

**RECORD OF THE HABITATS REGULATIONS ASSESSMENT UNDERTAKEN
UNDER REGULATION 61 OF THE CONSERVATION OF HABITATS AND
SPECIES REGULATIONS 2010**

***Project Title:* Port Talbot Internal Power Generation**

Date: 8 December 2015

CONTENTS

INTRODUCTION	4
BACKGROUND	
HABITATS REGULATION ASSESSMENT (HRA)	
THE RIES AND STATUTORY CONSULTATION	
DEVELOPMENT DESCRIPTION	6
DEVELOPMENT STAGES.....	
<i>Construction</i>	
<i>Operation and Maintenance</i>	
<i>Offshore Decommissioning</i>	
DEVELOPMENT LOCATION AND DESIGNATED SITES	10
EUROPEAN AND INTERNATIONAL SITES	
LIKELY SIGNIFICANT EFFECTS TEST	12
LIKELY SIGNIFICANT EFFECTS TEST	
POTENTIAL IMPACTS	
LIKELY SIGNIFICANT EFFECTS.....	
<i>Crymlyn Bog SAC and Ramsar</i>	
<i>Kenfig Special Area of Conservation (SAC)</i>	
<i>Cefn Cribwr Grasslands SAC</i>	
APPROPRIATE ASSESSMENT	2222
CRYMLYN BOG SAC AND RAMSAR	23
PHYSICAL DAMAGE	
IN COMBINATION	
CONCLUSION	
HABITATS REGULATIONS ASSESSMENT CONCLUSIONS	2829
REFERENCES	30

TABLES	TITLE	PAGE
1	European Sites and features screened for LSE	13
2	Long-term Cumulative PCs ($\mu\text{g}/\text{m}^3$) to Ecological Receptors for the Abernedd, Biomass II and Prenergy Power Stations in Combination with the change in PC from the Project (TATA) site under each development Option based on ELV	15
3	Percentage of Critical Loads for Other Projects and Combined Process Contributions for Other Projects and the Project (TATA), Options 1 and 2	16
4	SoS Conclusions on LSE	21
5	Conservation Objectives for Crymlyn Bog SAC Transition Mire and Quaking Bog Feature	23

FIGURES	TITLE	PAGE
1	Project Location and Boundaries	10

Introduction

Background

- 1.0 This is a record of the Habitats Regulation Assessment (“HRA”) that the Secretary of State (“SoS”) for Energy and Climate Change has undertaken under the Conservation of Habitats and Species Regulations 2010 (“the Habitats Regulations”) in respect of the Development Consent Order (“DCO”) for the Internal Power Generation Enhancement for Port Talbot Steelworks and its associated infrastructure (the ‘Project’). For the purposes of the Habitats Regulations the SoS is the competent authority.
- 1.1 The Project consists of the construction and operation of an electricity generating station which would largely utilise waste gases from the Port Talbot Steelworks, South Wales. The Applicant proposes to enhance the existing 115.7 MW generating capacity at Port Talbot Steelworks through the installation of two new boilers and two new steam turbine sets which will be fired predominately by currently flared steelmaking gases with natural gas imported as back-up fuel. When operating the proposed development, the Project will have a gross generating capacity of up to 150MW (with an average generating capacity of 130 MW due to the variable cycle of process gas production on the steelworks site).
- 1.2 The principal objective of the proposed development is to burn the currently flared residual gases from the steelmaking process in order to self-generate electricity and thereby reduce the amount of electrical power that is being imported from the national grid. Only surplus electrical energy that cannot be used in the steel-making process will be returned to the national grid.
- 1.3 The Project application is described in more detail in Section 2.
- 1.4 In England and Wales, energy generating stations with a capacity greater than 50 MW onshore constitute nationally significant infrastructure projects (“NSIPs”) and applications for consent are subject to the requirements of the Planning Act 2008. This Project constitutes an NSIP as it has a generation capacity of up to 150 MW. The proposed development will enhance the electrical generation capacity of the steelworks up to a maximum of 245 MW.
- 1.5 The Project was accepted by the Planning Inspectorate (“PINS”) on 2 September 2014 and an Inspector was appointed as the Examining Authority (“ExA”) for the application. The examination of the Project application began on 10 December 2014 and completed on 9 June 2015. The ExA submitted its report of the examination, including its recommendation (“the ExA’s Report”), to the SoS on 9 September 2015.
- 1.6 The SoS conclusions on habitats issues contained in this HRA report have been informed by the ExA’s Report, and further information and analysis, including a Report on the Implications for European Sites (“RIES”) and written responses to it.

Habitats Regulation Assessment

- 1.7 Council Directive 92/43/EC on the conservation of natural habitats and of wild fauna and flora (“the Habitats Directive”) and Council Directive 2009/147/EC on the conservation of wild birds (“the Birds Directive”) aim to ensure the long-term survival of certain species and habitats by protecting them from adverse effects of plans and projects.
- 1.8 The Habitats Directive provides for the designation of sites for the protection of habitats and species of European importance. These sites are called Special Areas of Conservation (“SACs”). The Birds Directive provides for the classification of sites for the protection of rare and vulnerable birds and for regularly occurring migratory species. These sites are called Special Protection Areas (“SPAs”). SACs and SPAs are collectively termed European sites and form part of a network of protected sites across Europe. This network is called Natura 2000.
- 1.9 The Convention on Wetlands of International Importance 1972 (“the Ramsar Convention”) provides for the listing of wetlands of international importance. These sites are called Ramsar sites. UK Government policy is to afford Ramsar sites in the UK the same protection as European sites.
- 1.10 In the UK, the Habitats Regulations transpose the Habitats and Birds Directives into national law as far as the 12 nm limit of territorial waters. Regulation 61 of the Habitats Regulations provides that:
-before deciding to undertake, or give any consent, permission or other authorisation for, a plan or project which (a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or project), and (b) is not directly connected with or necessary to the management of that site, [the competent authority] must make an appropriate assessment of the implications for that site in view of that site’s conservation objectives.*
- 1.11 This Project is not directly connected with, or necessary to, the management of a European site or a European marine site. The Habitats Regulations require that, where the project is likely to have a significant effect (“LSE”) on any such site, an appropriate assessment (“AA”) is carried out to determine whether or not the project will have an adverse effect on the integrity (“AEoI”) of the site in view of its conservation objectives. In this document, the assessments as to whether there are LSEs, and, where required, the AAs, are collectively referred to as the HRA.
- 1.12 The HRA takes account of mitigation measures which are secured by requirements and conditions.
- 1.13 This report should be read in conjunction with the following documents that provide extensive background information:

<http://infrastructure.planninginspectorate.gov.uk/projects/wales/internal-power-generation->

[enhancement-for-port-talbot-steelworks/](#). The key information in them is summarised and referenced in this report.

The RIES and Statutory Consultation

- 1.14 Under the Habitats Regulations the competent authority must, for the purposes of an AA, consult the appropriate nature conservation body and have regard to any representation made by that body within such reasonable time as the authority specifies.
- 1.15 Natural Resources Wales (“NRW”) is the Statutory Nature Conservation Body (“SNCB”) for Wales and for Welsh waters within the 12 nm limit.
- 1.16 The ExA prepared a RIES, with support from the Planning Inspectorate Environmental Services Team, based on working matrices prepared by the Applicant. The RIES documented the information received during the examination and presented the ExA’s understanding of the main facts regarding the HRA to be carried out by the SoS.
- 1.17 The RIES was published on PINS planning portal website¹ and circulated to interested parties on 26 March 2015 and comments were sought by 23 April 2015 for the purposes of statutory consultation. The RIES, and the written responses to it, have been used to inform this assessment, and the conclusions in this HRA are based on these.
- 1.18 The SoS is content to accept the ExA’s recommendation that the RIES, and written responses to it, represents an adequate body of information to enable the SoS to fulfil her duties in respect of European sites.

Development Description

- 2.0 The proposed development comprises a new generating station and related infrastructure, as well as a new electrical connection, which will connect the new generating station with two existing onsite substations situated in the south east of the Port Talbot Steelworks site. The proposed development will include the installation of up to two new boilers (nominally up to 164 MW each) and steam turbine sets with total gross capacity of up to 150 MW. These new boilers and turbine sets will be housed in new buildings adjacent to the existing power generation facilities and will be connected to the existing Blast Furnace Gas (BFG) distribution network in order to receive fuel gases.
- 2.1 Once the proposed development is fully installed and in continuous and reliable operation, existing elements will be demolished. The proposed development would result in the total onsite power generation capacity at the Port Talbot site increasing up to a maximum of 245MW.

¹ [http://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010062/2.%20Post-Submission/EIA/Habitat%20Regulations/Report%20on%20the%20Implications%20for%20European%20Sites%20\(RIES\).pdf](http://infrastructure.planninginspectorate.gov.uk/wp-content/uploads/projects/EN010062/2.%20Post-Submission/EIA/Habitat%20Regulations/Report%20on%20the%20Implications%20for%20European%20Sites%20(RIES).pdf)

2.2 The current steelworks site covers a total area of 1005.5 hectares (ha), which includes all of the major components of the steelworks, together with the existing ancillary structures and buildings. The Order Limits of the proposed development would extend to a total of 22.9 ha.

Development Components

2.3 The Project comprises the following principal elements:

- up to two steam boilers and their associated stacks (maximum 80 m in height), annexe bay and boiler house;
- a turbine hall housing turbine sets and associated condensers;
- cooling tower units;
- an electrical switchgear station building;
- a condensate storage tank and additional condensate polishing units;
- water treatment plant and chemical dosing system skids;
- administration, workshop, pump house, gas booster house, control buildings and ancillary infrastructure;
- the extension of existing pipe work connections (for water, nitrogen, process gases, natural gas and compressed air) from the existing on site utilities pipe work infrastructure to the generating station. All the extended pipe work will be contained within the Order Limits;
- a 66 kV electrical connection up to 2.8 km in length to connect the generating station to the existing on-site substations on the southeast of the site;
- security infrastructure, including perimeter fencing and site lighting infrastructure;
- connections to the existing internal road layout for the provision of site vehicular access(es), roads, pedestrian network, parking and cycle storage;
- temporary construction compounds; and
- connection to site drainage systems.

2.4 Full details of the infrastructure to be used in the Development are detailed in Schedule 1 of the DCO.

Development stages

Construction

2.5 The Applicant has recognised the need to have flexibility to deliver the proposed development in either one or two construction phases. The DCO, if made, contains provisions which would permit the construction of the Project in two phases if needed. Option 1 would involve the full and complete construction of the Project in a single phase. This is the Applicant's preferred outcome. Option 2 would see construction (including all the necessary foundations and engineering works) take place in two phases, with the second phase (covering the remaining half of the plant) commencing within 10 years of the commencement of the first stage of the project (which must commence within 5 years of the grant of consent for the Development).

2.6 The Construction periods for Options 1 and 2 are estimated by the applicant in the Planning Statement (APP-174) as follows:

Option 1

Construction Period 36 months

Option 2:

Phase 1 Construction Period 36 months

Phase 2 Construction Period 24 months

2.7 For Option 2, potentially spreading the construction of the whole Development over what could be nearly 15 years would spread impacts over a prolonged period of time (albeit that the construction itself would not last that long).

2.8 During the interim period between the first (Phase 1) and second (Phase 2) installations, the existing power generation equipment would be operational and would only be decommissioned once the second installation is complete and in reliable continuous operation. As the existing 4 boilers and 3 turbo alternators would not be decommissioned until Phase 2 is complete, the existing emissions, abstractions and discharges would still occur during this interim period (AS-007: 1.2.12- 1.1.13).

2.9 The environmental impacts of each of the options were considered by the Applicant in its HRASR (AS-007) and no objections to the proposed phased approach were raised during the examination of the Application.

Operation and Maintenance

2.10 The proposed development will have continuous operation throughout its lifecycle except for planned maintenance. It is assumed that it will be operational for approximately 8716.2 hours a year or approximately 99.5% available. The indicative operational lifespan of the proposed development is 35 years for both options (APP-011).

Decommissioning

2.11 It is not possible at this stage to predict with any certainty what the European and Ramsar site context of the Project will be in the future as sites may increase or decrease in importance over that time. Decommissioning activities will need to comply with all relevant UK legislation at the time. Separate authorisations will also be required as part of decommissioning, after the preparation of an ES and HRA by the authorising body (including appropriate consultation with the relevant statutory nature conservation bodies).

2.12 If the environmental baseline were to be similar to the current situation, then the impacts of decommissioning of the Project could be expected to be similar to the anticipated impacts of construction. There is no reason to suppose that the impacts of decommissioning will cause an adverse effect on site integrity and on this basis, the SoS considers that it is reasonable not to

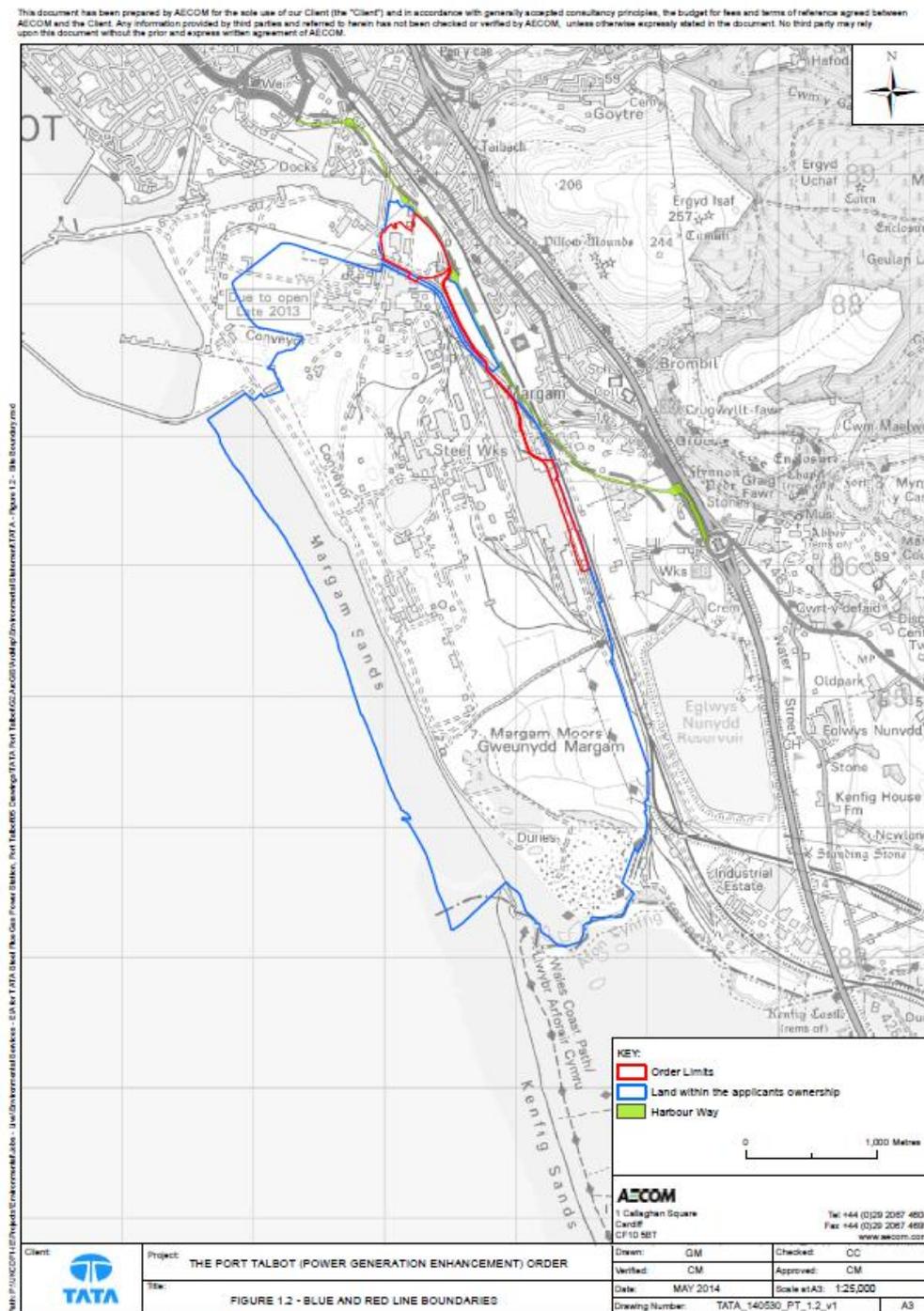
include a detailed discussion on decommissioning impacts in this report. She is satisfied that decommissioning effects will be addressed fully by the relevant authorities, prior to decommissioning and in light of more detailed information on decommissioning processes and environmental conditions at that time.

Development location and designated sites

Location

- 3.1 The Port Talbot steelworks is located in the County Borough of Neath Port Talbot, approximately 1.5km to the south east of Port Talbot. The proposed development will be located in the north of the Port Talbot site adjacent to existing power generation facilities.
- 3.2 Figure 1 illustrates the land available and the red line marks the Order Limits for the Project.

Figure 1: Project Location and Boundaries



European and International Sites

3.3 The Applicant identified all the European sites within a 10km buffer of the Project site. This approach is based on Environment Agency guidance on screening effects on designated wildlife sites (EA, 2011a). The Applicant identified four European Sites that could be affected by the Project.

- Kenfig Special Area of Conservation (SAC)
- Cefn Cribwr Grasslands SAC
- Crymlyn Bog SAC
- Crymlyn Bog Ramsar site

3.4 NRW and Neath Port Talbot County Borough Council (NPTCBC) did not identify any other European site or European site features that could be affected by the project (RIES: P2.4).

3.5 No part of the area within the Order limits would adjoin, or be within, any other European site.

Likely Significant Effects Test

- 4.0 Under regulation 61 of the Habitats Regulations, the SoS must consider whether a development will have a LSE on a European site, either alone or in combination with other plans or projects. A LSE is, in this context, any effect that may be reasonably predicted as a consequence of a plan or project that may affect the conservation objectives of the features for which the site was designated, but excluding trivial or inconsequential effects. An AA is required if a plan or project is likely to have a significant effect on a European site, either alone or in combination with other plans or projects.
- 4.1 The purpose of this test is to identify LSEs on European sites that may result from the Project and to record the SoS's conclusions on the need for an AA and her reasons for screening activities, sites or plans and projects for further consideration in the AA. For those features where a LSE is identified, these must be subject to an AA. This review of potential implications can be described as a 'two-tier process' with the LSE test as the first tier and the review of effects on integrity (AA) as the second tier.
- 4.2 This section addresses this first step of the HRA, for which the SoS has considered the potential impacts of the Project both alone and in combination with other plans and projects on each of the interest features of the European sites identified in the RIES to determine whether or not there will be a LSE.

Likely Significant Effects Test

- 4.3 The RIES compiles, documents and signposts information submitted throughout the examination by both the Applicant and Interested Parties. The RIES sets out the UK European sites identified by the Applicant and considered during the examination. The RIES identifies four sites identified by the Applicant and considered during the examination:
- Kenfig SAC
 - Cefn Cribwr Grasslands SAC
 - Crymlyn Bog SAC
 - Crymlyn Bog Ramsar site
- 4.4 There is significant overlap between the Crymlyn Bog SAC and Crymlyn Bog Ramsar designations. NRW advised that the designated features of the Crymlyn Bog SAC are also appropriate for use in the assessment of effects on the Ramsar site (NRW written representations, 15 January 2015, Annex B, answer to question 6.02). Government policy is to afford Ramsar sites the same protection as European sites. For the purposes of this assessment, treatment of the Crymlyn Bog Ramsar designation will be in parallel with the SAC designation. The boundaries of the SAC/Ramsar designations are contiguous and the qualifying features of the SAC broadly align with the Ramsar.

- 4.5 NRW agreed that the Applicants HRASR considered all relevant protected sites and features. (SOCG NRW and Applicant, REP4-005: 9.4).
- 4.6 The information within the RIES presents the potential interactions of each stage of the Project (construction and operation) with the qualifying features of the sites, both alone, and in combination with other plans and projects. Other plans and projects considered by the Applicant are:
- Mynydd Brombil Wind Farm
 - Swansea Bay Tidal Lagoon
 - Abernedd Power Plant
 - Biomass II Power Station
 - Prenergy Port Talbot Renewable Energy Plant
- 4.7 No additional projects that needed to be included in the in-combination assessment were highlighted during the examination and NPTBC agreed that ‘all reasonably foreseeable relevant schemes had been included in the assessment of cumulative impacts’ (REP7-003: 2).
- 4.8 The Applicant considered the LSE on the sites and features shown in Table 1 from the Project alone and in-combination with those projects listed above.

Table 1: European Sites and features screened for LSE

Site	Qualifying feature
Kenfig Special Area of Conservation	Fixed dunes with herbaceous vegetation (priority feature)
	Dunes with <i>Salix repens</i> ssp. <i>Argentea</i> (<i>Salicion arenariae</i>)
	Humid dune slacks
	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp
	Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)
	Petalwort (<i>Petalophyllum ralfsii</i>)
	Fen orchid (<i>Liparis loeselli</i>)
Cefn Cribwr Grasslands Special Area of Conservation	Molinia meadows on calcareous, peaty or clayey-silt laden soils (<i>Molinion caerulaea</i>)
	Marsh fritillary butterfly (<i>Eurodryas, Hypodryas</i>) <i>aurinia</i>
Crymlyn Bog Special Area of Conservation and Crymlyn Bog Ramsar site	Transition mires and quaking bogs
	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallanae</i> (priority feature)
	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion, Alnion incanae, Salicion albae</i>) (priority feature)

Potential Impacts

4.9 The Applicant considered the following impacts on the European sites and features listed in Table 1.

- Aerial deposition of nitrogen and acid;
- Water pollution from surface runoff;
- Construction vehicle movements;
- Noise;
- Vibration;
- Dust blanketing;
- Direct habitat loss or fragmentation;
- Direct disturbance to species;
- Alteration of management;
- Increase in lighting; and
- Spread of invasive species.

Likely Significant Effects: alone and in-combination

4.10 The SoS has considered the potential construction and operational impacts of the Project on all relevant interest features of the four European sites to determine whether there will be LSE in the context of the Habitats Regulations.

4.11 Under the Habitats Regulations, the SoS is obliged to consider whether other plans or projects in combination with the Project might affect European sites. In this case there are a number of other plans and projects which could potentially affect some of the same European sites. These other projects consist of other energy installations and are listed below:

- Mynydd Brombil Wind Farm
- Swansea Bay Tidal Lagoon
- Abernedd Power Plant
- Biomass II Power Station
- Prenergy Port Talbot Renewable Energy Plant

4.12 The following effects have been considered for all four European sites identified:

Aerial Deposition of Nitrogen and Acid

4.13 The principal source of operational emissions to the atmosphere from the Project will be exhaust gases from the new boiler stacks. The Environment Agency's Air Emissions guidance (EA, 2011b) states that insignificant emissions can be screened out unless: they contribute to acidification and eutrophication; are released in substantial quantities; and for nature

conservation sites, contribute >1% (more than 1%) of the relevant Critical Load (AS-007: 6.2.2). NRW, in explanation of the significance of the >1% critical load threshold, advised (in their summary of oral reps put at ISH on Environmental Matters held on 25 Feb 2015) that the figure has been ratified by a panel of experts– the Air Quality Technical Advisory Groups (AQTAG) – as part of work done to inform the Environment Agency’s Review of Consents project. AQTAG still meets and currently comprises experts from NRW, Natural England and the Environment Agency in England. The 1% figure was chosen as being a proportion of critical load that could not possibly undermine the conservation objectives of a nutrient-sensitive, terrestrial Natura 2000 site feature. It was chosen to be very precautionary and to act as a coarse screening tool.

- 4.14 The Applicant’s HRASR presents the process contribution (PCs) from the Project (Options 1 and Option 2 Phase 1) and the resultant acid and nitrogen deposition rates in comparison to the relevant critical level, critical load and critical load factor for the four European sites.
- 4.15 Table 2 and 3 are replicated from the Applicant’s HRASR (AS-007). They show that the PCs are less than 1% of the Critical Levels and Critical Loads, respectively, for all but Option 2 Phase 1 nitrogen deposition which is predicted to be 1.14% of the minimum nitrogen critical load at Crymlyn Bog SAC and Ramsar. As the Project leads to a reduction in PCs from the Steelworks site when this is combined with the PC from the other power stations the cumulative PC is lower than the PC for the other power stations without the Project development and in some cases results in a negative contribution at the ecological sites for Option 1.

Table 2: Long-term Cumulative PCs ($\mu\text{g}/\text{m}^3$) to Ecological Receptors for the Abernedd, Biomass II and Prenergy Power Stations in Combination with the change in PC from the Project site under each development Option based on ELV

Air Quality Standard ($\mu\text{g}/\text{m}^3$)	NOx				SOx			
	30				20			
	Option 1		Option 2 Phase 1		Option 1		Option 2 Phase 1	
Receptor	Combined PC	% of AQS	Combined PC	% of AQS	Combined PC	% of AQS	Combined PC	% of AQS
Cefn Cribwr Grasslands SAC	0.03	0.09	0.13	0.44	-0.31	-1.53	0.01	0.03
Crymlyn Bog SAC Ramsar	0.18	0.60	0.25	0.83	-0.17	-0.87	0.04	0.18
Kenfig SAC	0.18	0.60	0.22	0.75	-0.12	-0.62	0.03	0.16

Table 3: Percentage of Critical Loads for Other Projects and Combined Process Contributions for Other Projects and the Project, Options 1 and 2.

Nitrogen deposition			
Sites	Other projects	Other Projects and the Project Option 1 ELV In Combination	Other Projects and the Project Option 2 Phase 1 EVL In Combination
Crymlyn Bog SAC Ramsar	0.67	0.51	1.14
Kenfig SAC	0.32	0.26	0.32
Cefn Cribwr Grasslamds SAC	0.19	0.04	0.19
Acid deposition			
Sites	Other projects	Other Projects and the Project Option 1 ELV In Combination	Other Projects and the Project Option 2 Phase 1 EVL In Combination
Crymlyn Bog SAC Ramsar	0.07	-2.62	0.95
Kenfig SAC	0.08	-0.22	0.14
Cefn Cribwr Grasslamds SAC	0.08	-1.70	0.10

Note: The percentage of critical loads for Phase 2, Option 2 are the same as those identified for Option 1, as this represents the complete installation.

- 4.16 The Applicant considers that the Project alone will not have a LSE on any European site as the acidifying and eutrophying emissions (Nitrogen and Acid) each contribute to <1% of the relevant Critical Loads for the individual Qualifying Features at each site (AS-007: 6.2.3).
- 4.17 The Applicant considers that for the Project incombination there is potential for a temporary LSE between other projects (Abernedd Power Plant, Biomass II Power Station and Prenergy PTREP) and Option 2 Phase 1 of the proposed Project, until the installation is complete and fully operational (Option 1 and Phase 2 of Option 2) (AS-007: 6.2.4). This LSE in-combination was identified at Crymlyn Bog SAC and Ramsar as the emissions contributes >1% of the relevant Critical Loads for nitrogen (1.14% nitrogen deposition). The Applicant states that at the Crymlyn Bog SAC and Ramsar there is a LSE of nitrogen deposition on the feature 'transition mires and quaking bogs' only, as this feature of the SAC is sensitive to nitrogen and current nitrogen deposition exceeds the critical load for transition mires and quaking bogs (APIS, 2014).
- 4.18 The Applicant does not consider there to be a LSE at Crymlyn Bog SAC and Ramsar due to the effects of acid deposition (0.95% acid deposition), nor at Kenfig SAC (0.32% nitrogen deposition, 0.14% acid deposition) or Cefn Cribwr SAC (0.19% nitrogen deposition, 0.10% acid deposition), where the emissions contribute to >1% of the relevant Critical Load (AS-007: Table 5.8).
- 4.19 Adopting Option 1 (single construction period) would avoid the temporary in-combination effect that will result if Option 2 is adopted. However both options are permissible under the DCO.

4.20 NRW consider that the methodology used to model the impacts of the Project on local air quality is appropriate (REP4-005: 4.1) and NPTBC consider that the air quality standards, critical loads and critical levels, specified in [the Applicant's ES] are appropriate. (AS-021: 2.25).

4.21 The Applicant states that there will be no increase in nitrogen deposition and no significant effects associated with the construction or decommissioning of the proposed development. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Water pollution from surface runoff

4.22 The Applicant considers that as there are no hydrological links between the proposed development and European sites within 10km there is no pathway for a LSE associated with water pollution at any of the four sites. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Construction vehicle movements

4.23 The Applicant considers that during the construction phase, the effect of traffic emissions associated with construction vehicles, construction site personnel and building material deliveries within 200 metres of an ecological receptor will be negligible and consequently they consider there to be no LSE at any of the four sites. Vehicle movement during operation and decommissioning will be below that during construction. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Noise

4.24 The Applicant states that the loudest noise during construction will be 92dB at source (which at a distance of 5.1km reduces 37dB) and that as this is well below existing ambient levels it will be inaudible and so considers there to be no LSE at any of the four sites. Noise during operation and decommissioning will be below that created during construction. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Vibration

4.25 The Applicant states that vibration from construction and decommissioning of the proposed development will only be detectable within 20 metres from the source and so consequently there will be no LSE at any of the four sites. Vibration during operation of the proposed development will be less than during construction. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Dust blanketing

4.26 The Applicant states that construction traffic produces fine matter that can travel up to 1 kilometre from source, and that construction of the proposed development will produce medium and coarse material that will not travel more than 500 metres from source, and consequently there is no potential for LSE at any of the four sites. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Direct habitat loss or fragmentation

- 4.27 The Applicant states that there will be no construction or requirement to remove any habitat within any European site and consequently there will be no LSE at any of the four sites. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Direct disturbance to species

- 4.28 The Applicant states that there will be no requirement to remove any habitat within any European site so there will be no LSE at any of the four sites. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Alteration of management

- 4.29 The Applicant states that there will be no alteration of site management actions at any European site and consequently there will be no LSE at any of the four sites. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Increase in lighting

- 4.30 The Applicant states that the lighting associated with the construction and decommissioning phases of the Project would be limited where practical, subject to timing of the construction activities and time of the year. They consider the aviation lighting associated with the chimney stacks to be a long term effect present throughout the operational phase of the proposed development that would be similar to the currently established level. They consider that the nearest European site is 5.1km from the proposed development and as such light spill will not measurably increase at any European sites and consequently there will be no LSE at any of the four sites. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Spread of invasive species

- 4.31 The Applicant states that there will be no construction within, or requirement to access, any European sites and consequently there will be no LSE at any of the four sites. The Interested Parties did not dispute the Applicant's conclusions (RIES: 3.4).

Crymlyn Bog SAC and Ramsar

- 4.32 Crymlyn Bog SAC and Ramsar comprise a floodplain valley mire located within a lowland coastal context and is the most extensive wetland of its type in Wales. The mire features a complex mosaic of vegetation types, supporting examples of swamp, tall herb fen, fen meadow and carr communities (JNCC, 2008). It is designated for its Annex I habitats: Transition mires and quaking bogs and calcareous fens with *Cladium mariscus* and species of the *Caricion davalliana*. The transition mire and quaking bog habitats comprise locally rare mud sedge *Carex limosa* and, in places, the nationally rare slender cottongrass *Eriophorum gracile*. The site also has Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion*

incanae, *Salicion albae*) as a qualifying feature. Crymlyn Bog SAC and Ramsar are approximately 8.3 km from the proposed development (RIES).

- 4.33 The potential impact for which LSE has been identified by the Applicant is the aerial deposition of nitrogen in-combination with other plans and projects. The Applicant's HRASR provide the Critical Levels and calculations for the percentage of Critical Loads for the various options and scenarios, replicated at Tables 2 and 3 above.
- 4.34 Based on EA guidance, as the acid deposition for each feature, both from the Project alone and in-combination with other plans and projects are <1% of Critical Loads, the SoS concludes that there will be no LSEs as a result of acid deposition. As nitrogen deposition for each feature, from the Project alone, are <1% of Critical Loads (0.51%), the SoS concludes that there will be no LSEs as a result of nitrogen deposition from the Project alone.
- 4.35 However, during the interim phase between Option 2 Phase 1 and Phase 2, there is potential for a LSE from the Project (including existing generating capacity), in-combination with three other power projects (Abernedd Power Station, Biomass II Power Station and Prenergy Port Talbot Renewable Energy Plant) on the transition mires and quaking bogs feature of Crymlyn Bog SAC and Ramsar as the emissions would lead to nitrogen deposition of >1% of the critical load for Crymlyn Bog SAC and Ramsar (1.14%). However the effect will be temporary (circa 12 years) until the installation is complete and fully operational (Option 1 and Phase 2 of Option 2) at which point there will be no LSE between all other projects and the Project on Crymlyn Bog SAC and Ramsar as a result of nitrogen deposition.
- 4.36 NRW and NPTCBC advise that they agree with the Applicant's overall conclusion on LSE (contained within the HRASR and Report to Inform an Appropriate Assessment dated December 2014) (NRW written reps 15 January, Annex B answer to q. 6.03 and 6:05; and NPTBC response to ExA first round of written questions, January 2015).
- 4.37 The SoS agrees with NRW's advice and considers that there is potential for LSE in combination with other plans and projects on the transition mires and quaking bogs feature of Crymlyn Bog SAC and Ramsar as a result of nitrogen depositon. She considers that, due to the identification of an LSE, an AA needs to be undertaken which considers the implications for site integrity in view of their conservation objectives.
- 4.38 The SoS agrees with NRW's advice that there is no LSE at the Crymlyn Bog SAC and Ramsar from the following impacts: Water pollution from surface runoff; Construction vehicle movements; Noise; Vibration; Dust blanketing; Direct habitat loss or fragmentation; Direct disturbance to species; Alteration of management; Increase in lighting; and Spread of invasive species.

Kenfig SAC

- 4.39 Kenfig SAC is designated for its Annex I Habitats; dune grassland, Atlantic salt meadows, dunes with creeping willow (*Salix repens* ssp. *Argentea*, *Salicion arenariae*), Calcium-rich nutrient-poor lakes, lochs and pools, humid dune slacks, and Annex II species: fen orchid

Liparis loeselii and petal wort *Petalophyllum ralfsii*. Kenfig SAC is approximately 5.1 km from the proposed development

- 4.40 The Applicant's HRASR provides the Critical Levels and calculations for the percentage of Critical Loads for the various options and scenarios. Based on EA guidance, as nitrogen and acid deposition for each feature are <1% of Critical Loads, the Applicant concludes that the proposed development will not have any LSEs on the Kenfig SAC alone or in combination with other plans and projects
- 4.41 NRW and NPTCBC advise that they agree with the Applicant's overall conclusion on LSE (contained within the HRASR and Report to Inform an Appropriate Assessment dated December 2014) (NRW written reps 15 January, Annex B answer to q. 6.03 and 6.05; and NPTBC response to ExA first round of written questions, January 2015).
- 4.42 The SoS agrees with NRW's advice that there is no LSE at the Kenfig SAC from all impacts considered: Aerial deposition of nitrogen and acid; Water pollution from surface runoff; Construction vehicle movements; Noise; Vibration; Dust blanketing; Direct habitat loss or fragmentation; Direct disturbance to species; Alteration of management; Increase in lighting; and Spread of invasive species. The SoS agrees with NRW's advice and considers that LSE from the Project, alone and in combination with other plans and projects, can be excluded for the Kenfig SAC and therefore an AA is not required in respect of this site.

Cefn Cribwr Grasslands SAC

- 4.43 Cefn Cribwr is designated for its Annex I habitat: Molinia meadows on calcareous, peaty or clayey-silt-laden soils (*Molinion caeruleae*). At this site, there are extensive stands of *Molinia Cirsium dissectum* fen-meadow, including the heathy sub-type with cross-leaved heath *Erica tetralix*, as well as other forms with a stronger representation of grasses, rushes and small sedges. Transitions to stands of more acidic Molinia and Juncus pasture, dry neutral grassland and wet scrub vegetation are well-represented. Cefn Cribwr SAC is approximately 10.3 km from the proposed development
- 4.44 The Applicant's HRASR provide the Critical Levels and calculations for the percentage of Critical Loads for the various options and scenarios. Based on EA guidance, as nitrogen and acid deposition for each feature are <1% of Critical Loads, the Applicant concludes that the proposed development will not have any LSEs on the Cefn Cribwr SAC alone or in combination with other plans and projects.
- 4.45 NRW and NPTCBC advise that they agree with the Applicant's overall conclusion on LSE (contained within the HRASR and Report to Inform an Appropriate Assessment dated December 2014) (NRW written reps 15 January, Annex B answer to q. 6.03 and 6.05; and NPTBC response to ExA first round of written questions, January 2015).
- 4.46 The SoS agrees with NRW's advice that there is no LSE at the Cefn Cribwr SAC from all impacts considered: Aerial deposition of nitrogen and acid; Water pollution from surface runoff; Construction vehicle movements; Noise; Vibration; Dust blanketing; Direct habitat loss or

fragmentation; Direct disturbance to species; Alteration of management; Increase in lighting; and Spread of invasive species. The SoS agrees with NRW's advice and considers that LSE from the Project, alone and in-combination with other plans and projects, can be excluded for the Cefn Cribwr SAC and therefore an AA is not required in respect of this site.

Conclusion on LSE

4.47 The SoS's conclusions on LSEs as a result of the Project are summarised in Table 4

Table 4: SoS conclusions on LSE

Site	Qualifying feature	Project Alone	Project in-combination
Kenfig Special Area of Conservation	Fixed dunes with herbaceous vegetation (priority feature)	No	No
	Dunes with <i>Salix repens</i> ssp. <i>Argentea</i> (<i>Salicion arenariae</i>)		
	Humid dune slacks		
	Hard oligo-mesotrophic waters with benthic vegetation of <i>Chara</i> spp		
	Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>)		
	Petalwort (<i>Petalophylum ralfsii</i>)		
	Fen orchid (<i>Liparis loeselii</i>)		
Cefn Cribwr Grasslands Special Area of Conservation	Molinia meadows on calcareous, peaty or clayey-silt laden soils (<i>Molinion caerulea</i>)	No	No
	Marsh fritillary butterfly (<i>Eurodryas, Hypodryas</i>) <i>aurinia</i>		
Crymlyn Bog Special Area of Conservation and Crymlyn Bog Ramsar site	Transition mires and quaking bogs	No	Yes
	Calcareous fens with <i>Cladium mariscus</i> and species of the <i>Caricion davallanae</i> (priority feature)	No	No
	Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion, Alnion incanae, Salicion albae</i>) (priority feature)	No	No

4.48 The SoS considers that sufficient information has been provided to inform a robust assessment in line with her duties under the Habitats Regulations. The SoS is unable to exclude LSEs on the Crymlyn Bog SAC and Ramsar sites. This is due to the potential effects of increased nitrogen deposition from the Project (Option 1, Phase 2 only) on the Transition mires and quaking bog feature of the sites when considered in-combination with emissions from the existing plant and other power plants in the vicinity.

Appropriate Assessment

Test for Adverse Effect on Site Integrity

- 5.0 The requirement to undertake an AA is triggered when a competent authority, in this case the SoS, determines that a plan or project is likely to have a significant effect on a European site either alone or in combination with other plans or projects. Guidance issued by the European Commission states that the purpose of an AA is to determine whether adverse effects on the integrity of the site can be ruled out as a result of the plan or project, either alone or in combination with other plans and projects, in view of the site's conservation objectives (European Commission, 2000).
- 5.1 The purpose of this AA is to determine whether or not AEol of those sites and features identified during the LSE test can be ruled out as a result of the Project alone or in combination with other plans and projects in view of the site's conservation objectives and using the best scientific evidence available.
- 5.2 If the competent authority cannot ascertain the absence of an AEol within reasonable scientific doubt, then under the Habitats Regulations, alternative solutions should be sought. In the absence of an acceptable alternative, the project can proceed only if there are imperative reasons of overriding public interest ("IROPI") and suitable compensation measures identified. Considerations of IROPI and compensation are beyond the scope of an AA.

Conservation Objectives

- 5.3 Guidance from the European Commission indicates that disturbance to a species or deterioration of a European site must be considered in relation to the integrity of that site and its conservation objectives (European Commission, 2000). Section 4.6.3 of that guidance defines site integrity as:
- ...the coherence of the site's ecological structure and function, across its whole area, or the habitats, complex of habitats and/or populations of species for which the site is or will be classified.*
- 5.4 Conservation objectives outline the desired state for a European site, in terms of the interest features for which it has been designated. If these interest features are being managed in a way which maintains their nature conservation value, they are assessed as being in a 'favourable condition'. An AEol is likely to be one which prevents the site from making the same contribution to favourable conservation status for the relevant feature as it did at the time of its designation (English Nature, 1997).
- 5.5 There are no set thresholds at which impacts on site integrity are considered to be adverse. This is a matter for interpretation on a site-by-site basis, depending on the designated feature and nature, scale and significance of the impact. Conservation objectives have been used by the SoS to consider whether the Project has the potential for having an AEol, either alone or in combination. The potential for the Project to have an AEol is considered in the next section of this Report.

Crymlyn Bog SAC and Ramsar

6.1 Crymlyn Bog SAC and Ramsar comprise a floodplain valley mire located within a lowland coastal context and is the most extensive wetland of its type in Wales. The mire features a complex mosaic of vegetation types, supporting examples of swamp, tall herb fen, fen meadow and carr communities. (JNCC, 2008).

6.2 The SAC is designated for transition mires and quaking bogs, for which it is considered to be one of the best areas in the United Kingdom; Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae*,, which is considered to be rare as its total extent in the United Kingdom is estimated to be less than 1000 hectares and for which this is considered to be one of the best areas in the United Kingdom; and Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*, for which the area is considered to support a significant presence. (JNCC, 2011)

6.3 The SAC and Ramsar overlap, both geographically and for the habitats which are protected. Crymlyn Bog SAC is 299.45 ha and Crymlyn Bog Ramsar is 268.0 ha. NRW advised that the designated features of the Crymlyn Bog SAC are also appropriate for use in the assessment of effects on the Ramsar site (NRW written representations, 15 January 2015, Annex B, answer to question 6.02). The sites are approximately 5.1 km from the proposed development.

6.4 For the purposes of this assessment, treatment of the Crymlyn Bog Ramsar designation will be in parallel with the SAC designation. The boundaries of the SAC/Ramsar designations are contiguous and the qualifying features of the SAC broadly align with the Ramsar.

6.5 Table 5 shows the conservation objectives for the Crymlyn Bog SAC. CCW have stated that the conservation objectives for the Ramsar will be developed once the confirmed list of features has been agreed (CCW, 2010: Report to inform an AA: Table 3.2). For the purposes of this AA, the conservation objectives for the SAC are considered to be the same as for the Ramsar.

Table 5 Conservation Objectives for Crymlyn Bog SAC Transition Mire and Quaking Bog Feature

Crymlyn Bog SAC	<p>Transition mires and quaking bogs will be in Favourable Conservation Status when:</p> <ul style="list-style-type: none"> • Transition mires vegetation occupy at least 12ha of Crymlyn Bog SAC; • Most of the remainder of the site will comprise related fen vegetation; • The transition mire will comprise varying mixtures of the following plant species: <i>Schoenus nigricans</i>, <i>Carex rostrate</i>, <i>C. echinata</i>, <i>C. limosa</i>, <i>Equisetum fluviatile</i>, <i>Eriophorum angustifolium</i>, <i>E. gracile</i>, <i>Menyanthes trifoliata</i>, <i>Sphagnum</i> spp; • Although <i>Phragmites australis</i> and <i>Cladium mariscus</i> may be present, these species will not attain high cover; • Scrub species such as willow <i>Salix</i> and birch <i>Betula</i> will be largely absent; and ; • All factors affecting the achievement of these conditions will be under control.
------------------------	---

Transition Mires and Quaking Bogs

- 6.6 The term 'transition mire' relates to vegetation that in floristic composition and general ecological characteristics is transitional between acid bog and Alkaline fens, in which the surface conditions range from markedly acidic to slightly base-rich. The vegetation normally has intimate mixtures of species considered to be acidophile and others thought of as calciphile or basophile. In some cases the mire occupies a physically transitional location between bog and fen vegetation, as for example on the marginal lagg of raised bog or associated with certain valley and basin mires. In other cases these intermediate properties may reflect the actual process of succession, as peat accumulates in groundwater-fed fen or open water to produce rainwater-fed bog isolated from groundwater influence. Many of these systems are very unstable underfoot and can therefore also be described as 'quaking bogs' (JNCC, 2015a).
- 6.7 Transition mires and quaking bogs occur on deep, wet topogenous peats over a relatively small area of this extensive coastal lowland site. Bottle sedge *Carex rostrata* and bogbean *Menyanthes trifoliata* are important components of some stands, together with common cottongrass *Eriophorum angustifolium*, water horsetail *Equisetum fluviatile*, star sedge *Carex echinata*, the locally rare mud sedge *Carex limosa* and, in places, the nationally rare slender cottongrass *Eriophorum gracile*. The transition mire and quaking bog at this site is vulnerable to the continuing expansion of common reed *Phragmites australis*, encouraged by trends of increasing site wetness, nutrient-enrichment and lack of grazing (JNCC, 2015b)
- 6.8 The transition mire feature of the SAC was monitored in 1998 and was judged to be in unfavourable condition. The reason for this assessment was the perceived loss of transition mire vegetation since an earlier mapping exercise. The decline in transition mire was thought to be due to an expansion of *Phragmites australis*, linked to lack of grazing management and/or increased nutrient levels. No formal SAC monitoring work has been carried out since 1998, but an assessment was made in 2004, when it was concluded the feature was still in an unfavourable condition (Report to inform an AA: Table 3.1). Threats to site integrity for the Ramsar site include 'atmospheric pollution – particularly nutrient deposition' (Report to inform an AA: Table 3.2).
- 6.9 NRW state that aerial deposition should be controlled in order to contribute to the aim of achieving Favourable Conservation Status, as guided by the sites' conservation objectives and that a number of actions are underway to tackle existing management issues. As such, aerial emissions are considered to be a factor that is currently under control as a result of a variety of actions, measures and former/current regulatory regimes contributing to a downward trend in emissions (NRW written reps 15 January, Annex B answer to q. 6.04).

Physical Damage

In combination

- 6.10 The SoS identified that the Project could have indirect impacts from aerial emissions, in combination with other projects, which could lead to increased deposition of nutrient nitrogen within

the Crymlyn Bog SAC and Ramsar. She did not identify any direct disturbance or habitat loss that would occur as a result of the proposed Project.

6.11 The Screening stage of this Report considered the effects of the change in aerial pollutant concentrations from the Project, in combination with other plans and projects, and the resultant change in nitrogen deposition at Crymlyn Bog SAC and Ramsar. It concluded that during the interim phase between Option 2 Phase 1 and Phase 2, there is potential for a LSE from the Project, in combination with the existing plant and three other power projects (Abernedd Power Station, Biomass II Power Station and Prenergy Port Talbot Renewable Energy Plant) on the transition mires and quaking bogs feature of Crymlyn Bog SAC and Ramsar as the emissions would lead to nitrogen deposition of >1% of the critical load for Crymlyn Bog SAC and Ramsar, specifically 1.14%. However the effect will be temporary (circa 12 years) until the installation is complete and fully operational (Option 1 and Phase 2 of Option 2) at which point there will be no LSE between all other projects and the Project on Crymlyn Bog SAC and Ramsar as a result of nitrogen deposition.

6.12 The Applicant considers that AEol at the Crymlyn Bog SAC and Ramsar from the Project, in combination with other projects, could be excluded. Their rationale is three-fold:

a. Temporary nature of the effect

The Applicant considers that the nature of the effect is temporary until the installation is complete and fully operational (Option 1 and Phase 2 of Option 2) (AS-007: 5.3.3). The temporary nature of the effect is approximately twelve years, being the maximum time that Phase 1 of Option 2 will operate before the older generating plant will be decommissioned following the commissioning of Phase 2 of Option 2

The ExA considers that this is not a measure that could be enforced (question 4.1.3 at ISH on Environmental Matters (EV-010)). However, NRW consider that the temporary nature of the effect is, in their opinion, enforceable 'because the requirements of the DCO control the timing of the development' (ExA: 5.7.3).

b. Anticipated reduction in background levels

The Applicant considers that the Industrial Emissions Directive will set stricter nitrogen oxides emission limits leading to a reduction in background levels (HRASR and RIES).

The ExA considers that this is not a measure that could be enforced (question 4.1.3 at ISH on Environmental Matters (EV-010)). However, NRW consider that 'the more stringent NO_x limits set by the Industrial Emissions Directive are also enforceable, through the Directive. In any event, NRW consider a reduction in background NO_x emissions to be a reasonable assumption' (ExA: 5.7.3).

c. Scale of emissions is small

The Applicant considers that the increase in emissions would be extremely small and so will not lead to the conservation objectives of the site being undermined in combination with other power plants in the vicinity (HRASR and RIES).

The Applicant states that the modelling and calculations for percentages of Critical Levels and Critical Loads of aerial pollutants are based on 'Emission Limit Values (ELVs)'. They state that ELVs are often unrealistic as they are the maximum emission concentration of each pollutant that is allowed in the stack gas. The ELVs are set out in the site's environmental permit and are the values against which NRW assesses the site's conformance with the permit. The Applicant's calculations have been undertaken using the current permitted ELVs for the site and those set out in the IED for the new development for all scenarios/assessment stages including the cumulative impact assessment. The Applicant states that the use of the ELVs in the assessment is conservative and represents the worst-case as the plant is designed to have emissions well within these limits (AS-007: 4.1.3-4.1.4). NPTCBC agree that the Applicant's ES provides a reasonable likely worst case assessment of the predicted emissions from the Project and the consequent effects on nitrogen concentrations and deposition over statutory designated nature conservation sites (REP7-003: 2.26).

The significance of the 1% threshold is discussed in the LSE Section of this report (page 14). NRW advise that 'it was chosen to be very precautionary and to act as a coarse screening tool' and that 'it was chosen as being a proportion of critical load that could not possibly undermine the conservation objectives of a nutrient-sensitive, terrestrial Natura 2000 site feature'.

NRW were asked to explain the basis for the conclusion that process contributions of less than 1% of critical load are insignificant (question 4.1.3 at ISH on Environmental Matters (EV-010)). The ExA note that NRW presented a comprehensive answer that can be found at the audio recording of the meeting [EV-012]. NRW aimed to put the LSE into context by explaining that:

'... the feature in question, that of the Crymlyn Bog transitional mires and quaking bogs has a very low critical load for nitrogen of 5 kilograms of nitrogen per hectare per year and that 1% of this would be similar to 3 tablespoons of nutrient spread over a rugby pitch per year; Indicating that the extra addition of 0.14% of this load would be very small.'

'We would look to ensure that there would be no increase in scrub encroachment, so as cited in the shadow appropriate assessment, rush such as fragmites, the growth of that rush outcompetes the feature itself and therefore reduces its quality.'

'...in regard to nutrient impacts these tiny emissions would make no material difference to the scrub encroachment. It would not conceivably be able to increase the growth of scrub encroachment because it is so tiny and because of the nature of the site being lowland wet emphasises that there is no possibility of an adverse effect when also considering the temporary nature of the in-combination effect.'

'...the emission will be extremely small, such that it can be concluded beyond (sic) 'reasonable scientific doubt that there will be no adverse effect. This factor (the extremely small nature of the emission) is enough on its own to conclude no adverse effect in NRW view, even without the first and second points mentioned above. In particular, we refer to Annex F, which is used by NRW to guide the HRA process. It provides a technically robust backdrop against which to make HRA decisions. The H1 Guidance sets out a threshold (pp.18-19). The figure in the

present case in excess of this (1.14%) led us to advise the applicant that an appropriate assessment should be carried out. However in the context of Crymlyn Bog and the particular features of concern, namely the Transition Mire and Quaking Bogs, encroachment of scrub would represent the most likely cause of undermining the conservation objectives due to nutrient enrichment. A level of 1.14% of the critical load will make no measurable difference to scrub encroachment and will have no possibility of undermining conservation objectives.'

NPTBC echo this in their SoCG with the Applicant, stating 'it is unlikely that an emission at this level would make a significant contribution to air quality (according to Environment Agency H1 Annex F Guidance)' (REP7-003: 2.32).

6.13 Considering necessary mitigation, NRW state that: 'The Parties AGREE that emissions from the Project can be controlled effectively through the Environmental Permit to ensure these do not give rise to adverse environmental and human health impacts (REP4-005:4.6).

6.14 At the close of the Examination the Applicant had not obtained an environmental permit from NRW for the proposed development. However NRW stated that the granting of an environmental permit should be possible in principle (REP4-005: Section 2.4). The Applicant submitted an Environmental Permit application to NRW on 28 May 2015. NRW [AS-011] have confirmed that the application has been 'duly made' for the purposes of paragraph 12(1) of Schedule 5 to the Environmental Permitting (England and Wales) Regulations 2010 (ExA: 4.30.4). The ExA concludes that there is no evidence presented indicating that the granting of any necessary licence under other regulatory regimes will be withheld, and that therefore based on NPS EN-1 paragraph 4.10.8, the SoS as decision-maker should have no reason to withhold development consent on these grounds (ExA: 4.30.5).

6.15 Considering necessary mitigation, NPTCBC states in its SoCG with the Applicant (REP7-003), that 'The Parties AGREE that the air quality monitoring scheme required by Requirement 17 and the controls on emissions from the proposed development through the environmental permit (issued and enforced by NRW) will together provide sufficient control over air quality impacts related to the operational stage of the proposed development (REP7-003: 3.29).

Conclusion

6.16 NRW concludes that 'the Project will not have an adverse effect on the integrity of any Natura 2000 or Ramsar sites either alone or in combination with other projects' (REP4-005: 9.6).

6.17 The ExA concludes that 'should the proposed development be constructed in two phases then the potential for an in-combination effect arising during Phase 1 of Option 2 it may be considered as insignificant due to its temporary nature and therefor is unlikely to impact on the integrity of the European sites' (ExA:5.11.6).

6.18 The SoS agrees with the advice of NRW and conclusions of the ExA and considers that the extremely small nature of the nitrogen emissions is enough on its own to conclude no adverse effect on the Crymlyn Bog SAC and Ramsar, in light of the sites' conservation objectives. The SoS's conclusions are based upon the fact that the Applicant will have to obtain an Environmental Permit for the operation of the Project. The Environmental Permit will contain measures to control and

monitor emissions to air and the Applicant will have to comply with the conditions and applicable levels stipulated by the Permit. In addition, DCO Requirement 17 secures the implementation of a system for monitoring ambient levels of nitrogen dioxide that has been submitted and agreed with the relevant planning authority 12 months prior to the commissioning of any stage of the authorised works. The SoS notes NRW's position on the temporary nature of the impacts and the anticipated reduction in nitrogen emission levels following the implementation of the Industrial Emissions Directive, but does not rely on this in coming to her conclusion.

Habitats Regulations Assessment Conclusions

- 7.1 The SoS has carefully considered all of the information presented before and during the Examination, including the ES, representations made by Interested Parties including NRW, and the ExA's report itself. She has undertaken a robust assessment using all of the information available to her. The SoS considers that sufficient information has been provided to inform a robust assessment in line with her duties under the Habitats Regulations.
- 7.2 The SoS agrees with the advice of NRW and recommendations of the ExA, and considers that the Project has the potential to have a likely significant effect on the Crymlyn Bog SAC and Ramsar sites. This is due to the potential effects of increased nitrogen deposition from the Project (Option 1, Phase 2 only) on the Transition mires and quaking bog feature of the sites when considered in-combination with emissions from other power plants in the vicinity.
- 7.3 The SoS has undertaken an AA in respect of the sites' conservation objectives listed in Table 5. The SoS agrees with the advice of NRW and recommendations of the ExA and has determined that adverse effects on the Crymlyn Bog SAC and Ramsar sites due to the potential effects of increased nitrogen deposition from the Project (Option 1, Phase 2 only) on the Transition mires and quaking bog feature of the sites when considered in-combination with emissions from other power plants in the vicinity, can be excluded. The SoS is confident that there will be no adverse effects on integrity at these sites as the increase would be extremely small (1.14% of critical load), based upon conservative estimates, and would not lead to the conservation objectives of the site being undermined.
- 7.4 The SoS's conclusions are based upon the fact that the Applicant will have to obtain an Environmental Permit for the operation of the Project. The Environmental Permit will contain measures to control and monitor emissions to air. Requirement 17 of the DCO also secures the implementation of a system for monitoring ambient levels of nitrogen dioxide that has been submitted and agreed with the relevant planning authority 12 months prior to the commissioning of any stage of the authorised works.

Author: Sophie Thomas BSc MSc CEnv
Environmental Manager
National Infrastructure Consents Team
Department of Energy and Climate Change

References

- EA, 2011a: Environment Agency Horizontal Guidance Note H1, Annex F – Air Emissions, 2011.
- EA, 2011b: Environment Agency's Air Emissions guidance
- JNCC, 2011: JNCC Data Form Crymlyn Bog SAC:
<http://jncc.defra.gov.uk/protectedsites/sacselection/n2kforms/UK0012885.pdf> (Accessed November 2015)
- JNCC, 2008: <http://jncc.defra.gov.uk/pdf/RIS/UK14006.pdf> (Accessed November 2015)
- JNCC, 2015a:
<http://jncc.defra.gov.uk/ProtectedSites/SACselection/habitat.asp?FeatureIntCode=H7140> (Accessed November 2015)
- JNCC, 2015b: <http://jncc.defra.gov.uk/protectedsites/sacselection/sac.asp?EUcode=UK0012885> (Accessed November 2015)