan (Requirement 11);
- the CCP (Requirement 12);
- the CEMP (including proposals to control impacts on air quality, dust and noise) (Requirement 13);
- an approved scheme of protection for greater horseshoe bats and other bat species identified as present on the site (Requirement 20);
- lighting scheme for construction, commissioning and operation (Requirement 16);
- controls on construction hours (Requirement 17).

# Screening of European sites (Stage 1)

- 5.11 As a result of the initial screening the applicant ruled out a likely significant effect on the Skokholm and Skomer SPA. This was primarily on the basis of its distance from the CHP plant and because its features are not sensitive to aerial emissions of nitrogen or acid deposition.
- 5.12 The HRA Report concluded that likely significant effects could not be excluded on the other five European sites and these were taken forward for further consideration. The features identified for further investigation and those screened out at Stage 1 are summarised in Table 5.2.

European	Feature	Screened in/out
Site		at Stage 1
Cleddau	Water courses of plain to	In (aerial
Rivers SAC	montane level (with the	emissions, in-
	Ranunculion fluitantis and	combination
	Callitricho-Batrachion	effects)
	vegetation)	
	Active raised bog	In (aerial
		emissions, in-
		combination
		effects)
	Alluvial forest	Out
	Brook lamprey	In (aerial
		emissions, in-
		combination
		effects)
	River lamprey	In (aqueous and
		aerial emissions,
		habitat
		fragmentation, in-
		combination

Table 5.2:	European	sites an	d features	considered

European	Feature	Screened in/out
Site		at Stage 1
		effects)
	Bullhead	In (aerial
		emissions, in-
		combination
		effects)
	Otter	In (aqueous and
		aerial emissions,
		habitat
		fragmentation, in-
		combination
		effects)
	Sea lamprey	In (aqueous and
		aerial emissions,
		habitat
		fragmentation, in-
		combination
		effects)
Limestone	Vegetated sea cliffs of the	In (aerial
Coast of South	Atlantic and Baltic coasts	emissions and in-
and West		combination
Wales SAC		effects)
	Fixed dunes with herbaceous	In (aerial
	vegetation ('grey dunes')	emissions and in-
		combination
		effects)
	European dry heaths	In (aerial
		emissions and in-
		combination
		effects)
	Semi-natural dry grasslands	In (aerial
	and scrubland facies: on	emissions and in-
	calcareous substrates	combination
	(Festuco-Brometalia)	effects)
	Caves not open to the public	Out
	Submerged or partially	Out
	Submerged sea caves	le (ceriel
	Greater norseshoe bat	in (aenai omissions, poiso
		and vibration
		lighting habitat
		fragmontation in
		combination
		effects
	Farly gentian	In (aerial
		emissions and in-
		combination
		effects)
	Petalwort	In (aerial
		emissions and in-

European	Feature	Screened in/out
Site		at Stage 1
		effects)
Pembrokeshire	Hard oligo-mesitrophic	In (aerial
Bat Sites and	waters with benthic	emissions and in-
Bosnerston	vegetation of <i>Chara</i> spp.	combination
Lakes SAC	Greater horseshoe bat	In (aerial
		emissions, noise
		and vibration,
		lighting, habitat
		fragmentation , in-
		combination
	Lesser horseshoe hat	In (aorial
		emissions, noise
		and vibration,
		lighting, habitat
		fragmentation , in-
		combination
	Otter	In (aqueous and
		aerial emissions,
		habitat
		fragmentation and
		in-combination
Dombrokoshiro	Estuarios	effects)
Marine SAC	Estudilles	aerial emissions
		in-combination
		effects)
	Large shallow inlets and bays	In (aqueous
		emissions, in-
		effects)
	Reefs	In (aqueous
		emissions, in-
		combination
		effects)
	Sandbanks which are slightly	In (aqueous
	time	combination
		effects)
	Mudflats and sand flats not	In (aqueous and
	covered by seawater at low	aerial emissions,
	tide	In-combination
	Coastal Jagoons	In (aqueous and
		aerial emissions.
		in-combination

European	Feature	Screened in/out
Site		at Stage 1
		effects)
	Atlantic salt meadows	In (aqueous and
	(Glauco-Puccinellietalia	aerial emissions,
	maritimae)	in-combination
		effects)
	Submerged or partially	In (aqueous and
	submerged sea caves	aprial emissions
	submerged sea caves	in combination
		offocts)
	Crovecool	
	Grey Sear	
		emissions, nabitat
		tragmentation, in-
		combination
		effects)
	Shore dock	In (aerial
		emission, in-
		combination
		effects)
	Sea lamprey	In (aqueous and
		aerial emissions,
		in-combination
		effects)
	River lamprey	In (aqueous and
		aerial emissions,
		in-combination
		effects)
	Allis shad	In (aqueous and
		aerial emissions.
		in-combination
		effects)
	Twaite shad	In (aqueous and
		aerial emissions
		in-combination
		offocts)
	Otter	In (aquoous and
		aorial omissions
		in combination
Cootlongoutin	Dod billod Choursh	
	kea-billea Chough	in(aeriai
Coast SPA		emissions, in-
		combination
		effects
Skokholm and Skomer SPA	Puffin	Out
	Storm petrel	Out
	Manx shearwater	Out
	Razorbill	Out
	Short-eared owl	Out
	Chough	Out

European Site	Feature	Screened in/out at Stage 1
	Lesser black-backed gull	Out
	Seabird assemblage	Out

# Effects on integrity (Stage 2)

- 5.13 The main points considered during the Examination in relation to the integrity of European sites were:
  - (a) aerial emissions
  - (b) aqueous emissions
  - (c) lighting
  - (d) noise and vibration
- 5.14 These have been considered above in section 4 of this report. The main findings relevant to the integrity of European sites are summarised here.

# Aerial and aqueous emissions

- 5.15 The impact of aerial emissions (NO<sub>x</sub>) and catchment wide acid and nutrient nitrogen (N) deposition was assessed in the HRA Report (APP-068) and the Extended Summary (REP-017). The assessment concluded that depositions from the operation of the CHP plant and the LNG Terminal in integrated mode (Scenario 1) were below the levels at which likely significant effects (LSE) would occur on the European sites. As modelled the operation of the CHP plant and the LNG Terminal in integrated mode would result in a decrease in NO<sub>x</sub> concentration and N deposition at all SAC/SPAs compared with the existing maximum consented level for the LNG Terminal.
- 5.16 The assessment also concluded that the operation of the CHP plant, operating as designed in CHP mode as its principal mode of operation, would also result in a decrease in total N input to the Pembrokeshire Marine SAC, compared with that resulting from the existing maximum consented limit for the LNG Terminal. Dispersion and plume modelling of other discharges into the Waterway showed the impacts to be of limited size and duration and local to the LNG Terminal outfall. The effects on the marine ecology were predicted to be no greater than of minor significance. Acid deposition was not considered to be significant.
- 5.17 NRW in its written representation (REP-009) argued that even though the assessment of the impact of aqueous and aerial emissions had been carried out on the assumption that the plant would be integrated with the LNG Terminal and would operate under Scenario 1, as drafted the DCO did not justify the assertion that the LNG Terminal would operate with any agreed level of integration with the CHP plant. Therefore NRW did not agree with

the assertion that there would be a reduction in nitrogen deposition to the catchment of the Pembrokeshire Marine SAC. Amendments to the DCO were suggested to address these concerns and the principal mode of operation as a CHP plant is now defined in the draft DCO (Article 6).

5.18 During the course of the Examination, NRW raised the concern that the wording in the draft DCO did not provide adequate assurance that there would be no adverse effect from discharges on the Pembrokeshire Marine SAC. Following discussions with NRW, the applicant proposed changes to the requirement on drainage to ensure that the contribution of process waste water and aerial emissions would not increase overall nitrate loads into the Pembrokeshire Marine SAC above the existing consented discharge levels for those substances specified in the LNG Terminal environmental permit (Requirement 8). Requirement 8 also includes provision for drainage systems to be constructed in accordance with details to be approved by the relevant planning authorities. NRW agreed that, based on the mitigation measures secured through this requirement, the process water discharge would not adversely affect the integrity of the Pembrokeshire Marine SAC.

# Lighting, noise and vibration

- 5.19 Lighting, noise and vibration from the proposed development were considered for their possible effect on bat populations.
- 5.20 The HRA Report identified potential for lighting at the plant to affect roosting, foraging or commuting behaviour of great horseshoe bats. Under Requirement 16 of the draft DCO a lighting plan would be developed in consultation with NRW for approval by the relevant planning authority. This would be based on principles set out in the ES with the aim of ensuring that there was no light spillage into bat roosts or bat flight corridors. Controlled directional lighting would be used and light levels kept to the minimum necessary. Requirement 17 specifies that during the construction period there would be no working at night other than in exceptional circumstances.
- 5.21 During the operational period the plant would be lit for safety and operational purposes. The same principles covered by Requirement 16 of the draft DCO would apply. This proposed approach was designed to ensure that there were no significant effects on the bat features of the site.
- 5.22 Noise and vibration during construction would be managed through the CEMP. Noise during operation would be subject to regulation through the environmental permit. The assessment provided in the HRA Report indicated that noise levels (audible and ultrasonic) during both construction and operation were not likely to have an effect on the neighbouring bat roosts and foraging

areas. Vibration during construction was not expected to be significant beyond 'several tens of metres' from the site. The structural integrity of the bat roosts would not be affected. The plant and process equipment associated with the operation of the CHP plant were not significant sources of vibration and the integrity of the bat roosts would not be affected.

5.23 NRW raised the concern that additional provision should be included to address the possible impact of lighting at the plant on bat populations. Additional provision was included to require the lighting scheme to take account of impact on bats (Requirement 16) and the proposed protection for greater horseshoe bats was extended to cover all those bats identified as being present within the Order Limits (Requirement 20).

#### Other considerations

5.24 The HRA Report also considered possible effects from habitat fragmentation and in-combination effects with other projects. No such effects were identified.

#### Stage 2 findings for individual European sites

#### Pembrokeshire Marine SAC

- 5.25 The Pembrokeshire Marine SAC is adjacent to the proposed CHP plant and any discharge of water from the plant would enter the SAC through the LNG Terminal discharge infrastructure. Aqueous and aerial emissions, habitat fragmentation and in-combination effects were identified as the issues having a possible adverse effect on the integrity of the Pembrokeshire Marine SAC.
- 5.26 The proposed CEMP would contain provisions for the protection of surface water during construction and a similar plan would be put in place for the decommissioning phase. The drainage strategy for the operational phase of the plant has been designed to provide additional attenuation of flows of surface water to ensure no increase in peak discharge flow rates and no adverse effect of surface water quality.
- 5.27 Process waste water would be discharged to the Waterway through the existing LNG Terminal infrastructure and is not expected to have any significant effect on the Pembrokeshire Marine SAC. The HRA Report concluded that the operation of the CHP plant, operating as designed in CHP mode as its principal mode of operation, would result in a decrease in total N input to the Pembrokeshire Marine SAC, compared with that resulting from the existing maximum consented limit for the LNG Terminal. Requirement 8 in the draft DCO ensures that process water discharges along with aerial emissions will not increase overall nitrate loads into the SAC.

- 5.28 Dispersion and plume modelling of other discharges into the Waterway showed the impacts to be of limited size and duration and local to the location of the LNG Terminal outfall. These were not expected to cause any barrier effects. The effects on the marine ecology were predicted to be no greater than of minor significance. Since there would be no construction activities in the Waterway there would be no interaction with other planned dredging activities and the interaction between dredging and discharges from the plant would be minimal. There were no incombination effects identified from aerial emissions.
- 5.29 With the mitigation measures proposed for inclusion in the draft DCO the HRA Report concluded that there should not be any significant adverse effect on habitats and species in the SAC.

# Cleddau Rivers SAC

- 5.30 The Cleddau Rivers SAC is 12 km to the east of the proposed CHP plant. Aqueous and aerial emissions, habitat fragmentation and in-combination effects were identified in Stage 1 as having a possible adverse effect on the integrity of this SAC.
- 5.31 The SAC would not be in direct receipt of aqueous emissions from the site. No barrier effects were identified from discharges into the Pembrokeshire Marine SAC. There should, therefore, not be any significant effects from aqueous emissions on sea and river lampreys migrating from the Cleddau Rivers SAC to the Waterway or on wide ranging otters.
- 5.32 Emissions of NO<sub>x</sub> from the plant would be below the AQO levels. Operation of the CHP plant in integrated mode (Scenario 1) was assessed to result in a reduction in nitrogen deposition compared with the operation of the existing LNG Terminal and acid deposition was expected to be less than one per cent of the minimum critical load function. The applicant therefore considered that there should be no adverse effects from aerial emissions on the habitats and species in the SAC. No in-combination effects were identified.

# Limestone Coast of South and West Wales SAC

- 5.33 Aerial emissions and in-combination effects were identified as having possible adverse effects on each of the main features of Limestone Coast of South and West Wales SAC. In addition noise and vibration, lighting and habitat fragmentation could affect the integrity of the greater horseshoe bat population.
- 5.34 NO<sub>x</sub> and N deposition from the operation of the site are expected to be below the levels at which LSE would occur. As modelled the operation of the CHP plant and the LNG Terminal in integrated mode would result in a decrease in NO<sub>x</sub> concentration and N deposition compared with the existing maximum consented level

for the LNG Terminal and would give rise to significant effects on the SAC habitat and species features.

5.35 Noise and vibration would be managed at levels which would not have a significant impact on the bat population. A lighting scheme would be put in place to ensure that there were no significant effects on the bat features of the site. This would also address any concerns about habitat fragmentation. No in-combination effects were identified.

# Pembrokeshire Bat Sites and Bosherton Lakes SAC

- 5.36 The principal concern for this SAC was the effect of aerial emissions, noise and vibration, lighting, habitat fragmentation and in-combination effects on greater and lesser horseshoe bats. The possible impact of aqueous and aerial emissions on otters were also considered but were not considered significant given the controls that would be in place on emissions.
- 5.37 The findings on the possible effects on bats followed that outlined above for the Limestone Coast of South and West Wales. The provisions proposed for the control of noise, vibration and lighting would operate for both the greater and lesser horseshoe bats and should ensure that there was no significant effect. No incombination effects were identified.

# Castlemartin Coast SPA

5.38 The only possible adverse effect identified for the Castlemartin Coast SPA was from aerial emissions and in-combination effects on the red-billed chough population. Since nitrogen deposition will be the same as or lower than with the operation of the existing LNG Terminal, the HRA Report concluded that there will be no adverse effect on the integrity of the site from aerial emissions. No incombination effects from aerial emissions were identified.

# **Grid connection**

- 5.39 The proposals for the grid connection and their relationship to the assessment of this application for the CHP plant have been discussed at 4.178 to 4.190 above including NRW's view that the grid connection should be considered as part of the appropriate assessment for the CHP plant. In that consideration I agreed with the applicant's view that there would be no in-combination effects with the construction and operation of the CHP plant.
- 5.40 NRW identified a possible adverse effect on the Pembrokeshire Bat Sites and Bosherston Lakes SAC from onshore structures associated with the tunnelled grid connection option but considered that these could be avoided or mitigated by careful location and design (REP-024). Its principal concern was with the possible impact of the trenched option on the Pembrokeshire

Marine SAC. It accepted that if the agreed mitigation in respect of drainage and aerial emissions was included in the DCO then they would be satisfied that there would be no adverse effect on the Pembrokeshire Marine SAC resulting from nutrient discharge and contaminants from process water of the CHP plant and it could be considered that it was not necessary to assess the project together with the grid connection.

5.41 NRW also stated that 'although we know that the grid connection is subject to a separate planning application, we recognise that it is needed for the operation of the CHP plant and feel that it is appropriate to say at this stage that a trenched option would have impacts (that we believe could be mitigated) on the Pembrokeshire Marine SAC.'

# Findings and conclusions on HRA

- 5.42 The applicant submitted an HRA Report which follows the approach recommended in PINS Advice Note 10. This concluded that taking into account the conservation objectives of the individual European sites and subject to specific mitigation measures being put in place in the DCO the project would not affect the integrity of the European sites and features that had been reviewed. Updated screening and integrity matrices were provided by the applicant giving additional detail and discussions were held with NRW to strengthen certain mitigation measures.
- 5.43 In its final SoCG (REP-054) NRW agreed that the revised mitigation proposed in respect of drainage and aerial emissions would ensure no deterioration in water quality in the Waterway due to operation of the CHP Plant. Other emissions from the CHP plant would be controlled by an environmental permit that had been applied for separately. NRW also agreed that the potential for effects on the greater and lesser horseshoe bat population utilising the Pembrokeshire Bat Sites and Bosherston Lakes SACs had been addressed in the HRA.
- 5.44 NRW also agreed that the original HRA Report and the extended summary of the HRA (REP-017) 'contained sufficient information for the Secretary of State to assess the implications for the site in view of the site's Conservation Objectives.' That information has been supplemented by the updated screening and integrity matrices and I consider that sufficient information has been made available.
- 5.45 NRW remains concerned about the possible impact on the Pembrokeshire Marine SAC from the grid connection if the trenched option is chosen but, given the conclusion that there should be no adverse effect on this SAC from the CHP plant and no in-combination effects, I do not consider that the grid connection needs to be considered in the appropriate assessment for the CHP

plant. The grid connection will, if necessary, be subject to a separate assessment.

5.46 Taking into account the applicants initial assessment, the additional material and mitigation measures provided during the Examination and the views submitted by NRW, I accept the applicant's conclusion of no adverse effect on the integrity of European sites. Full details on my understanding of the likely impacts on European sites are set out in the RIES and I recommend that the Secretary of State rely on that in making his appropriate assessment.

# 6 DRAFT DEVELOPMENT CONSENT ORDER

- 6.1 A draft DCO - The South Hook CHP plant Order - (APP-065 referred to here as the original draft) with accompanying Explanatory Memorandum (APP-066) was submitted in May 2013 as part of the application. A revised draft DCO (referred to here as the second draft) was submitted in February 2014. This included changes in response to my first and second round of guestions, points raised at the first ISH and discussions with NRW, PCPNA and PCC (REP-031). A further draft (the third draft) was submitted in March 2014 for discussion at the second ISH (APP-088, APP-089) including reference to an additional building structure and changes to requirements discussed with NRW. A fourth draft (APP-090, APP-091, the final draft) was submitted following the second ISH together with a revised Explanatory Memorandum APP-092, APP-093). For each draft a track change version was provided showing amendments made to the previous draft.
- 6.2 The principal changes made to the draft DCO during the course of the Examination which are discussed in more detail below were:
  - (a) Changes that I proposed to reflect drafting conventions or to improve clarity (principally incorporated into the second draft);
  - (b) Additional or amended provisions to mitigate adverse impacts discussed during the course of the Examination (principally in the third and final drafts);
  - (c) References to amended application documents that I accepted as changes to the original application (see paragraphs 2.22 to 2.27) (principally in the final draft).

# Articles

- 6.3 The final draft DCO provides for the construction and operation of the CHP plant. It is based on the model provisions set out in the Infrastructure Planning (Model Provisions) (England and Wales) Order 2009 (which no longer have statutory effect) and on the model provisions provided by DECC in respect of CCR. Variations from the provisions are explained in the revised Explanatory Memorandum.
- 6.4 Article 1 provides for commencement and citation of the Order. Article 2 sets out definitions of particular terms used in the Order. Several were discussed and clarified during the Examination. Unlike DCOs provided in a number of other DCO applications, in this case no specific definition of 'maintain' or 'maintenance' was given in the draft DCO. No issues were raised on this point during the Examination. In the absence of a definition, maintain and maintenance would be interpreted according to their ordinary and natural meaning.

- 6.5 Articles 3 grants development consent for the authorised development. The permitted work is defined in terms of a Rochdale envelope representing the maximum building dimensions. Provision is included to allow for buildings to be smaller than the Rochdale envelope. Provision is also provided for specific limits of deviation in the precise location on site of the electrical sub-station. This article was amended during the Examination to include limits of deviation for the stack. The limits of deviation allow some flexibility in respect of later decisions on the grid connection and the exact layout of the power plant.
- 6.6 Article 4 is not based on the model provisions but provides for appeal in cases where approvals required under requirements in the DCO have been refused or not determined. To avoid any confusion or overlap with Welsh local governance this article confirms that the right of appeal is to the Secretary of State.
- 6.7 Article 6 is not based on the model provisions but is included pursuant to s140 of PA 2008 to authorise the operation of the plant. This article was amended following discussion during the Examination to make it clear that the primary operating mode would be as a CHP plant providing heat to the LNG Terminal. This was necessary to ensure that the emissions from the plant would be in line with the levels assumed in the ES.
- 6.8 Article 14 follows the provisions set out in DECC's guidance on CCR. This provides for the undertaker to set aside land for CCR as identified in the CCR feasibility study, not to dispose of that land until the plant is decommissioned and not to do anything that could diminish its ability to fit carbon capture equipment. The undertaker is required to provide regular reports to the Secretary of State and to keep its proposals for carbon capture up to date in the light of technical developments. In my view this article conforms with the DECC guidance and meets the requirements of s3(3) of the CCR Regulations.
- 6.9 Article 15 follows the model provisions in respect of certification of plans by the Secretary of State but was amended to include provision that the certified plans and documents should also be provided to the local planning authorities. The list of plans and documents to be certified was updated in the final draft to reflect changes during the application. The plans and documents to be certified with the Examination Library reference for the final version of each document submitted as part of the application or as amended during the Examination are set out below in Table 6.1.

Plan or document	Status	Examination Library Reference
The Land Plan	Submitted with application	APP-007
The works plan (part A and Part B)	Revised during application	Part A REP-034 Part B AS-008 appendix B
The section drawing plan	Revised during application	AS-008 Appendix B
The site location plan	Submitted with application	APP-010
The draft landscaping plan	Submitted during Examination	REP-033
The carbon capture readiness assessment	Submitted with application	APP-081
The environmental statement	Submitted with application	APP-018 to APP-064
The design principles statement	Revised during application	AS-012
The draft code of construction practice	Submitted with application	APP-083
The transport assessment	Submitted with application	APP-076

# Table 6.1: Plans and documents to be certified by theSecretary of State

- 6.10 Article 16 provides for unresolved differences under any provisions of the Order to be settled under the rules of arbitration of the International Chamber of Commerce (ICC). I questioned the choice of this particular body which is primarily concerned with international issues. The applicant responded that being part of an international energy company it had confidence in the ability of the ICC. The applicant agreed to the suggestion from PCNPA that arbitration should take place in Cardiff unless otherwise agreed and that provision should be made for simultaneous translation into Welsh if requested and Article 16 was amended accordingly. I do not see any reason to object to the choice of the ICC for arbitration purposes.
- 6.11 Articles 5 and 7-13 follow the model provisions with some minor changes and were not the subject of representations or discussion during the Examination.

# Schedule A - the Authorised Development

- 6.12 Schedule A sets out the elements in the authorised development which are detailed in works plans part A and B listed above. The schedule also separately identifies work which would take place in the areas of PCNPA and PCC. Separate workstreams are identified and a number of these are split into permanent and temporary works.
- 6.13 Apart from points of clarification, the only changes made to Schedule A which were of possible significance were the changes to roof structures as defined in the Rochdale envelope and the inclusion of provision for the planting of hedgerows or other landscape features. These changes were the subject of additional consultation as described in paragraphs 2.22 to 2.27. I did not consider these to be material changes to the application.

# Schedule B - Requirements

- 6.14 Schedule B sets out detailed requirements that must be met in respect of the construction and operation of the authorised development. A number of these requirements involve material being submitted for approval by the relevant planning authorities, PCNPA and PCC. In a number of requirements consultation with NRW is also necessary.
- 6.15 Requirement 1 sets out the interpretation of words and phrases in Schedule B. This was updated during the Examination for clarity and to reflect changes elsewhere in the Schedule.
- 6.16 Requirements 2, 3 and 4 concern the commencement of the development and commissioning of the plant. Requirements 3 and 4 were amended during the Examination at the request of PCNPA and PCC in order to give them greater notice of commencement so that they can liaise effectively with the public.
- 6.17 Requirement 5 covers design approval. Details of buildings must incorporate the principles and parameters set out in the Design Principles Statement and be approved by PCNPA. Mitigation by design was identified in the application and agreed during the Examination as essential in managing the seascape, landscape and visual impact of the development. The Design Principles Statement was revised to reflect concerns raised by IPs. Requirement 5(4) was added during the Examination to limit subsequent additions to the main buildings to address concerns about 'clutter' on buildings. This is also included in the revised Design Principles Statement.
- 6.18 Requirement 6 on landscaping was modified during the Examination to include reference to the draft landscaping plan which had not formed part of the original application. This was introduced to provide additional mitigation for the visual impact of the plant.

- 6.19 Requirement 7 which relates to fencing follows the model provisions and was not the subject of any comment during the Examination.
- 6.20 Requirement 8 originally only concerned drainage but was amended to cover drainage and aerial emissions. This followed discussion between the applicant and NRW and is intended to ensure that process waste water discharges and aerial emissions from the CHP plant must not increase the overall nitrate loads consented under the existing environmental permit for the LNG Terminal. This was identified by NRW as an essential condition to ensure that these emissions did not affect the integrity of the Pembrokeshire Marine SAC. The undertaker is also required to ensure that no other discharges or emissions of contaminants have an adverse effect on this SAC.
- 6.21 Requirements 9 to 14 provide for the approval by the relevant planning authorities (after consultation in certain instances with NRW) of schemes or plans concerning separate phases of construction and operation of the plant. The schemes and plans cover:
  - (a) Contaminated land and groundwater (defined by reference to Part 2A of the Environmental Protection Act 1990);
  - (b) Archaeology, limited to two areas of the site those being the only areas identified as requiring investigation;
  - (c) Ecological management plan to reflect survey results and include any mitigation measures identified in section 9 and 10 of the ES;
  - (d) Code of Construction Practice, to reflect the proposals in the draft CCP submitted with the application;
  - (e) Construction Environmental Management Plan to reflect the proposals in the draft CEMP submitted with the application;
  - (f) Construction Traffic Management Plan to reflect the proposals in the draft CTMP submitted with the application.
- 6.22 The ecological management plan will provide assurance that the effects of the development on the terrestrial and marine environment are kept to the minor or moderate level of impact identified in the ES.
- 6.23 The CCP, CEMP and CTMP will incorporate best practice to mitigate the impact of the development on the local community and the environment during the construction period. As noted at paragraphs 4.84 to 4.87, PCC and PCNPA expressed concern about construction traffic and sought funding from the applicant for specific road improvements. As set out at paragraph 4.88 to 4.92, I do not consider that the scale of increased traffic would have the adverse effects suggested. In my view the CTMP as specified in Requirement 14 represents an appropriate approach to mitigating traffic impacts through careful management and planning.

- 6.24 Requirement 15 provides for the setting up of a local liaison committee which can be combined with the existing committee for the LNG Terminal. This provides a useful forum in which local concerns about the construction and operation of the plant, such as noise or traffic, can be raised. It contains specific provision for notification of steam purging which can be particularly noisy.
- 6.25 Requirement 15 covers external lighting. A lighting plan must be approved and include measures designed to minimise disturbance to local people and to wildlife. Specific provision was added following discussion with NRW to ensure that light from the plant does not spill onto the access and egress points from the nearby bat roosting areas.
- 6.26 Requirements 17 and 18 on construction hours and accumulations and deposits largely follow model provisions and were not the subject of discussion. An earlier Requirement 18 on control of noise during commissioning and operation was included in the first draft of the DCO. This was deleted at the suggestion of NRW on the grounds that control on noise during these activities would be included in the environmental permit for the plant. I accept that this should not be duplicated in the DCO. Control on noise during the construction period would be managed through the CEMP which would be subject to consultation with NRW and approval by the relevant planning authorities.
- 6.27 Requirement 19 provides for the preparation and approval of a travel plan for the operational phase of the development. This should be based on the draft travel plan included in the transport assessment. This was accepted by PCC and PCNPA.
- 6.28 Under Requirement 20 a scheme of protection and mitigation in respect of bats identified as present on the site must be submitted to and approved by the relevant planning authorities before the authorised development can commence. In the first draft this provision only applied to GHS but was extended after discussion with NRW to all bat species identified as present on site.
- 6.29 Requirement 21 follows the model provision in respect of restoration of land used for temporary works and was not the subject of representations or discussion.
- 6.30 Requirement 22 was added following my suggestions in my first questions and at the first ISH. Although initially proposed as a Grampian condition which was rejected by the applicant it is now in the form of an absolute rather than a conditional requirement that the grid connection should (subject to limited exception) be to the Pembroke sub-station by means of underground cable. For the reasons set out above at paragraph 4.187, I consider that this is a necessary condition in order to ensure that the findings of the ES are not invalidated by the subsequent inclusion of an overhead line as the means of grid connection.

- 6.31 NRW argued there should also be a Grampian condition in this requirement that if a Marine Licence was required for the grid connection operations should not commence until that licence had been granted. This is shown as Requirement 22(3) in the final draft DCO. For the reasons set out at paragraph 4.189, I do not consider that necessary.
- 6.32 Requirement 23 on CCS was introduced at the suggestion of PCNPA to ensure that the principles in the Design Principles Statement for the CHP plant should be carried forward to any CCS phase. There are limits to what can be specified at this stage about CCS which will be subject to separate consenting requirement but I consider it helpful to carry forward the design principles as far as possible to any later CCS construction on the site. The Design Principles Statement forms an important part of the mitigation measures for the seascape, landscape and visual impact of the CHP plant. Carrying these principles forward will help to ensure that this mitigation is not undermined by later development.
- 6.33 Requirements 24, 25 and 26 relating to decommissioning and approvals follow the model provisions and were not the subject of representations or discussion.
- 6.34 Requirements 6 (Landscaping), 7 (Fencing), 14 (Construction Traffic Management Plan), 16 (External lighting), 17 (Construction hours), 21(Restoration of land used temporarily for construction) and 24 (Decommissioning) contain 'tailpiece' provisions which allow for some variation from the terms of the Requirement if agreed in writing by the relevant planning authority. These 'tailpieces' were not the subject of representations or discussion during the Examination. In my view they provide a reasonable but limited degree of flexibility in implementation of requirements which will in the first instance have been subject to approval by the relevant planning authorities. I do not consider that they will enable fundamental changes to be made to the nature of the development. I would expect such flexibility to be applied within the parameters considered in those parts of the ES relevant to each Requirement.
- 6.35 A summary of the main issues raised during the Examination, proposed mitigation measures and how these might be secured through the DCO or other means is set out in Table 6.2.

Issue	Proposed mitigation	Means of implementation
Aerial emissions during construction	CCP, CEMP	DCO R12, 13
Aerial emissions during commissioning and operation	No overall increase in nitrate loads into the Pembrokeshire Marine SAC.	DCO R8 Existing environmental permit for LNG Terminal
	Operate primarily as CHP plant providing heat to LNG Terminal	DCO Article 6
	Environmental permit	Under consideration by NRW
Emissions to water during construction	СЕМР	DCO R13
Emissions to water during commissioning and operation	No overall increase in nitrate loads into the Pembrokeshire Marine SAC.	DCO R8 Existing environmental permit for LNG Terminal
	Operate primarily as CHP plant providing heat to LNG Terminal	DCO Article 6
	Environmental permit	Under consideration by NRW
Noise during	CEMP	DCO R13
construction	Local liaison committee	DCO R15
Noise during commissioning and operation	Environmental permit	Under consideration by NRW
	Local liaison committee	DCO R15

# Table 6.2: Issues raised, mitigation measures and implementation

Issue	Proposed mitigation	Means of implementation
Terrestrial ecology during construction	Ecological management plan	DCO R11
	CEMP	DCO R13
Terrestrial ecology during commissioning and operation including impact on bat populations	Ecological management plan Lighting plan Scheme of protection for protected species	DCO R11 DCO R16 DCO R20
Health and safety during construction	CEMP, CTMP	DCO R13, 14
Health and safety during commissioning and operation	Risk assessment of combined operation of CHP plant and LNG Terminal to inform COMAH process	To be agreed with HSE
Transport during construction	CTMP Road improvements proposed by PCC/PCNPA	DCO R14 Need for mitigation not accepted
Transport during operation	Travel plan	DCO R19
Housing during construction and effect on affordable accommodation	Provision of off-site workers accommodation proposed by PCC/PCNPA	Need for mitigation not accepted
Seascape, landscape and visual impact	Design principles Restriction on additions to buildings Landscaping plan	DCO R5 DCO R5 DCO R6
Grid connection	Only by	DCO R22

Issue	Proposed mitigation	Means of implementation
	underground cable Grampian condition in respect of any marine licence for sub-sea cable proposed by NRW	Need for mitigation not accepted
Carbon capture and storage	DECC and CCR Regulation requirements Consistency of design with CHP plant	DCO Article 14 DCO R23

# Findings and conclusions on the DCO

- 6.36 I am satisfied that the final draft DCO is adequately drafted to provide consent for the construction and operation of the proposed development (including defining the principal mode of operation as a CHP plant). The Rochdale envelope approach defines the maximum size of buildings and there is limited provision for deviation in the location of specified structures. Provision for CCR as required by the CCR Regulations is included in the Order. The relevant plans and documents (as amended during the Examination) to be certified by the Secretary of State are identified.
- 6.37 Schedule A, as amended during the course of the Examination, sets out all of the works authorised by the DCO.
- 6.38 Apart from the Grampian condition proposed by NRW and shown as Requirement 22(3) which I have rejected (see paragraph 6.31), the requirements in Schedule B, as amended during the course of the Examination, are, in my view, all necessary to address planning, provide adequate mitigation for legitimate concerns raised during the Examination and are enforceable.

# 7 SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

- 7.1 This application for a DCO for a 500 MWe CHP plant in Wales is an NSIP as defined in s14(1)(a) and s15(2) of PA 2008. NPS EN-1 and EN-2 have effect in respect of the proposed development and it is for the Secretary of State to decide on the application in accordance with s103 and s104 of PA 2008.
- 7.2 I have carried out this Examination of the application in accordance with the general principles and specific guidance set out in EN-1 and EN-2. I have also had regard to the LIRs submitted by PCC and PCNPA.

#### **Principal issues**

- 7.3 My findings and conclusions on the principal issues raised by the proposed development have been set out in section 4 of this report. For the reasons set out there and subject to the agreed mitigation measures, I do not consider that there would be adverse effects on the marine and terrestrial environments from emissions to air and water or from noise and lighting at the site. I have not identified any adverse effects on health. The CHP plant and the LNG Terminal will need to meet the HSE's safety requirements and obtain the necessary safety operating permits. These are the subject of separate discussions with HSE.
- 7.4 The seascape, landscape and visual impact of the development was of particular concern to PCNPA and NRW during the Examination. The application site is at the boundary between industrial developments to the east and the largely agricultural and coastal scenery to the west. Mitigation by design is the principal means proposed to mitigate any adverse effects and the design principles and additional landscaping proposals were strengthened during the Examination.
- 7.5 I consider that the proposals put forward for mitigation by design will largely offset the impact of the proposal as shown in the bare Rochdale envelope outlines. Additional on-site landscaping proposals will provide some mitigation of the impact of the development as viewed from nearby locations. Nonetheless and after taking into account the industrial context of much of the area, there will still be a localised adverse impact on the landscape and views from the Coastal Path close to the CHP plant and on the coastline from Sandy haven to Great Castle Head.
- 7.6 National Parks have statutory protection with the purpose of 'conserving and enhancing the natural beauty, wildlife and cultural heritage of the areas'. This is recognised in EN-1 but EN-1 also recognises that development consent may be granted in these areas in exceptional circumstance. EN-1 sets out three considerations to be assessed in deciding whether such

development is in the public interest. Planning Policy Wales sets out similar requirements.

- 7.7 I have assessed the proposed development against the three considerations set out in EN-1 and Planning Policy Wales.
  - (a) I am satisfied the need for the project has been established, both through the guidance in EN-1 and the additional material provided by the applicant. The development would have a positive economic benefit and the effect on tourism would be neutral. This has been accepted by PCNPA.
  - (b) It has also been established to my satisfaction and that of PCNPA that there is no alternative site outside the National Park for this development as a CHP plant. The alternative location within the LNG Terminal site would have a number of disadvantages, including greater visual impact than the proposed location.
  - (c) Mitigation by design and on-site landscaping will minimise the impact of the development but there will still be localised adverse effects on landscape and views within the National Park.
- 7.8 It has been demonstrated that the national need for the proposed development has been established and that it would bring local economic benefits. These factors together with the mitigation measures proposed and incorporated into the draft DCO are such as to outweigh the remaining localised adverse effect on the National Park. In the circumstance I consider that the tests for granting development consent for development in a National Park in exceptional circumstances as set out in EN-1 are met.
- 7.9 I have reviewed the possible impact of traffic generated during construction and the proposal from PCC and PCNPA that the applicant should fund highway improvements. I do not consider that the funding of these proposed mitigation measures is justified on planning grounds.
- 7.10 Although the development should have a positive effect on the local economy in terms of employment and multiplier effects, concerns have been expressed by PCC and PCNPA about the impact on the availability of affordable housing during the construction period. Funding was sought from the applicant to offset this impact. No specific evidence related to the proposed development was provided and I do not consider this an issue which should be given weight or that mitigation measures are required.
- 7.11 As a gas fired generating station with a capacity of 300 MW or more the development needs to satisfy the provisions of the CCR Regulations. I have reviewed the CCR assessment provided by the applicant and taken advice from NRW on technical aspects. I am satisfied that the material provided meets the requirements of EN-

1 and the CCR conditions set out in the CCR Regulations. The draft DCO contains provision for space to be set aside for installation of the necessary equipment.

### Habitats Regulations Assessment

7.12 The proposed development would be likely to have a significant effect on a number of European sites and the Secretary of State, as the competent authority, will need to carry out an appropriate assessment. Taking into account the applicant's initial assessment, additional material provided during the Examination and the proposed mitigation measures secured through the DCO I accept the applicant's conclusion that there would be no adverse effect on the integrity of any of the European sites identified. Full details are set out in the RIES and I recommend that the Secretary of State rely on this in making his appropriate assessment.

# Recommendation

- 7.13 As required of the Secretary of State under s104 of PA2008, I have reached my conclusions as outlined here having regard to the relevant NPSs and to the LIRs submitted. I have paid particular regard to the provisions in respect of developments in a National Park.
- 7.14 I am satisfied that deciding the application on this basis would not lead to the United Kingdom being in breach of its international obligations. The Secretary of State would not be in breach of any duty imposed on him by or under any enactment nor would the decision be unlawful by virtue of any enactment.
- 7.15 I am satisfied that the measures proposed in the draft DCO provide mitigation for the adverse effects identified apart from localised impacts on landscape and views in the National Park. I am satisfied that the benefits in meeting the national need for new generation capacity and to the local economy outweigh any remaining adverse effects of the proposal.
- 7.16 I therefore recommend that the Secretary of State grant development consent for the proposed development in the terms of the draft DCO attached at Appendix 4. For the avoidance of doubt the wording of the draft DCO in Appendix 4 is the same as the final draft submitted by the applicant (APP-090) except for the deletion of Requirement 22(3) proposed by NRW and consequent renumbering.

# **APPENDICES**

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# APPENDIX 1: EXAMINATION LIBRARY

# CONTENTS

The following is a list of documents that were submitted during the course of the Examination. The documents are grouped together by document type.

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 at the South Hook Combined Heat & Power Station project page:

http://infrastructure.planningportal.gov.uk/projects/wales/south-hookcombined-heat-power-station/

### INDEX

Document type	Reference
Application Documents	APP-xxx
Procedural Decisions	DEC-xxx
Relevant Representations	RR-xxx
Representations	REP-xxx
Hearing, Meeting & Site Visit Documents	HR-xxx
Project documents	PD-xxx
Additional Submissions	AS-xxx

#### **APPLICATION DOCUMENTS (APP)**

	TITLE
DOCIL	
	Application Form
APP-001	Document 1.1A Covering Letter FINAL
APP-002	Document 1.1B Application Form
APP-003	Document 1.1C Newspaper Notices
	Plans & Drawings
APP-004	Document 1.9 Section Drawing Plan
APP-005	Document 1.10A Works Plan A
APP-006	Document 1.10B Works Plan B
APP-007	Document 1.10C Land Plan
APP-008	Document 1.11 Natural Featues Plan
APP-009	Document 1.12 Historic Environment Plan
APP-010	Document 1.13A Site Location Plan
APP-011	Document 1.13B Existing Site Layout Plan
APP-012	Document 1.13C Proposed Site Layout Plan

DOC REF	TITLE
	Reports
APP-013	Document 1.2 Consultation Report
APP-014	Document 1.2 Consultation Report Appendices 2.1 - 2.44 Complete
APP-015	Document 1.2 Consultation Report Appendices 3.1 - 3.6 Complete
APP-016	Document 1.2 Consultation Report Appendices 4.1 Complete
APP-017	Document 1.2 Consultation Report Appendices 5.1 - 5.2 Complete
	Environmental Statement
APP-018	ES Chapter 01 Introduction FINAL
APP-019	ES Chapter 02 The Site and Surroundings FINAL
APP-020	ES Chapter 03 Alternatives and Design Evolution FINAL
APP-021	ES Chapter 04 Scheme and its Construction FINAL
APP-022	ES Chapter 05 EIA Process and Methodology FINAL
APP-023	ES Chapter 06 Ground Conditions and Hydrogeology FINAL
APP-024	ES Chapter 07 Hydrology Water Quality and Flood Risk FINAL
APP-025	ES Chapter 08 Seascape Landscape and Visual Resources FINAL
APP-026	ES Chapter 09 Terrestrial Ecology FINAL
APP-027	ES Chapter 10 Marine Ecology FINAL
APP-028	ES Chapter 11 Air Quality FINAL
APP-029	ES Chapter 12 Noise and Vibration FINAL
APP-030	ES Chapter 13 Historic Environment FINAL
APP-031	ES Chapter 14 Traffic and Transport FINAL
APP-032	ES Chapter 15 Socio-economics FINAL
APP-033	ES Chapter 16 Cumulative Effects FINAL
APP-034	ES Chapter 17 References FINAL
APP-035	ES Chapter 01 Figures
APP-036	ES Chapter 03 Figures
APP-037	ES Chapter 04 Figures
APP-038	ES Chapter 05 Figures
APP-039	ES Chapter 06 Figures
APP-040	ES Chapter 07 Figures
APP-041	ES Chapter 8 Figures 1 - 19
APP-042	ES Chapter 8 Figures 20 - 65
APP-043	ES Chapter 8 Figures 66 - 75
APP-044	ES Chapter 8 Figures 76 - 80
APP-045	ES Chapter 09 Figures
APP-046	ES Chapter 10 Figures
APP-047	ES Chapter 11 Figures
APP-048	ES Chapter 12 Figures
APP-049	ES Chapter 13 Figures
APP-050	ES Chapter 14 Figures

DOC REF	TITLE
APP-051	ES Chapter 15 Figures
APP-052	ES Chapter 04 Appendices Complete
APP-053	ES Chapter 05 Appendices Complete
APP-054	ES Chapter 06 Appendices Complete
APP-055	ES Chapter 07 Appendices Complete
APP-056	ES Chapter 08 Appendices Complete
APP-057	ES Chapter 09 Appendices Complete
APP-058	ES Chapter 10 Appendices Complete
APP-059	ES Chapter 11 Appendices Complete
APP-060	ES Chapter 12 Appendices Complete
APP-061	ES Chapter 13 Appendices Complete
APP-062	ES Chapter 14 Appendices Complete
APP-063	ES Chapter 15 Appendices Complete
APP-064	Document 1.3.4 - ES Non Technical Summary
	Draft Development Consent Order
APP-065	Document 1.4 Proposed South Hook CHP Plant Order
APP-066	Document 1.5 Explanatory Memorandum
REP-031	Second round of question response from QPI Global Ventures Ltd, appendix 2 (Draft
	Development Consent Order v2.0 track changed and clean versions)
APP-088	Draft Proposed South Hook CHP Plant Development Consent Order v3.0
APP-089	Draft Proposed South Hook CHP Plant Development Consent Order v3.0 with track changes
APP-090	Draft Proposed South Hook CHP Plant Development Consent Order v4.0
APP-091	Draft Proposed South Hook CHP Plant Development Consent Order v4.0 with track changes
APP-092	Explanatory Memorandum v2.0 (Clean)
APP-093	Explanatory Memorandum v2.0 (Track changed)
	Other Information (inc APFP Reg 6 info)
APP-067	Document 1.7 Statement of Statutory Nuisances
APP-068	Document 1.8 Habitat Regulations Assessment Report
APP-069	Document 1.14A Grid Connection Statement
APP-070	Document 1.14B Gas Pipeline Connection Statement
APP-071	Document 1.15 Scheme Description - Location Statement
APP-072	Document 1.16A Planning Statement
APP-073	Document 1.16B Sustainability Statement - Location Statement
APP-074	Document 1.17 Design and Access Statement
APP-075	Document 1.18 Health Impact Assessment
APP-076	Document 1.19A Transport Assessment
APP-077	Document 1.198 Draft Construction Troffic Monogeneent Plan - Location Statement
APP-078	Document 1.19C Draft Construction Traffic Management Plan - Location Statement
APP-079	Document 1.20A Engineering Design Statement
APP-080	Document 1.200 Carbon Conture Readiness Assessment
ALL-DOT	Document 1.21 Carbon Capture Readiness Assessment

Report to the Secretary of State

DOC REF	TITLE
APP-082	Document 1.22 Design Principles Statement
APP-083	Document 1.23 Draft Code of Construction Practice
APP-084	Document 1.24 Project Glossary
APP-085	Document 1.25 - Welsh Translations of Key Documentation
APP-086	Document 1.26 Existing South Hook LNG Terminal Permits
APP-087	Document 1.6 Flood Consequences Assessment - Location Statement
PROJECT DOCUMENTS (DEC)	
DEC-001	Section 55 Acceptance of Applications Checklist
DEC-002	Notification of Decision to Accept Application
DEC-003	Certificates of Compliance with s56 and s59 of the Planning Act 2008 and Reg 13 of the
	Infrastructure Planning (Environmental Impact Assessment) Regulations 2009
DEC-004	Rule 4 & 6 Letter
DEC-005	Rule 8 letter, including Examination timetable
DEC-006	Examining Authority's Second round of questions
DEC-007	Rule 17 letter dated 3 March 2014
DEC-008	Rule 17 regarding Rochdale changes to application dated 7 March 2014
	Issue of the Report on the Implications for European Sites (RIES) by the Examining
DEC-009	Authority for consultation
DEC-010	Procedural decision regarding changes to the original submission
DEC-011	<b>Rule 17 regarding correspondence from the Health and Saftey Executive dated 22 April</b> 2014
DEC-012	Notification of Completion of Examining Authority's Examination
RELEVANT REPRESENTATIONS (RR)	
RR-001	Welsh Government
RR-002	Dr Michael John Roobol
RR-003	George Llewellin
RR-004	Herbrandston Community Council
RR-005	<u>Civil Aviation Authority</u>
RR-006	Cwm Taf Health Board
RR-007	Sandy Haven Caravan Site Ltd
RR-008	Pembrokeshire Coast National Park Authority
RR-009	Milford Haven Golf Club Ltd.
RR-010	Mr. W. S. Brown
RR-011	Lyndon Brown
RR-012	South Hook LNG Terminal Company Limited
RR-013	Paul Chesher
RR-014	National Grid Gas Plc
RR-015	Shelagh O'Keeffe
RR-016	John O'Keeffe
RR-017	Austwel Ltd

DOC REF	TITLE
RR-018	Mr David S Robinson
RR-019	Marloes & St. Brides Community Council
RR-020	Esso Petroleum Company Limited
RR-021	Public Health England
RR-022	Mr & Mrs S Kehoe
RR-023	Dan Parry-Jones
RR-024	Natural Resources Body for Wales
RR-025	RWE Npower plc
RR-026	Pembrokeshire Friends of the Earth
RR-027	Health and Safety Executive
RR-028	Ministry of Defence
RR-029	Dale community Council
RR-030	Alison Hardy
RR-031	Pembrokeshire County Council
RR-032	Network Rail Limited
REPRESENTATIONS (REP)	
	Adequacy of Consultation Representations
REP-001	Adequacy of consultation by Ceredigion County Council
REP-002	Adequacy of consultation by Pembrokeshire Coast National Park Authority
REP-003	Adequacy of consultation by Pembrokeshire County Council
REP-004	Adequacy of consultation by Carmarthernshire County Council
	Written representations
REP-005	Written Representations by Marloes & St.Brides Community Council
REP-006	Written Representations by Dale Community Council
REP-007	Written Representations by Esso Petroleum Company Ltd
REP-008	Written Representations by Milford Haven Town Council
REP-009	Written Representations by Natural Resources Body of Wales
REP-010	Reference not used
REP-011	Reference not used
REP-012	Written Representation by Mr David Robinson
REP-013	Written Representation by Mrs Hardy
REP-014	Written Representation by National Grid Gas Plc
REP-015	Written Representation by Pembrokeshire Coast National Park Authority
	Responses to First Round of Questions
REP-016	Pembrokeshire Coast National Park Authority
REP-042	First round of question responses from Pembrokeshire Coast National Park Authority,
	Appendix
REP-017	QPI Global Ventures Ltd
	Local Impact Reports
REP-018	Local Impact Report by Pembrokeshire Coast National Park Authority
REP-019	Local Impact Report by Pembrokeshire County Council
	Statement of Common Ground
REP-020	Pembrokeshire Coast National Park Authority and Pembrokeshire County Council
	Statement of Common Ground

DOC REF	TITLE
REP-021	<b>RWE Npower's position on Statement of Common Ground</b>
REP-017	QPI Global Ventures Ltd
REP-068	QPI Global Ventures Ltd's Statement of Common Ground with Natural Resources Wales
REP-054	Natural Resources Wales and QPI Global Ventures Ltd's Statement of Common Ground
	(final)
REP-055	Statement of Common Ground between QPI Global Ventures Ltd and Pembrokeshire
	Coast National Park Authority (Final)
REP-056	Statement of Common Ground in respect of Seascape, Landscape and Visual Impact
	between QPI Global Ventures Ltd and Pembrokeshire Coast National Park Authority and
	Natural Resources Wales
REP-057	Statement of Common Ground between QPI Global Ventures Ltd and Pembrokeshire
	County Council (Final)
	Comments
REP-022	Natural Resources Wales comments on Written representations and responses to
	comments on relevant representations, Statements of Common Ground, Local Impact
	Reports and Responses to Examining Authority's first written questions
REP-023	<b><u>QPI Global Ventures Ltd's comments on Written Representations, Responses to Comments</u></b>
	on Relevant Representations, Comments on Statements of Common Ground
REP-048	Pembrokeshire Coast National Park Authority's comments for the deadline of 8 April 2014
REP-049	Pembrokeshire County Council's comments for the deadline of 8 April 2014
REP-051	<b><u>QPI Global Ventures Ltd, Comments on oral representation given at the hearings held 5</u></b>
	and 6 March 2014
REP-052	<b><u>QPI Global Ventures Ltd comments on Health and Safety Executive representation dated</u></b>
252.050	<u>17 March 2014</u>
REP-058	Reference not used
REP-059	Reference not used
DED 047	Comments on Relevant Representations
REP-017	QPI Global Ventures Ltd
DED 47	Report on Implication on European Sites
REP-47	Report on the Implications for European Sites (RIES)
252.046	Comments on the RIES
REP-046	Mr Robinson's comments on the RIES
REP-050	Natural Resources Wales Comments on the RIES
252.024	Responses to Second Round of Questions
REP-024	Second round of questions responses from Natural resources Wales
REP-025	QPI Global Ventures Ltd cover letter to second round of question response
REP-026	Second round of question response from QPI Global Ventures Ltd
REP-027	Second round of question response from QPI Global Ventures Ltd, appendix 1
REP-031	Second round of question response from QPI Global Ventures Ltd, appendix 2 (Draft
	Development Consent Order V2.0 track changed and clean versions)
REP-032	Second round of question response from QPI Global Ventures Ltd, appendix 3
REP-033	Second round of question response from QPI Global Ventures Ltd, appendix 4
	Second round of question response from QPI Global Ventures Ltd, appendix 5
KEP-035	Second round of question response from QPI Global Ventures Ltd, appendix 6
KEP-036	Second round of question response from QPI Global Ventures Ltd, appendix /
KEP-037	Second round of question response from QPI Global Ventures Ltd, appendix 8
KEP-038	IVIIITORI HAVEN TOWN COUNCIL

Report to the Secretary of State

DOC REF	TITLE
REP-039	Pembrokeshire Coast National Park Authority
REP-040	Second round of question response from Pembrokeshire County Council
REP-041	Second round of questions responses from RWE Npower
REP-047	Second round of question erratum from QPI Global Ventures Ltd for pages 8, 9 and 10
	Comments Second Round of Questions
REP-029	<b>QPI Global Ventures Ltd comments on RWE Npower second round of question responses</b>
	Correspondence
REP-030	Correspondence to the Examining inspector from Alison Hardy
	<b>QPI Global Ventures Ltd Newsletter to s.42 and s.47 consultees</b>
	Rule 17 responses (17 February 2014)
REP-042	Rule 17 response by QPI Global Ventures Ltd
	Rule 17 responses (13 March 2014)
	The Gas Transportation Company Ltd, Response to rule 17 deadline 13 March 2014
REP-043	Response from Port of Milford Haven to the application changes for the deadline of 17
	<u>March 2014</u>
	Rule 17 responses (17 March 2014)
REP-044	Health and Safety Excecutive's response relating to the proposed changes to the draft DCO
	submitted 3 March 2014
REP-045	<b><u>QPI Global Ventures Ltd.'s response relating to the proposed changes to the draft DCO</u></b>
	submitted 3 March 2014
REP-053	Response from Network Rail to the rule 17 letter of 7 March 2014
	Rule 17 responses (23 April 2014)
REP-060	QPI Global Ventures Ltd response to Rule 17 deadline 23 April 2014
REP-061	Alison Hardy response to Rule 17 deadline 23 April 2014
REP-062	Health and Safety Executive response to Rule 17 deadline 23 April 2014
REP-063	John O'Keeffe response to Rule 17 deadline 23 April 2014
REP-064	Milford Haven Town Council response to Rule 17 deadline 23 April 2014
REP-065	Mr Robinson response to Rule 17 deadline 23 April 2014
REP-066	Health and Safety Executive comments on QPI Global Ventures Ltd's response to Rule 17
	deadline 23 April 2014
REP-067	<b><u>QPI Global Ventures Ltd comments on Health and Safety Executive comments relating to</u></b>
	Rule 17 deadline 23 April 2014
HEARING, ME	ETING & SITE VISIT DOCUMENTS (HR)
	Preliminary Meeting
HR-001	South Hook Preliminary Meeting Note Final
HR-002	Preliminary Meeting audio recording 23 October 2013 part 1
HR-003	Preliminary Meeting audio recording 23 October 2013 part 2
HR-004	Preliminary Meeting audio recording 23 October 2013 part 3

	Issue Specific Hearing held 15 January 2014
HR-005	South Hook hearing and accompanied site visit notification letter
HR-006	Provisional agenda for Issue Specific Hearings on 15 and 16 January 2014
HR-007	Audio Recording of the Issue Specific Hearing held on 15 January 2014 Part 1
DOC REF	TITLE
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HR-008	Audio Recording of the Issue Specific Hearing held on 15 January 2014 Part 2
HR-021	Summary of QPI Global Ventures Ltd oral representation relating to the Issue Specific Hearing held on 15 January 2014
HR-022	Summary of QPI Global Ventures Ltd Oral representation relating to the Issue Specific Hearing held on 15 January 2014, Appendix 1 (bat activity survey report)
HR-023	Summary of QPI Global Ventures Ltd oral representation to the Issue Specific Hearing held on 15 January 2014, Appendix 2 (Health Board consultation)
HR-009	Summary of Natural Resources Wales oral representation relating to the Issue Specific Hearing held on 15 January 2014
HR-010	Summary of Natural Resources Wales oral representation relating to the Issue Specific Hearing held on 15 January 2014, Appendix 1
HR-011	Summary of Pembrokeshire County Council oral representation relating to the Issue
HR-012	Summary of Pembrokeshire County Council oral representation Appendix A
HR-013	Summary of Pembrokeshire County Council oral representation. Appendix B
	Summary of Pembrokeshire Coart National Park Authority and representation
	Summary of Pembrokeshire Coast National Park Authority or a representation
HR-015	<u>A</u>
HR-016	Summary of Pembrokeshire Coast National Park Authority oral representation_Appendix <u>B (Pembrokeshire County Council Transportation Impacts)</u>
	Open Floor Hearing held 5 March 2014
HR-017	Audio Recording of the Open Floor Hearing held 5 March 2014
HR-024	Written summary of Mrs Hardy's oral representation at the open floor hearing
	Issue Specific Hearing held 6 March 2014
HR-018	Audio Recording of the Issue Specific Hearing held on 6 March 2014 Part 1
HR-019	Audio Recording of the Issue Specific Hearing held on 6 March 2014 Part 2
HR-020	Audio Recording of the Issue Specific Hearing held on 6 March 2014 Part 3
HR-025	Bats and lighting in the UK (2009, V 3.0), submitted by QPI Global Ventures Ltd as requested by the Examining Authority
HR-026	Draft Community Project Funding Agreement by QPI Global Ventures Ltd
HR-027	Summary of Natural Resources Wales oral representation relating to the Issue Specific Hearing held on 6 March 2014
HR-028	Summary of Pembrokeshire Coast National Park Authority oral representation relating to the Issue Specific Hearing held on 6 March 2014
HR-029	Summary of Pembrokeshire Coast National Park Authority oral representation relating to the Issue Specific Hearing held on 6 March 2014. Appendix A
HR-030	Summary of Pembrokeshire Coast National Park Authority oral representation relating to the Issue Specific Hearing held on 6 March 2014, Appendix B
HR-031	Summary of Pembrokeshire County Council oral representation relating to the Issue
	Specific Hearing held on 6 March 2014
HR-032	Summary of Pembrokeshire County Council oral representation relating to the Issue
	Specific Hearing held on 6 March 2014, Appendix A

DOC REF	TITLE
HR-033	Summary of Pembrokeshire County Council oral representation relating to the Issue
	Specific Hearing held on 6 March 2014, Appendix b
PROJECT DOCI	JMENTS (PD)
PD-001	Transboundary Screening Matrix_Re-screening
	EIA Scoping
PD-002	Late scoping responses
PD-003	Scoping Opinion
PD-004	Scoping Report
ADDITIONAL S	UBMISSIONS (AS)
AS-001	Additional Submission by Royal Mail
AS-002	Additional Submission by Mr Roobol on behalf of Mr and Mrs Ingram
AS-003	Additional submission by Mr Roobol
AS-004	Additional submission by Mrs O'Keefe
AS-005	Additional submission by QPI Global Ventures Ltd
AS-006	Additional submission representation by Mr Robinson
AS-007	Additional submission Mr Robinson submitted 6 February 2014
AS-008	Additional submission by QPI Global Ventures Ltd relating to the Rochdale envelope
AS-009	Additional Submissions by Mr Robinson
AS-010	Joint statement between QPI Global Venture and National Grid regarding Protective Provisions
AS-011	Additional Submission by QPI Global Ventures Ltd
AS-012	Additional representation by QPI Global Ventures Ltd relating to an ammendment to Document 1.22 - Design Principles Statement
AS-013	Additional representation by QPI Global Ventures Ltd relating to the Supplementary Consultation Report
AS-014	Additional representation by QPI Global Ventures Ltd relating to the Supplementary Consultation Report and updated Statements of Common Ground
AS-015	Additional submission from QPI Global Ventures Ltd relating to 106 agreements
AS-016	Joint statement between National Grid Gas plc and QPI Global Ventures Ltd relating to protective provisions
AS-017	<b><u>QPI Global Ventures Ltd cover letter to final submission</u></b>
AS-018	QPI Global Ventures Ltd consolidation report relating to the project
AS-019	Health and Safety Executive, additional representation relating to additional risk assessment of the South Hook Project.

## APPENDIX 2: 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 (ExA).

DATE	EXAMINATION EVENT
23 October 2013	Preliminary Meeting and start of Examination
30 October 2013	Notification by the ExA of procedural decision under Rule 8 of the Infrastructure Planning (Examination Procedure) Rules 2010 made at and following the preliminary meeting. Including Issue of:
	- Confirmation of the Examination timetable
	- ExA's first written questions
	- Confirmation of request for Statements of Common Ground (SoCG)
	- Confirmation of intention to carry out inspection of the site in the company of interested parties
13 November 2013	Deadline for statutory parties to inform the Examining Authority (ExA) of a wish to be considered as an interested party
21 November 2013	Deadline for receipt by the ExA of:
	- Comments on relevant representations already received
	- Summaries of all relevant representations exceeding 1500 words
	- Written representations by all interested parties
	- Summaries of written representations exceeding 1500 words
	- Responses to ExA's first written questions
	- Statements of Common Ground

DATE	EXAMINATION EVENT
	- Local Impact Reports from local authorities
	- Notification by interested parties of wish to make oral representations at the first issue specific hearing on local environmental impacts
	- Notification by interested parties of wish to be heard at an open floor hearing
	- Notification by interested parties of wish to attend any accompanied site visit and any representations relating to locations to view at or near the site and in the surrounding area
13 December 2013	Deadline for receipt of:
	- Comments on written representations and responses to comments on relevant representations
	- Comments on Statements of Common Ground
	- Comments on Local Impact Reports
	- Comments on responses to ExA's first written questions
19 December 2013	Notification by ExA of date, time, and place for:
	<ul> <li>First issue specific hearing to be held on local environmental impacts</li> </ul>
	- Any accompanied site visit(s)
14 January 2014	Accompanied site visit
15 January 2014	Issue specific hearing on local environmental impacts.

DATE	EXAMINATION EVENT
24 January 2014	Deadline for receipt of:
	<ul> <li>Optional written summary of the oral case put at the issue specific hearing on local environmental impacts</li> <li>Notification by interested parties of wish to make oral representations at the second issue specific hearing on the draft Development Consent Order (DCO) and any related local impact report matters</li> </ul>
27 January 2014	Issue of:
	- ExA's second round of written questions and any further request for Statements of Common Ground.
	<ul> <li>Rule 17 request for comments on Pembrokeshire Coast National Park First round of questions appendix</li> </ul>
	<ul> <li>Notification by ExA of date time and place for:</li> <li>Any open floor hearing</li> <li>The second issue specific hearing on the draft DCO and any related local impact report matters</li> <li>Any other hearings (in the event that the ExA decides during the progress of the Examination that they are needed)</li> </ul>
17 February 2014	Deadline for receipt of: - Responses to ExA's second written questions and any further Statements of Common Ground - Comments on written summaries of cases put at the issue specific hearing - Response to ExA's rule 17 request dated 27 January 2014
3 March 2014	Deadline for receipt of: - Comments on responses to ExA's second round of written questions and any further Statements of Common Ground Issue of:

DATE	EXAMINATION EVENT
	- Rule 17 request for comments on changes to the original application.
5 March 2014	Open Floor Hearing
6 March 2014	Issue Specific Hearing on the draft DCO and Local Impact Report matters
7 March 2014	Issue of: - Rule 17 request for comments on further changes to the original application and comments on the revised draft DCO (v3.0)
13 March 2014	<ul> <li>Deadline for receipt of:</li> <li>Optional written summary of the case put orally at the issue specific hearing on draft DCO and any related local impact report matters</li> <li>Optional written summary of the case put orally at any open floor hearings held</li> <li>Optional written summary of the case put orally at any other hearings held</li> <li>Optional written summary of the case put orally at any other hearings held</li> <li>Any proposed amendments to the draft DCO</li> <li>Any responses to ExA's request for further information relating changes to the original application</li> <li>Response to ExA's rule 17 request dated 3 March 2014</li> </ul>
17 March 2014	Issue of The Report on the Implication for European Sites (RIES) Deadline for receipt of: - Responses to ExA's rule 17 request dated 7 March 2014
8 April 2014	Deadline for receipt of: - Comments on written summaries of cases put at the open floor hearing, the second issue specific hearing and any other hearings - Comments on any proposed amendments to the draft DCO - Comments on the RIES
10 April 2014	Issue of: Procedural decision relating to whether the changes to the original application were likely

DATE	EXAMINATION EVENT
	to prejudice any party.
22 April 2014	Issue of: - Rule 17 request for comments on the Health and Safety Executives letter dated 17 April 2014
23 April 2014	Deadline for receipt of: - Responses to Rule 17 request dated 22 April 2014 Close of Examination

## APPENDIX 3: LIST OF ABBREVIATIONS

ALARP	As low as reasonably practicable
AOD	Above ordnance datum
AONB	Areas of Outstanding Natural Beauty
AQO	Air Quality Objectives
ASV	Accompanied Site Visit
BAT	Best Available Techniques
CCGT	Combined Cycle Gas Turbine
ССР	Code of Construction Practice
CCR	Carbon Capture Ready
CCS	Carbon Capture and Storage
CCW	Countryside Council for Wales
CEMP	Construction Environmental Management Plan
CHP plant	Combined Heat and Power plant
СО	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
СОМАН	Control of Major Accidents Hazards
CPFA	Community Project Funding Agreement
СТМР	Construction Traffic Management Plan
DAS	Design and Access Statement
dB	Decibels
DCO	Development Consent Order
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Food and Rural Affairs
DMRB	Design Manual for Roads and Bridges
DPS	Design Principles Statement

Report to the Secretary of State

EA	Environment Agency
EIA	Environmental Impact Assessment
EM	Explanatory Memorandum
EMF	Electro-magnetic Fields
EN-1	The Overarching National Policy Statement for Energy
EN-2	National Policy Statement for Fossil Fuel Electricity Generating Infrastructure
EPR	The Infrastructure Planning (Examination Procedure) Rules 2010
EQS	Environmental Quality Standards
ES	Environmental Statement
EU ETS	EU Emissions Trading Scheme
ExA	Examining Authority
GHS	Greater Horseshoe Bat
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GN.1	GN.1 General Development Policy
GN.2	GN.2 Sustainable Design
GN.3	GN.3 Infrastructure and New Development
GN.37	GN.37 Protection and Enhancement of Biodiversity
GN.38	GN.38 Protection and Enhancement of the Historic Environment
GN.39	GN.39 Transport Routes and Improvements
GTG	Gas Turbine Generator
На	Hectares
HGV	Heavy Goods Vehicle
HRA	Habitat Regulations Assessment

HRSG	Heat Recovery Steam Generator
HSE	Health and Safety Executive
HV	High Voltage
Hz	Hertz
IEMA Guidelines	Guidelines for the Environmental Assessment of
	Road Traffic (Institute of Environmental
ICC	Assessment, 1993)
IPC	International Chamber of Commerce
IDs	Infrastructure Planning Commission
154	Interested Parties
	Issue Specific Hearing
LCOE	Levelised Cost of electricity generation
LDP	Local Development Plan
LIRS	Local Impact Reports
LNG	Liquid Natural Gas
LPA	Local Planning Authority
LSE	Likely Significant Effects
MW	Megawatt
MWe	Megawatt electrical
Ν	Nitrogen
National Park	Pembrokeshire Coast National Park
NCA	Nature Conservation Area
NO <sub>2</sub>	Nitrogen Dioxide
NO <sub>x</sub>	Oxides of Nitrogen
NPS	National Policy Statement
NRW	Natural Resources Wales
NSIP	Nationally Significant Infrastructure Project

NTS	National Transmission System
OFH	Open Floor Hearing
PA 2008	The Planning Act 2008 (as amended)
PCC	Pembrokeshire County Council
PCC LDP	The Local Development Plan for Pembrokeshire County Council
PCNPA	Pembrokeshire Coast National Park Authority
PHSP	Pembrokeshire Haven Spatial Plan
RFC	Ratio of Flow to Capacity
RIES	Report on the Implications for European Sites
RWE	RWE Npower
SAC	Special Area of Conservation
SCV	Submerged combustion vaporisers
SLVIA	The Seascape, Landscape, and Visual Impact Assessment
SoCG	Statement of Common Ground
South Hook CHP	South Hook Combined Heat and Power Plant.
SP 1	SP 1 Sustainable Development
SP 2	SP 2 Port and Energy Related Development
SP 3	SP 3 Employment and Land Requirements
SPA	Special Protection Areas
SPG	Supplementary Planning Guidance
SSSI	Site of Special Scientific Interest
STG	Steam Turbine Generator
TAN	Technical Advice Note
The Coastal Path	The Pembrokeshire Coast Path National Trail

The Habitats	Conservation of Habitats and Species
Regulations 2010	Regulations 2010
The LNG Terminal	South Hook Liquefied Natural Gas Terminal
The Waterway	Milford Haven Waterway

APPENDIX 4: RECOMMENDED DEVELOPMENT CONSENT ORDER

## STATUTORY INSTRUMENTS

# 201X No. XXXX

# **INFRASTRUCTURE PLANNING**

# The South Hook CHP Plant Order 201X

Made	***
Laid before Parliament	***
Coming into force	***

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SCHEDULE A — AUTHORISED DEVELOPMENT SCHEDULE B — REQUIREMENTS An application has been made to the Secretary of State, in accordance with the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 for an Order under sections 37, 114, 115 and 120 of the Planning Act 2008 ("the 2008 Act").

The application was examined by a single appointed person (appointed by the Secretary of State) in accordance with Chapter 4 of Part 6 of the 2008 Act, and the Infrastructure Planning (Examination Procedure) Rules 2010.

The single appointed person, having considered the representations made and not withdrawn and the application together with the accompanying documents, in accordance with section 83 of the 2008 Act, has submitted a report to the Secretary of State.

[The Secretary of State, having considered the representations made and not withdrawn, and the report of the single appointed person, has decided to make an Order granting development consent for the development described in the application with modifications which in the opinion of the Secretary of State do not make any substantial changes to the proposals comprised in the application.

The Secretary of State, in exercise of the powers conferred by sections 114, 115 and 120 of the 2008 Act, makes the following Order -]

## Citation and commencement

**1.** This Order may be cited as the South Hook CHP Plant Order 201X and shall come into force on [●] 201X.

## Interpretation

2 - (1) In this Order

"the 1961 Act" means the Land Compensation Act 1961(**a**);

"the 1980 Act" means the Highways Act 1980(b);

"the 1990 Act" means the Town and Country Planning Act 1990(c);

"the 1991 Act" means the New Roads and Street Works Act 1991(d);

<sup>(</sup>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 1980 (c.65). There are other amendments to the 1961 Act which are not relevant to this Order.

<sup>(</sup>b) 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) and1 (4) were amended by section 8 of, and paragraph (1) of Schedule 4 to, the Local Government Act 1985 (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 8 of, and paragraph 7 of Schedule 4 to, the Local Government Act 1985 (c.51); and section 36(7) was amended by section 8 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.

<sup>(</sup>c) 1990 c.8. Section 206(1) was amended by section 192(8) of, and paragraphs 7 and 11 of Schedule 8 to, the Planning Act 2008 (c29) (date in force to be appointed see section 241(3), (4)(a), (c) of the 2008 Act). There are other amendments to the 1990 Act which are not relevant to this Order.

<sup>(</sup>d) 1991 c.22. Section 48(3A) was inserted by section 124 of the Local Transport Act 2008 (c.26). Sections 79(4), 80(4), and 83(4) were amended by section 40 of, and Schedule 1 to, the Traffic Management Act 2004 (c.18).

"the 2008 Act" means the Planning Act 2008(a);

"authorised development" means the development described in Schedule A which is development within the meaning of section 32 of the 2008 Act;

"building" includes any structure or erection or any part of a building, structure or erection;

"commissioning" means, without prejudice to the Environmental Permitting Regulations, the process of assuring that all systems and components of the authorised development are installed, tested, and operable in accordance with the design and operational requirements of the undertaker;

"design principles statement" means the design principles statement with reference number 1.22 (28th February 2014) and certified as the design principles statement by the Secretary of State for the purposes of this Order;

"the Environmental Permitting Regulations" means the Environmental Permitting (England and Wales) Regulations 2010(**b**) as may be amended from time to time;

"highway" and "highway authority" have the same meaning as in the 1980 Act;

"key buildings" means the key buildings and structures set out in the works plan (part B) and references in this Order to a "key building" must be construed accordingly;

"the land plan" means the land plan with reference number 1.10C submitted with the application and certified as the land plan by the Secretary of State for the purposes of this Order;

"the limits of deviation" means the limits of deviation for the electrical sub-station (HV switchgear indoor gas insulated building and compound) and the stack shown on the works plan (part B);

"Natural Resources Wales" means the Natural Resources Body for Wales;

"the Order limits" means the limits shown on the works plan (part A) within which the authorised development may be carried out;

"permanent works" means the authorised development within Work Nos. 1A, 2, 3A, 4, 5, 6, 7A and 10A and identified as permanent works in Schedule A;

"relevant planning authority" means Pembrokeshire Coast National Park Authority in relation to land in its area and Pembrokeshire County Council in relation to land in its area and "the relevant planning authorities" means both of them;

"requirements" means those matters set out in Schedule B (requirements) to this order;

"the section drawing plan" means the section drawing plan with reference number 1.9 (Rev C) and certified as the section drawing plan by the Secretary of State for the purposes of this Order;

"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;

"temporary works" means the authorised development within Work Nos. 1B, 3B, 7B, 8, 9, 10B and 11 and identified as temporary works in Schedule A;

"undertaker" means South Hook CHP Limited (company number 8109296) or such alternative person as has the benefit of this Order under section 156(1) of the 2008 Act;

"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 works plan (part A) with reference number 1.10A and works plan (part B) with reference number 1.10B (Rev B) and certified as the works plans by the Secretary of State for the purposes of this Order, and references in this Order to "works plan (part A)" or "works plan (part B)" must be construed accordingly.

<sup>(</sup>**a**) 2008 c.29.

<sup>(</sup>b) S.I. 2010/675. There are amendments to this Regulation which are not relevant to 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.

(3) All distances, directions and lengths referred to in this Order are approximate.

## 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) Each numbered work comprised in the authorised development must be constructed within the correspondingly numbered area shown on the works plan (part A).

(3) Subject to paragraph (4), in constructing or maintaining the key buildings shown and identified on the works plan (part B), the undertaker may—

- (a) deviate laterally from the building outlines shown for those key buildings shown and identified on the works plan (part B) to any such extent inwards as may be necessary, convenient or expedient; and
- (b) deviate vertically from the building levels shown for those key buildings on the sections shown and identified on the section drawing plan to any such extent downwards as may be necessary, convenient or expedient.

(4) The works comprised in the electrical sub-station (HV switchgear indoor gas insulated building and compound) and the stack may be constructed within the limits of deviation subject to the relevant dimensions for these works set out in the design principles statement and as set out below:

(a) key building 4 (the electrical sub-station (HV switchgear indoor gas insulated building and compound)):

limits of deviation dimensions – length of 140m (approximate east/west axis) width of 50m (approximate north/south axis);

key building dimensions - height up to 7m, length up to 79m, width up to 47m;

(b) key building 9 (the stack):

limits of deviation dimensions – length of 23m (approximate east/west axis), width of 8m (approximate north/south axis);

key building dimensions - height up to 85m; diameter up to 8m.

## Procedure in relation to certain approvals etc. under requirements

**4.**—(1) Where an application is made to a relevant planning authority for any consent, agreement or approval required by a requirement, the following provisions apply in respect of that application as they would apply if the consent, agreement or approval so required was required by a condition imposed on a grant of planning permission—

- (a) sections 78 and 79 of the 1990 Act (right of appeal in relation to planning decisions);
- (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.

(2) 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( $\mathbf{a}$ ).

(3) For the avoidance of doubt, the right of appeal conferred by paragraph (1) above pursuant to sections 78 and 79 of the 1990 Act is by notice to the Secretary of State.

<sup>(</sup>a) 1989 c.29. Section 6 was amended by s.30 of the Utilities Act 2000 (c.27), and s.6(10) amended by s.89(3) of the Energy Act 2004 (c.20). There are other amendments to this section that are not relevant to this Order.

#### Maintenance of authorised development

**5.** The undertaker may at any time maintain the authorised development, except to the extent that this Order including the requirements or an agreement made under this Order, provides otherwise.

## **Operation of generating station**

**6.**—(1) The undertaker is hereby authorised to operate the generating station comprised in the authorised development for the purpose of generating electricity and heat and which shall operate primarily as a combined heat and power plant through the provision of heat to the existing South Hook LNG Terminal together with the generation of electricity.

(2) This article does not relieve the undertaker of any obligation to obtain any permit or licence under any other legislation that may be required from time to time to authorise the operation of a generating station.

## Consent to transfer benefit of Order

7.—(1) Without prejudice to section 156 of the 2008 Act, 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 so agreed,

(2) Where a transfer or grant has been made in accordance with paragraph (1) references in this Order to the undertaker, except in paragraph (3), shall include references to the transferee or the lessee.

(3) The exercise by a person of any benefits or rights conferred in accordance with any transfer or grant under paragraph (1) must 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.

## 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 paragraph (g) of section 79(1) of that Act (noise emitted from premises so as to be prejudicial to health or a nuisance) no order shall be made, and no fine may 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) or 65 (noise exceeding registered level), 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—

Environmental Protection Act 1990, c.25. There are other amendments to the 1974 Act which are not relevant to this Order.

<sup>(</sup>a) 1990 c.43. There are amendments to this Act which are not relevant to this Order.

<sup>(</sup>b) 1974 c.40. Sections 61(9) and 65(8) were amended by section 162 of, and paragraph 15 of Schedule 3 to, the

- (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; 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 and section 65(8) of that Act (corresponding provision in relation to consent for registered noise level to be exceeded), 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.

#### Access to works

**9.** The undertaker may, for the purposes of the authorised development, and after the details of the proposed access works have been submitted to and approved by the relevant planning authorities, form and lay out such 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.

## **Discharge of water**

**10.**—(1) The undertaker may use any watercourse or any public sewer or drain for the drainage of water in connection with the carrying out 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) must 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 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) in accordance with plans approved by the person to whom the sewer or drain belongs, but such approval must 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 forming part of a main river.

(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 a groundwater activity or water discharge activity within the meaning of the Environmental Permitting Regulations.

(8) In this article—

(a) "public sewer or drain" means a sewer or drain which belongs to the Homes and Communities Agency, Natural Resources Wales, a harbour authority within the meaning

<sup>(</sup>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.

of section 57 of the Harbours Act  $1964(\mathbf{a})$  (interpretation), an internal drainage board, a joint planning board, a local authority, a National Park Authority, a sewerage undertaker or an urban development corporation; and

- (b) other expressions, excluding watercourse, used both in this article and in the Environmental Permitting Regulations have the same meaning as in those Regulations.
- (c) other expressions, excluding watercourse, used both in this article and the Water Resources Act 1991(b) but not the Environmental Permitting Regulations have the same meaning as in that Act.

## Authority to survey and investigate and remediate the land

**11.**—(1) The undertaker may for the purposes of this Order enter on any land shown within the Order limits and—

- (a) survey or investigate or remediate the land, subject where applicable, in the case of remedial investigations and works to requirement 9, in the case of archaeological investigations and works to requirement 10 and in the case of ecological investigations and works to requirement 11;
- (b) without prejudice to the generality of sub-paragraph (a), make trial pits or bore holes in such positions on the land as the undertaker thinks fit to investigate the nature of the surface layer and subsoil and groundwater, remove soil or water samples and conduct any geotechnical, chemical or other testing on such samples;
- (c) without prejudice to the generality of sub-paragraph (a), carry out any remedial works the undertaker thinks fit in connection with the authorised development;
- (d) without prejudice to the generality of sub-paragraph (a), carry out archaeological or ecological investigations on such land; and
- (e) 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 pits or bore 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 upon 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, investigation, or remediation or to make the trial pits or bore holes.
- (4) No trial pits or bore holes shall 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.

## Application of landlord and tenant law

12.—(1) This article applies to—

<sup>(</sup>a) 1964 c.40. Paragraph 9B was inserted into Schedule 2 by the Transport and Works Act 1992 (c.42), section 63(1) and Schedule 3, paragraph 9(1) and (5). There are other amendments to the 1964 Act which are not relevant to this Order.

<sup>(</sup>b) 1991 c.57. 1991 c.57. Section 85(1) was amended by paragraphs 21(1) and (2) of Part 1 of Schedule 21 to S.I. 2007/3538.

- (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) No enactment or rule of law regulating the rights and obligations of landlords and tenants shall prejudice the operation of any agreement to which this article applies.

(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**

**13.** Development consent granted by this Order shall 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) from the date at which the undertaker obtains a generation licence under section 6 of the Electricity Act 1989(**a**).

## **Carbon Capture Readiness**

**14.**—(1)The following definitions apply for the purposes of this article 14:

- (a) "capture equipment" means the plant and equipment required to capture the target carbon dioxide and identified as such in the current CCS proposal;
- (b) "CCS proposal" means a proposal for the capture, transport and storage of the target carbon dioxide, which identifies the proposed capture technology, transport route and storage location;
- (c) "current CCS proposal" means:
  - (i) the CCS proposal set out in the Feasibility Study and assessed as technically feasible by the Secretary of State;
  - (ii) if a revised CCS proposal has been identified under paragraph (7), the proposal which has been most recently so identified;
- (d) "designated site" means the land identified in the Feasibility Study as the area where the undertaker proposes to locate the capture equipment;
- (e) "Feasibility Study" means the document entitled Carbon Capture Readiness Assessment with reference number 1.21 submitted with the application;
- (f) "CCR report" means the report to be provided to the Secretary of State by the undertaker pursuant to paragraph (3) below.
- (g) "target carbon dioxide" means as much of the carbon dioxide emitted by the authorised development when it is operating at full capacity as it is reasonably practicable to capture for the purposes of permanent storage, having regard to the state of the art in carbon capture and storage technology.

<sup>(</sup>a) 1989 c.29. Section 6 was amended by s.30 of the Utilities Act 2000 (c.27), and s.6(10) amended by s.89(3) of the Energy Act 2004 (c.20). There are other amendments to this section that are not relevant to this Order.

(2) Until such time as the authorised development is decommissioned, the undertaker must not, without the written consent of the Secretary of State:

- (a) dispose of any interest in land which includes the designated site; or
- (b) do any other thing, or allow any other thing to be done or to occur, which may reasonably be expected to diminish the undertaker's ability, within two years of such act or occurrence, to install and operate the capture equipment on the designated site.

(3) The undertaker must make a report (the "CCR report") to the Secretary of State:

- (a) on or before the date on which three months have passed from completion of commissioning;
- (b) within one month of the second anniversary, and each subsequent even-numbered anniversary, of that date.

(4) The CCR report must provide evidence that the undertaker has complied with paragraph (2):

- (a) in the case of the first CCR report, since this Order was made;
- (b) in the case of any subsequent CCR report, since the making of the previous report, and explain how it expects to continue to comply with paragraph (2) over the next two years.

(5) The CCR report must state whether the undertaker considers that some or all of the technology referred to in the current CCS proposals will not work, and explain the reasons for any such conclusion.

(6) The CCR report must identify any other impediment of which the undertaker is aware, as a result of which it considers that any aspect of what is proposed in the current CCS proposals is likely or certain not to be technically feasible.

(7) CCR reports which identify such an impediment must state, with reasons, whether the undertaker considers it technically feasible to overcome the impediment by adopting a revised CCS proposal, and, if so, include such proposal.

(8) The CCR report must state, with reasons, whether the undertaker has decided to seek any additional regulatory clearances, or to modify any existing regulatory clearances, in respect of its current CCS proposal in the period referred to in paragraph (4) as appropriate.

(9) This article 14 shall cease to have effect if the capture equipment is installed or the authorised development is decommissioned.

## **Certification of plans etc**

**15.**—(1) The undertaker must, as soon as practicable after the making of this Order, submit to the Secretary of State dated and referenced copies of—

- (a) the land plan;
- (b) the works plans (part A and part B);
- (c) the section drawing plan;
- (d) the site location plan;
- (e) the draft landscaping plan;
- (f) any other plans or documents referred to in this Order, being for the avoidance of doubt:
  - (i) the Carbon Capture Readiness Assessment;
  - (ii) the environmental statement;
  - (iii) the design principles statement;
  - (iv) the draft code of construction practice;
  - (v) the transport assessment;
- (g) for certification that they are true copies of the documents referred to in this Order.

(2) A plan or document so certified shall be admissible in any proceedings as evidence of the contents of the document of which it is a copy.

(3) Certified copies of any plans or documents submitted to the Secretary of State under paragraph (1) shall also be submitted to the relevant planning authorities.

## Arbitration

**16.** Any difference under any provision of this Order, unless otherwise provided for, must be referred to and finally settled under the rules of arbitration of the International Chamber of Commerce by arbitrators appointed in accordance with those rules of arbitration. The arbitration must be held in Cardiff (unless otherwise agreed by the parties to the proceedings) and the arbitration proceedings must be conducted, and the award rendered, in the English language. Where reasonably requested by any party to the proceedings, simultaneous translation of the proceedings will be provided in Welsh and the award translated into the Welsh language. The resulting arbitral award shall be final and binding without right of appeal, and judgment upon such award may be entered in any court having jurisdiction thereof.

[Signed by authority of the Secretary of State for Energy and Climate Change]

*Name* Title Department of Energy and Climate Change

Date

## SCHEDULE A

## AUTHORISED DEVELOPMENT

A nationally significant infrastructure project as defined in sections 14 and 15 of the 2008 Act comprising the following components contained in the Work Nos. identified in the works plan (part A) and the key buildings and structures as identified in the works plan (part B) and referred to in the design principles statement (and identified as such below in relation to Work No. 1A):

# PERMANENT WORKS IN AREA OF PEMBROKESHIRE COAST NATIONAL PARK AUTHORITY

**Work No. 1A.** An electricity generating station with a nominal electrical output capacity of up to 500MWe including:

- (a) Gas/steam turbine generator building (building/structure 1) containing gas turbine generator set and steam turbine generator set;
- (b) Administration office and control room (building/structure 2)
- (c) Workshop and maintenance/warehouse building (building/structure 3);
- (d) Electrical sub-station (HV switchgear indoor gas insulated building and compound) (building/structure 4) and electricity transformer;
- (e) Heat recovery steam generator building (building/structure 5) containing heat recovery steam generator set;
- (f) Standby direct air-cooled fin-fan coolers (building/structure 6);
- (g) Raw/fire water storage tank (building/structure 7), pump house, pipework and hydrants;
- (h) Demineralised water storage tank (building/structure 8), demineralised water treatment plant, and pipework;
- (i) Stack (building/structure 9) for discharge of flue gas;
- (j) Roof structures (building/structure 10);
- (k) Fuel gas lines from (1) existing connection to the Gas National Transmission System and (2) from South Hook LNG Terminal, and gas receiving station;
- (l) Electrical supply power lines;
- (m) Water treatment equipment;
- (n) Electrical export line to electrical sub-station;
- (o) Pumps;
- (p) Hot and return water lines, and support structure (where lines not buried);
- (q) Security fencing, gates and kiosk(s);
- (r) Ground grading, levelling and landscaping works;
- (s) Process waste water treatment plant and pipes to process waste water discharge point.

Work No. 3A. Land reserved for future carbon capture/infrastructure and secure access corridor including:

(t) Ground grading and levelling.

Work No. 4. Infrastructure and secure access corridor including:

- (u) Gas supply line (including gas pressure reduction) to gas turbine generator set;
- (v) Utilities (water, electrical power, etc.);
- (w) Security fencing, gates and kiosk(s);

(x) Planting of hedgerows or the provision of other landscape features approved pursuant to requirement 6.

**Work No. 5.** Integration of hot water circulating system into the existing South Hook LNG Terminal submerged combustion vaporisers (SCVs) including:

- (y) Modifications to existing SCVs;
- (z) Hot water feed line from steam turbine generator set to the SCV manifold, and support structure (where line not buried);
- (aa) SCV water feed lines to each modified SCV, and support structure (where lines not buried);
- (bb) Cold water return line from SCVs to recirculation sump, and support structure (where line not buried);
- (cc) Gas supply line (including gas pressure reduction) to gas turbine generator set, power supply lines, and utilities;
- (dd) Control and measurement systems.

Work No. 6. Return water infrastructure/process waste water tie-in point including:

- (ee) Covered cold water recirculation sump for retention of water return from SCVs;
- (ff) Pumps and pump header system;
- (gg) Cold water return line from recirculation sump to steam turbine generator set, and support structure (where line not buried);
- (hh) Tie-in to existing South Hook LNG Terminal process waste water discharge line;
- (ii) Monitoring equipment relating to process waste water.

Work No. 7A. Provision of landscaping mitigation including:

(jj) Planting of hedgerows or the provision of other landscape features approved pursuant to requirement 6.

## PERMANENT WORKS IN AREA OF PEMBROKESHIRE COAST NATIONAL PARK AUTHORITY AND PEMBROKESHIRE COUNTY COUNCIL

Work No. 2. Surface water attenuation basin and drainage tie-in point including:

- (kk) Ground grading and levelling;
- (ll) Partitioned attenuation basin for surface water;
- (mm) Tie-in to existing South Hook LNG Terminal surface water drainage discharge line;
- (nn) Monitoring equipment relating to surface water.

Work No. 10A. Open storage of excavated materials.

# TEMPORARY WORKS IN AREA OF PEMBROKESHIRE COAST NATIONAL PARK AUTHORITY

Work No. 1B. Demolition and preparatory works including:

- (oo) Demolition of existing buildings and structures;
- (pp) Isolation of abandoned utilities;
- (qq) Security fencing, gates and kiosk(s);
- (rr) Temporary welfare facilities and foul drainage storage tank.

Work No. 3B. Area of land reserved for future carbon capture including:

- (ss) Temporary construction storage;
- (tt) Temporary rainwater attenuation basin.
- Work No. 7B. Temporary contractors' car park and temporary project office area including:
  - (uu) Construction of temporary car park;
  - (vv) Temporary offices, canteen, welfare, and related support facilities;
  - (ww) Repair and/or replacement of fencing and gates.

Work No. 8. Open and covered storage, construction warehouse, workshops and stores including:

- (xx) Open storage of construction materials and equipment;
- (yy) Warehouses for storage of construction materials and equipment;
- (zz) Workshops for repair, maintenance, assembly and testing of equipment.

## TEMPORARY WORKS IN AREA OF PEMBROKESHIRE COAST NATIONAL PARK AUTHORITY AND PEMBROKESHIRE COUNTY COUNCIL

Work No. 9. Temporary construction offices including:

- (aaa) Temporary offices, canteen, welfare, and related support facilities;
- (bbb) Temporary foul drainage storage tank.

Work No. 10B. Open storage of excavated materials including:

(ccc) Storage of excavated materials during construction.

## TEMPORARY WORKS IN AREA OF PEMBROKESHIRE COUNTY COUNCIL

Work No. 11. Open storage of excavated materials including:

(ddd) Storage of excavated materials during construction.

In connection with all such works and as part of the Authorised Development and to the extent that they do not otherwise form part of any such work, further development whether or not shown on the plans referred to in this Order including:

(eee) habitat creation;

- (fff) water supply works, foul drainage provision, process waste water management systems, surface water management systems, and culverting;
- (ggg) internal site roads and vehicle parking facilities;
- (hhh) bunds, liners, embankments, swales, landscaping and boundary treatments and fencing;
- (iii) the demolition of buildings and structures within the Order limits;
- (jjj) the provision of footpaths; and
- (kkk) lighting columns and lighting.

# SCHEDULE B REQUIREMENTS

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- 1. Interpretation
- 2. Time limits
- 3. Commencement of authorised development
- 4. Commencement and completion of commissioning
- 5. Detailed design approval
- 6. Provision, implementation and maintenance of landscaping
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## Interpretation

1. In this Schedule—

"Bat Conservation Trust Guidelines" means the Bats and the Built Environment Series "Bats and Lighting in the UK" dated May 2009;

"environmental statement" means the environmental statement in three volumes and a nontechnical summary with reference numbers 1.3.1 to 1.3.4 submitted with the application and certified as the environmental statement by the Secretary of State for the purposes of this Order;

"draft landscaping plan" means the draft landscaping plan with reference number 2.13 and certified as the draft landscaping plan by the Secretary of State for the purposes of this Order;

- "permitted preliminary works" means:
- (a) surveys and geotechnical surveys;

- (b) investigations for the purpose of assessing ground or groundwater conditions;
- (c) archaeological investigations;
- (d) remedial measures approved pursuant to requirement 9;
- (e) erection of signage;
- (f) erection of temporary fencing;
- (g) provision of temporary access and security gates for the development site;
- (h) installation and diversion of utility services;
- (i) site clearance, demolition of existing structures and removal of foundations;
- (j) the laying of foundations,
- (k) provision of wheel cleansing facilities required pursuant to requirement 14 (Construction Traffic Management Plan);
- (l) preparation of laydown areas and provision for temporary facilities (including parking areas and offices) necessary for (a) to (k) above;

"nature conservation area" means the area identified as the nature conservation area in the proposed site location plan with reference number 1.13C submitted with the application and certified as the proposed site location plan by the Secretary of State for the purposes of this Order;

"transport assessment" means the transport assessment with reference number 1.19A submitted with the application and certified as the transport assessment by the Secretary of State for the purposes of this Order.

## **Time limits**

**2.** The authorised development must be begun within five (5) years of the date of this Order.

### Commencement of authorised development

**3.** Notice of the intended commencement of the authorised development must be given to the relevant planning authorities where practicable prior to such commencement and in any event within seven (7) days from the date that the authorised development is commenced.

## Commencement and completion of commissioning

**4.**—(1) Notice of the intended commencement of commissioning must be given to the relevant planning authorities where practicable prior to such commencement and in any event within seven (7) days from the date that commissioning is commenced.

(2) Notice of the intended completion of commissioning must be given to the relevant planning authorities where practicable prior to such completion and in any event within seven (7) days from the date that commissioning is completed.

## **Detailed design approval**

**5.**—(1) Except for the permitted preliminary works, no authorised development shall commence until written details of the layout, scale and external appearance of the authorised development have been submitted to, and approved by, the relevant planning authorities.

(2) The details submitted for approval by Pembrokeshire Coast National Park Authority in respect of the key buildings must incorporate the principles and parameters set out in the design principles statement. Such details shall include appropriately scaled plans and sectional drawings indicating existing and proposed finished floor levels, and representations of 3-dimensional images.

(3) The authorised development must be carried out in accordance with the details approved pursuant to paragraphs (1) and (2) above.

(4) Further to any approval from the relevant planning authorities under paragraph (1) above, additional development (as defined pursuant to section 55 of the 1990 Act), other than that authorised by reason of this Order, of buildings, plant or any other structures (or part thereof) must not be undertaken such that it results in the erection of buildings, plant or any other structures (or part thereof) above five (5) metres in height (as measured from the highest part of the adjacent ground level), without prior approval of the relevant planning authorities.

## Provision, implementation and maintenance of landscaping

**6.**—(1) Except for the permitted preliminary works, no authorised development shall commence until a written landscaping scheme has, after consultation with Natural Resources Wales, been submitted to and approved by the relevant planning authorities. The landscaping scheme must follow the principles set out in the draft landscaping plan and must reflect details of all proposed hard and soft landscaping works including—

- (a) location, number, species, size and planting density of any proposed planting;
- (b) cultivation, importing of materials and other operations to ensure plant establishment;
- (c) proposed finished ground levels;
- (d) hard surfacing materials;
- (e) vehicular and pedestrian access, parking and circulation areas;
- (f) minor structures, such as refuse or other storage units, signs and lighting;
- (g) proposed and existing functional services above and below ground, including drainage, power and communications cables and pipelines, manholes and supports;
- (h) details of existing trees to be retained, with measures for their protection during the construction period; and
- (i) implementation timetables for all landscaping works.

(2) All landscaping works must be carried out in accordance with the landscaping scheme approved under paragraph (1) and to a reasonable standard in accordance with the relevant recommendations of appropriate British Standards or other recognised codes of good practice.

(3) Any tree or shrub planted as part of an approved landscaping scheme that, within a period of five (5) years after planting, is removed, dies or becomes, in the opinion of the relevant planning authority, seriously damaged or diseased, must be replaced 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.

#### Fencing and other means of enclosure

7.—(1) All proposed permanent fences, walls or other means of enclosure must be constructed as identified in the written details referred to in requirement 5 unless otherwise agreed in writing by the relevant planning authorities prior to the completion of commissioning.

(2) All construction areas must remain securely fenced at all times during construction of the authorised development.

(3) Any fencing or means of enclosure not covered by paragraph (1) must be removed from the site within six (6) months of the completion of commissioning.

### Drainage and aerial emissions

**8.**—(1) No authorised development shall commence until written details of the surface water, foul water and process waste water drainage systems (including means of pollution control) have, after consultation with Natural Resources Wales and Dwr Cymru (Welsh Water), been submitted to and approved by the relevant planning authorities.

(2) The written details must reflect the drainage proposals set out in sections 4.3.21 to 4.3.31 of volume 1 of the environmental statement and in particular must stipulate that any process waste water discharges from the authorised development into the Milford Haven Waterway must operate

through the existing infrastructure in place for the South Hook LNG Terminal that is co-located at or near the site.

(3) The surface water, foul water and process waste water drainage systems must be constructed and operated in accordance with the approved details.

(4) The contribution of the process waste water discharge along with the aerial emissions from the Authorised Development, in combination with the process waste water discharges and aerial emissions from the South Hook LNG Terminal must not increase overall nitrate loads into the Pembrokeshire Marine SAC as consented [as at the date of this Order] by Environmental Permitting Regulations Permit Number XP3538LD for the South Hook LNG Terminal as varied by Variation Number XP3535ME and must ensure no adverse effect on the integrity of the Pembrokeshire Marine SAC as a result of other contaminants emitted or discharged by the Authorised Development.

#### Contaminated land and groundwater

**9.**—(1) No authorised development shall commence until a written scheme to deal with the contamination of any land, including groundwater, within the Order limits which is likely to cause significant harm to persons or pollution of controlled waters or the environment (as determined pursuant to Part 2A of the Environmental Protection Act 1990(a)) has, after consultation with Natural Resources Wales, been submitted to and approved by the relevant planning authorities.

(2) The approved scheme must include an investigation and assessment report, prepared by a specialist consultant approved by the relevant planning authorities, to identify the extent of any contamination and the remedial measures to be taken to render the land fit for its intended purpose, together with a management plan which sets out long-term measures with respect to any contaminants remaining on the site and its stability.

(3) Remediation must be carried out in accordance with the approved scheme.

#### Archaeology

**10.**—(1) No authorised development comprised in Work No. 4 or Work No. 7A shall commence until a written scheme for the investigation of areas of archaeological interest (as, in the case of Work No. 4, further detailed in section 13.7 of volume 1 of the environmental statement) has been submitted to and approved by the relevant planning authority.

(2) The scheme must identify areas where field work and/or a watching brief are required, and the measures to be taken to protect, record or preserve any significant archaeological remains that may be found.

(3) Any archaeological works or watching brief carried out under the scheme must be by a suitably qualified person or body approved by the relevant planning authority.

(4) Any archaeological works or watching brief must be carried out in accordance with the approved scheme.

### **Ecological management plan**

**11.**—(1) No authorised development shall commence until a written ecological management plan reflecting the survey results and, where necessary, ecological mitigation and enhancement measures (as further detailed in sections 9 and 10 of volume 1 of the environmental statement) has, after consultation with Natural Resources Wales, been submitted to and approved by the relevant planning authorities.

(2) The ecological management plan must include an implementation timetable and must be carried out as approved.

<sup>(</sup>a) 1990 c.43. The definition of contaminated land was amended by the Water Act 2003 c. 37 Pt 3 s.86(2) (April 6, 2012 as SI 2012/284). There are amendments to this Act which are not relevant to this Order.

## **Code of Construction Practice**

**12.**—(1) No authorised development shall commence until a Code of Construction Practice ("CCP") has been submitted to and approved by the relevant planning authorities. The CCP must reflect the proposals set out in the draft CCP with reference number 1.23 submitted with the application and certified as the draft CCP by the Secretary of State for the purposes of this Order.

(2) All construction works must be undertaken in accordance with the approved CCP, unless otherwise agreed by the relevant planning authorities.

#### **Construction Environmental Management Plan**

**13.**—(1) No authorised development shall commence until a Construction Environmental Management Plan ("CEMP") has, after consultation with Natural Resources Wales, been submitted to and approved by the relevant planning authorities. The CEMP must reflect the proposals set out in the draft CEMP set out at appendix 4.2 of volume 3 of the environmental statement including:

- (a) Traffic and Access;
- (b) Air Quality and Dust;
- (c) Ecology and Nature Conservation;
- (d) Water Protection and Management;
- (e) Noise Management;
- (f) Waste and Materials Management; and
- (g) a complaints procedure.

(2) All construction works must be undertaken in accordance with the approved CEMP, unless otherwise agreed by the relevant planning authorities.

### **Construction Traffic Management Plan**

**14.**—(1) No authorised development shall commence until a written Construction Traffic Management Plan ("CTMP") has been submitted to and approved by the relevant planning authorities. The CTMP must reflect the proposals set out in the draft CTMP set out at appendix E of the transport assessment including:

- (a) a travel plan for the construction workforce;
- (b) parking of vehicles of site workers and visitors;
- (c) loading and unloading of plant and materials;
- (d) facilities for wheel cleansing to ensure road cleanliness;
- (e) routing to and from the site;
- (f) routing within the site;
- (g) site signage and notices; and
- (h) exceptional loads.

(2) Notices must be erected and maintained throughout the period of construction at every construction site entrance and exit, indicating to drivers the route agreed by the relevant planning authorities for traffic entering and leaving the site.

(3) All construction works must be undertaken in accordance with the approved CTMP, unless otherwise agreed by the relevant planning authorities.

#### Local Liaison Committee

**15.**—(1) No authorised development shall commence until the undertaker has established a committee to liaise with local residents and organisations about matters relating to the authorised development (a "local liaison committee") which may, at the discretion of the undertaker, be

combined with the functions and activities of the existing community liaison committee that is in operation for the activities of the South Hook LNG Terminal that is co-located at or near the site. The local liaison committee must be made up of representatives of the undertaker and main contractors for the authorised development. The undertaker must invite the relevant planning authorities, Natural Resources Wales, local councils and other relevant interest groups, as may be agreed with the relevant planning authority, to nominate representatives to join the local liaison committee must meet at least once every three (3) months during the construction of the authorised development and at least once a year during the operation of the authorised development, unless otherwise agreed in writing by the majority of the members of the local liaison committee.

(2) Except in an emergency, where steam purging is to take place, the undertaker must give 2 working days' prior written notice to the local liaison committee established in respect of the authorised development pursuant to paragraph (1) above as well as the relevant planning authorities. Notification of the activity, the reasons for the activity and its expected duration must also be posted on the undertaker's internet web site. So far as reasonably practicable, steam purging must be commenced so as to predominantly take place between Mondays-Saturdays and not commence nor, so far as is reasonably practicable, continue on any Sunday or public holiday in Wales.

## **External lighting**

**16.**—(1) No authorised development, shall commence until a lighting plan of the external lighting to be installed and used at the site during the construction period and operation of the authorised development has, after consultation with Natural Resources Wales, been submitted to and approved by the relevant planning authorities.

(2) The lighting plan must include measures to prevent light spillage and as further detailed in sections 4.3.38 to 4.3.40 of volume 1 of the environmental statement and must further include measures (including sufficient screening of directional lighting) to ensure light from the Authorised Development does not spill onto the access and egress points of the South Hook Fort bat roosting areas and is in accordance with the Bat Conservation Trust Guidelines in respect of light spillage on the foraging and commuting areas within the nature conservation area.

(3) Any approved lighting plan must subsequently be implemented and retained for the duration of the construction, commissioning and use of the authorised development, unless otherwise agreed in writing by the relevant planning authorities.

### **Construction hours**

**17.**—(1) Construction work including deliveries to the site (but which for the purpose of this requirement shall not include the arrival or departure of personnel on the site, on-site briefings or meetings, the use of welfare facilities and non-intrusive activities) must not take place other than between 0700 and 1900 on weekdays and 0700 and 1300 on Saturdays, excluding public holidays, unless otherwise agreed in writing by the relevant planning authorities.

(2) In paragraph (1) above, "non-intrusive activities" means internal activities such as electrical installation and fit out works that do not require the use of mechanical plant or equipment such as would create any discernible light, noise or vibration outside of the Order limits.

## Accumulations and deposits

**18.**—(1) No authorised development comprised in Work No. 10A shall commence until a written scheme for the management of any accumulations or deposits whose effects may be harmful or visible or otherwise noticeable from outside the Order limits has been submitted to and approved by the relevant planning authority.

(2) The approved scheme for the management of accumulations and deposits must be implemented before and maintained during the construction, operation and decommissioning of the authorised development.

## Travel plan

**19.** The authorised development shall not commence operation until a travel plan, which must include details of the expected means of travel to and from the authorised development and any parking to be provided, has been submitted to and approved by the relevant planning authorities. The travel plan must reflect the proposals set out in the draft travel plan set out at appendix F of the transport assessment. The approved plan must be implemented within one month of the completion of commissioning and must continue to be implemented for as long as the authorised development can be used.

## **European protected species**

**20.** No authorised development shall be begun until, after consultation with Natural Resources Wales, a scheme of protection and mitigation measures in respect of those bats which have been identified as present within the Order Limits has been submitted to and been approved by the relevant planning authorities; and the authorised development must be carried out in accordance with the approved scheme.

## Restoration of land used temporarily for construction

**21.** Any land used for temporary works and on which subsequent permanent works have not taken place must be reinstated to its condition as at the start of the temporary use, or such alternative condition at the request of the undertaker as the relevant planning authorities may approve, within six (6) months of the completion of commissioning.

#### **Grid connection**

**22.**—(1) The electricity cables required to export electricity from the Authorised Development to the Pembroke 400kV sub-station owned by National Grid Electricity Transmission plc (the "Grid Connection") shall, subject to paragraph (2) below, comprise sub-surface cables and associated infrastructure on land and a crossing beneath the Milford Haven Waterway.

(2) Above ground elements of the Grid Connection may be required in limited circumstances including for example: structures required as part of the underground grid connection (such as tunnel head houses (if required) and other access points); electricity sub-stations; cabling and structures required to connect underground cables together and connect with above ground infrastructure (including termination points); cabling and structures required to cross features such as streams or ditches; cable racks or supports within the Order limits; cable pillar boxes; or any necessary temporary above ground works or cables required during the testing, repair and maintenance of the Grid Connection.

(3) Electricity shall not be exported from the Authorised Development to the national grid otherwise than by the Grid Connection.

## Carbon capture and storage

**23.** In the event the undertaker is required to implement the CCS proposal (as defined in Article 14) then the undertaker shall, subject to any applicable statutory obligations and consenting requirements, seek to implement the CCS proposal, where technically feasible and so far as is reasonably practicable, in accordance with the principles set out in the design principles statement.

## Decommissioning

**24.**—(1) Unless otherwise agreed with the relevant planning authorities, within twelve (12) months of the authorised development ceasing to be used for the purposes of electricity and heat generation on a permanent basis, a scheme for the demolition and removal of the authorised development from the site must be submitted to and approved by the relevant planning authorities. The scheme must, amongst other matters, specify that any land used for the permanent works must be reinstated to its condition as at the completion of the permitted preliminary works (but requiring

development from the site must be submitted to and approved by the relevant planning authorities. The scheme must, amongst other matters, specify that any land used for the permanent works must be reinstated to its condition as at the completion of the permitted preliminary works (but requiring the removal of any structural foundations constructed in the course of such permitted preliminary works), or such alternative condition at the request of the undertaker as the relevant planning authorities may approve. In the event that the authorised development temporarily ceases operations and the duration of that temporary cessation of operations is likely to exceed a period in excess of twelve months, the undertaker must notify the relevant planning authorities of the purpose of the temporary cessation of operations and its likely duration.

(2) The demolition and removal of the authorised development must be implemented in accordance with the approved scheme, unless otherwise agreed in writing by the relevant planning authorities.

## **Requirement for written approval**

**25.** Where under any of the above requirements the approval or agreement of a relevant planning authority or another person is required, that approval or agreement must be given in writing.

#### Amendments to approved details

**26.** With respect to any requirement which requires the authorised development to be carried out in accordance with the details approved by a relevant planning authority, the approved details must be taken to include any amendments that may subsequently be approved in writing by the relevant planning authority.

## **EXPLANATORY NOTE**

#### (This note is not part of the Order)

This Order grants development consent for and authorises South Hook CHP Limited to construct, operate and maintain a combined heat and power plant located near Herbrandston in Pembrokeshire. The Order also requires South Hook CHP Limited to set aside a designated carbon capture readiness site. The Order imposes requirements in connection with the development for which it grants development consent.

A copy of the plans and other documents referred to in this Order and certified in accordance with article 15 (certification of plans, etc) of this Order may be inspected free of charge during working hours at the offices of Pembrokeshire Coast National Park Authority, Llanion Park, Pembroke Dock, Pembrokeshire, SA72 6DY and Pembrokeshire County Council, County Hall, Haverfordwest, Pembrokeshire, SA61 1TP.