



Chapter 26.0 Mitigation, Monitoring and Compensation

26.0 Mitigation, Monitoring and Compensation

26.1 Introduction

26.1.0.1 Various Chapters of the Environmental Statement (ES) and supporting documents will detail the mitigation and monitoring required for any potential adverse impacts that have been identified for the Project throughout its lifetime. These mitigation and monitoring measures will be detailed within individual specialist topic chapters and then summarised into a single Mitigation, Monitoring and Compensation Chapter within the ES. The ES will be supported by the following plans relevant to mitigation and monitoring, which will be secured as part of the Development Consent Order (DCO) and Marine Licence (ML):

- i. Construction Environmental Monitoring Plan (CEMP);
- ii. Operational Environmental Monitoring Plan (OEMP); and
- iii. Adaptive Environmental Monitoring Plan (AEMP).

26.1.0.2 Further details of these plans are given below.

26.1.0.3 The Project will also incorporate measures that provide additional opportunities for biodiversity and people. These enhancements will be discussed in the relevant ES Chapters and summarised in the Mitigation, Monitoring and Compensation Chapter of the ES.

26.1.0.4 At this scoping stage, any discussion regarding compensatory measures must take into account the fact that the Habitats Regulations Assessment (HRA) is in its early stages and so the extent of any compensatory requirement is not yet quantified. However, criteria with which any compensation measures must follow are outlined below. As described in chapter 2 the EEP is envisaged to form part of the delivery mechanism for such measures.

26.2 The Construction Environmental Monitoring Plan and Operational Environmental Monitoring Plan

26.2.0.1 The CEMP will set out provisions for the management, mitigation and monitoring of environmental effects during construction of the Project, and the OEMP will set out the mitigation measures required for the operation of the Project. These documents will cover legislative requirements and compliance with regulatory and best practice requirements. They will also incorporate the mitigation measures set out in the ES. These documents will ensure that the required measures for mitigation are formally documented and part of the contract documentation given to the appointed construction contractor. The CEMP and OEMP will be secured within the DCO and ML for the Project. This will ensure that mitigation measures proposed within this ES are implemented. Monitoring strategies during construction and operation will be secured under the AEMP. Further details of the AEMP are provided below.

26.3 Adaptive Environmental Monitoring Plan

- 26.3.0.1 The monitoring of certain aspects of the mitigation and enhancement related to the Project will be necessary in order that the residual effects can be judged. The proposals for monitoring will be briefly described in the individual specialist topic chapters of the ES. To further define the monitoring proposals an AEMP will be prepared which will be secured under the provisions of the DCO and the ML for the Project.
- 26.3.0.2 The AEMP will provide a framework for the monitoring and mitigation of effects of the Project. It will be based upon:
- i. the baseline surveys and monitoring completed and reported upon in the ES; and
 - ii. the surveys and monitoring planned as the Project progresses through the pre-construction, construction and operational phases in respect of potential effects identified during the Environmental Impact Assessment (EIA) process, the Habitats Regulations Assessment (HRA) and the Water Framework Directive (WFD) compliance assessment.
- 26.3.0.3 It should be noted that the AEMP will be updated as the Project progresses through consultation and in light of the data emerging from the monitoring undertaken. This is seen as an essential part of the process to validate the findings of the extensive studies that have been undertaken to determine the potential effects of this type of renewable energy development. This accords with Policy set out on page 18 of the EC Guidance Note 'The implementation of the Birds and Habitats Directives in estuaries and coastal zones with particular attention to port development and dredging' (2011) that:
- Where uncertainties or lack of knowledge on physical, morphological or biological processes still exist, these should be minimized as far as possible by additional research; where uncertainty remains adaptive monitoring programmes should be foreseen. New evidence and scientific information should be fed back into the management plan and where necessary lead to an appropriate adaptation of the management measures and monitoring schemes.*
- 26.3.0.4 The AEMP will continue to be updated throughout the lifetime of the Project and refined to give the best possible understanding of the Project's environmental effects enabling mitigation to be adjusted, where necessary.
- 26.3.0.5 The AEMP will outline the mechanism by which the monitoring will be implemented and a framework for dissemination of the findings of the studies. It will also describe the monitoring and surveys required for particular environmental topics following the ES chapter structure.
- 26.3.0.6 In addition to validating the conclusions of the ES, the AEMP will be used to confirm the findings of the WFD compliance assessment. The surveys and monitoring

proposed will consider the quality elements relevant for any WFD waterbodies potentially affected by the Project.

26.3.0.7 Within the AEMP, an approach will be established as to how the review (and revision) of the document will be undertaken; how the findings will be disseminated to statutory authorities and how any changes to mitigation or ongoing monitoring will be approved by these bodies. This will ensure that the most appropriate mitigation measures are implemented to minimise any effects resulting from the Project. This could include:

- i. Summary Information Action Sheets (SIAS) - the AEMP allows for the identification of effects that are outside those predicted in the ES, with implementation of suitable mitigation where appropriate through SIAS which will be provided to statutory authorities where effects are detected through monitoring;
- ii. Annual Topic Reports - reports that will present the findings of the surveys and monitoring completed in that year for each environmental topic;
- iii. AEMP Topic Review (ATR) Groups - different groups established for appropriate environmental topics at the pre-construction phase comprised of technical specialists involved in the Project and statutory and non-statutory authorities. Review of findings of monitoring provided in SIAS and annual topic reports in advance of AEMP Core Review Group;
- iv. Annual Summary and Recommendations Report (ASSR) - summarise the findings from all topic areas and present recommendations made from the Topic Review Group, which would include, where necessary, modification to the monitoring proposals or mitigation; and
- v. AEMP Core Review Group - to involve statutory authorities meeting on an annual basis to discuss feedback from the ATR through the ASSR.

26.3.0.8 It would be intended that the AEMP for the Project will be based on lessons learnt from the implementation of the AEMP that will be established for the Swansea Bay tidal lagoon. This will enable an integrated assessment of the potential effects of tidal lagoons, noting that the siting of each lagoon will influence the nature of these effects.

26.4 Habitats Regulations Assessment and Compensatory Requirement

26.4.0.1 Under Article 6 of the Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive') an assessment is required where a plan or project may give rise to significant effects upon a Natura 2000 site. The Natura 2000 network comprises Special Areas of Conservation (SAC) (designated under the Habitats Directive) and Special Protection Areas (SPA), designated under Directive 2009/147/EC on the conservation of wild birds (the codified version of the earlier Council Directive 79/409/EEC as amended).

26.4.0.2 The requirements of the Habitats Directive are transposed into UK law through the Habitats Regulations. In addition, it is a matter of UK Government policy (ODPM Circular 06/2005) that sites designated under the 1971 Ramsar Convention for their internationally important wetlands ("Ramsar sites") are also considered in this process, along with potential SPAs ("pSPAs"), or (in England) candidate SACs ("cSACs").

26.4.0.3 As the assessment requirements of the Habitats Directive have been applied since its inception, it has become generally accepted that the process comprises four stages (European Commission, 2002).

- i. Stage One: Screening – the process which identifies the potential for likely impacts upon a Natura 2000 site of a project or plan, either alone or in combination with other projects or plans, and considers whether these impacts are likely to be significant;
- ii. Stage Two: Appropriate assessment – the consideration of the impact on the integrity of the Natura 2000 site of the project or plan, either alone or in combination with other projects or plans, in respect of the site's structure and function and its conservation objectives. Additionally, where adverse impacts are identified, an assessment of the potential mitigation of those impacts is undertaken. The assessment of the effect on the integrity of the site is undertaken including the effect of such mitigation;
- iii. Stage Three: Assessment of alternative solutions – the process which examines alternative ways of achieving the objectives of the project or plan that might avoid adverse impacts on the integrity of the Natura 2000 site; and
- iv. Stage Four: Assessment where no alternative solutions exist and where adverse impacts remain - following the identification of imperative reasons of overriding public interest ("IROPI"), if it is deemed that the project or plan should be allowed to proceed, compensatory measures are identified and their effectiveness ascertained.

26.4.0.4 Compensatory measures are only relevant where a plan or project is agreed to, following a negative outcome of an appropriate assessment under Regulation 61 of the Habitats Regulations, and if it is in line with the provisions for derogation under Regulation 62:

'If the competent authority are satisfied that there being no alternative solutions, the plan or project must be carried out for imperative reasons of overriding public interest (which, subject to paragraph (2), may be of social or economic nature), they may agree to the plan or project notwithstanding a negative assessment of the implications for the European site.'

26.4.0.5 Regulation 66 refers to the requirement for compensatory measures in the following terms:

‘where in accordance with regulation 6 (considerations of overriding public interest)

a) a plan or project is agreed to, notwithstanding a negative assessment of the implications for a European site or a European offshore marine sites, or

b) a decision, or a consent, permission or other authorisation, is affirmed on review, notwithstanding such an assessment, the appropriate authority must secure that any necessary compensatory measures are taken to ensure that the overall coherence of Natura 2000 is protected.’

26.4.0.6 At this early stage any discussion regarding compensatory measures must be taken in the context of the HRA being in its early stages and so the extent of any compensatory requirement is not yet quantified. However, in line with the precautionary approach, it is considered appropriate to begin ‘in principle’ negotiations with the statutory nature conservation bodies, as compensation measures must be secured before consent for a proposal is given.

26.4.0.7 Should any compensation measures be required, they will all meet the following criteria (taken from Tyldesley and Chapman, 2013):

- i. agreed with the statutory nature conservation body, so far as possible;
- ii. targeted at the number and status of the habitats and species for which the site is designated or classified that would be adversely affected by the plan or project, and the role the site plays in ensuring an adequate geographical distribution in relation to the range of species and habitats of species concerned;
- iii. objectively proposed and based on sound science;
- iv. well planned with clear objectives;
- v. sufficiently diverse in appropriate types of measure to address all relevant adverse effects;
- vi. enduring, and implemented over the short, medium or long-term as may be required;
- vii. well managed over the necessary timescales, which may need to be in perpetuity;
- viii. adequate on extent and sufficient quantity;
- ix. appropriately phased and implemented meeting ecological objectives in a timely manner;
- x. affordable and deliverable;
- xi. guaranteed to be implemented;
- xii. capable of being effectively monitored;

- xiii. legally compliant and enforceable; and
- xiv. sustainable, or reasonably so given natural changes, so they maintain the integrity of the network in the long term.

26.4.0.8 It is expected that the Evidence Plan process will play a key role in defining the extent of impacts and any associated compensation requirement. Further details of the Evidence Plan are given in Chapter 2 Proposed Approach.

26.5 References

European Commission (2011) EC Guidance Note - The implementation of the Birds and Habitats Directives in estuaries and coastal zones with particular attention to port development and dredging

Tyldesley, D. and Chapman, C. (2013) the Habitats Regulations Assessment Handbook (November 2014) UK: DTA Publications Limited.