HORIZON NUCLEAR POWER

WYLFA NEWYDD

ENERGY WORKING FOR BRITAIN

Wylfa Newydd Project

6.5.9 ES Volume E - Off-Site Power Station Facilities: AECC, ESL and MEEG E9 - Terrestrial and freshwater ecology

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9 Terrestrial and freshwater ecology

9.1 Introduction

9.1.1 This chapter describes the assessment of potential terrestrial and freshwater ecology effects resulting from the construction, operation and decommissioning of the Off-Site Power Station Facilities.

9.1.2 Please refer to chapter B9 (terrestrial and freshwater ecology) (Application Reference Number: 6.2.9) for the technical basis for the assessment including a summary of legislation, policy and guidance; key points arising in consultation that have guided the terrestrial and freshwater ecology assessment; and assessment methodologies and criteria.

9.1.3 This chapter should be read in conjunction with the Off-Site Power Station Facilities Ecology Factual Report (see appendix E9-1, Terrestrial ecology survey at proposed MEEG site, Llanfaethlu, Application Reference Number: 6.5.17) and appendix E9-2 Off-Site Power Station Facilities Protected and Legally Controlled Species Compliance Report (Application Reference Number: 6.5.18). The latter discusses species protected or controlled by UK legislation (including breeding birds, great crested newts (GCN) (*Triturus cristatus*), reptiles, bats, otter (*Lutra lutra*), water vole (*Arvicola amphibius*) and Invasive Non-Native Species of plant) and the legal implications of the proposed development on these species.

9.2 Study area

9.2.1 This section describes the study area relevant to the terrestrial and freshwater ecology assessment for the Off-Site Power Station Facilities.

9.2.2 The area for the desk study was a 2km radius from the Off-Site Power Station Facilities for legally protected species and designated sites (statutory and non-statutory) of nature conservation importance. This search area was based on professional judgement and good practice guidelines (e.g. [RD1]) and was considered to be sufficient to account for the majority of ecological receptors that would be potentially vulnerable to effects arising from construction, operation and decommissioning activities within the Off-Site Power Station Facilities. This took into account the Zones of Influence relevant to other disciplines such as air quality (chapter E5) (Application Reference Number: 6.5.5) and surface and ground water (chapter E8) (Application Reference Number: 6.5.8).

9.2.3 Within the desk study area, the areas subject to specific surveys were defined by appropriate best practice guidelines and professional judgement based on the habitat preferences of the target species (see section 9.3 and baseline report appended to this chapter (appendix E9-1, Application Reference Number: 6.5.17). This area is referred to as the field survey area for terrestrial and freshwater ecology, and includes all areas within the boundary of the Off-Site Power Station Facilities and a buffer zone extending approximately 500m. The 500m buffer was influenced by the results of the desk study, good practice guidelines (e.g. [RD1]), and professional

judgement, and is considered to be an appropriate distance beyond which most development related impacts would not extend.

9.3 Baseline environment

9.3.1 This section provides a summary of the baseline conditions for terrestrial and freshwater ecology within the study area described in section 9.2. Receptors have been valued according to the methodology and criteria described in chapter B9 (Application Reference Number: 6.2.9).

Statutory and non-statutory designated sites

9.3.2 Figure E9-1 (Application Reference Number: 6.5.27) illustrates the statutory and non-statutory designated sites within the study area. The Off-Site Power Station Facilities do not lie within or adjacent to any statutory or non-statutory designated sites.

9.3.3 The following statutory designated site was recorded within the desk study area.

- Llyn Garreg-lwyd Site of Special Scientific Interest: located approximately 700m to the north-west of the Off-Site Power Station Facilities site. It is a large reedbed (17.7ha) in a former ornamental lake, and is an example of tall fen dominated by common reed and supports a range of breeding birds [RD2].

9.3.4 The following non-statutory designated sites were recorded within the desk study area.

- Coed Carreglwyd Isle of Anglesey County Council Wildlife Site. 12.28ha site, approximately 700m north-west of the Off-Site Power Station Facilities site. This site consists of broadleaved woodland dominated by sycamore (*Acer pseudoplatanus*) with abundant wych elm (*Ulmus glabra*), and scattered sessile oak (*Quercus petraea*) and ash (*Fraxinus excelsior*). This is the largest area of broadleaved woodland in the north-west corner of Anglesey.
- Ancient semi-natural woodland site (4.56ha) and restored ancient woodland site (5.94ha), approximately 700m north-west of the Off-Site Power Station Facilities site. The boundary coincides with much of the Coed Carreglwyd Isle of Anglesey County Council Wildlife Site.

9.3.5 In accordance with the criteria presented in table B9-12, the Site of Special Scientific Interest is of high value as this site is a nationally important statutory designated site.

9.3.6 The Isle of Anglesey County Council Wildlife Site is considered to be of medium value, as it is a non-statutory designation, important in a county/regional context.

9.3.7 Ancient semi-natural woodland is a non-statutory designation but is considered to be important at a national level due to its restricted range and highly limited potential for substitution, and is therefore considered to be of high value.

Terrestrial habitats and species

Habitats

9.3.8 The terrestrial habitats within the study area are shown in appendix E9-1 (Application Reference Number: 6.5.17) as recorded during a Phase 1 habitat survey in June 2016.

9.3.9 The terrestrial habitats within the boundary of the Off-Site Power Station Facilities comprised hardstanding and buildings associated with a vehicle repair garage covering an area of approximately 1ha, together with a similar sized area of semi-improved grassland to the south of the hardstanding. Habitats outside of the development footprint and within the 500m buffer comprised improved grassland, semi-improved neutral grassland, semi-improved grassland and species-poor native hedges. There were small areas of habitat that could be classified as contributing to the targets of the *Working for the wealth of wildlife: Anglesey Local Biodiversity Action Plan* [RD3] for field edges and scrub, but not to a significant degree. These features are common and widespread within Anglesey.

9.3.10 The Phase 1 habitat survey recorded a species-poor native hedgerow within the southern half of the Off-Site Power Station Facilities site (see appendix E9-1, Application Reference Number: 6.5.17). This hedge does not fulfil the ecological criteria for being considered important under the Hedgerow Regulations 1997 [RD4].

9.3.11 Terrestrial habitats likely to be affected by development of the Off-Site Power Station Facilities are considered to be of negligible value, but do have the potential to support notable and protected species.

9.3.12 Due to the absence or limited extent of habitats necessary to support notable assemblages of fungi, lichens, bryophytes, higher plants, terrestrial invertebrates, or overwintering birds recorded during the Phase 1 habitat survey (see appendix E9-1, Application Reference Number: 6.5.17), these groups are not considered further in this assessment. Similarly, due to the limited extent of suitable habitat that would be affected by the Off-Site Power Station Facilities, reptiles and notable mammals (with the exception of bats, otter and water vole) have been excluded from this assessment.

Species

Invasive Non-Native Species of plant

9.3.13 During the Phase 1 habitat survey, Himalayan balsam (*Impatiens glandulifera*) was recorded within the boundary of the Off-Site Power Station Facilities, as shown in appendix E9-1 (Application Reference Number: 6.5.17). This species is listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), meaning that it is illegal to plant, or otherwise cause this species to grow in the wild.

9.3.14 This species does not form a receptor, and so is not assigned a value, but does have the potential to cause a significant environmental effect which would require appropriate mitigation.

Amphibians

9.3.15 Cofnod provided no records of GCN within the study area during the last 10 years.

9.3.16 Habitat Suitability Index assessments were undertaken of water bodies within the study area, where land access was permitted. Subsequent field surveys recorded the presence of GCN in Pond 21.

9.3.17 Surveys of these water bodies were undertaken as part of the baseline data collection for the A5025 Off-line Highways Improvements as the Off-Site Power Station Facilities lie within the highways survey area. The locations of these water bodies and survey results are shown in appendix G9-2 (A5025 Terrestrial Ecology Factual Report 2014-2016, Application Reference Number: 6.7.23) and appendix G9-5 (A5025 Route Improvement Contract EIA: Great Crested Newt Field Survey Results, Application Reference Number: 6.7.26).

9.3.18 The GCN recorded in Pond 21 are unlikely to use the habitat within the boundary of the Off-Site Power Station Facilities as it lies on the opposite side of the A5025, and this main road is considered to be a barrier to GCN movement from that pond.

9.3.19 Taken together, the absence of records on the eastern side of the A5025, the limited habitat suitability within the Off-Site Power Station Facilities boundary (see appendix E9-1, Application Reference Number: 6.5.17), and due to the A5025 acting as a barrier to dispersal for GCN, it is considered that GCN are absent from the Off-Site Power Station Facilities site. Effects on GCN have therefore not been assessed in this chapter.

Breeding birds

9.3.20 Cofnod data provided 41 records of birds between 2007 and 2017, as shown in figure E9-1 (Application Reference Number: 6.5.27), including song thrush (*Turdus philomelos)*, swallow (*Hirundo rustica)*, cuckoo (*Cuculus canorus)* and dunnock (*Prunella modularis)*.

9.3.21 Habitats with the potential to support breeding birds within the study area include the species-poor native hedgerows and interior and exterior features of the buildings. There is no evidence to suggest that these features support species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), although there is the potential for species listed in accordance with the requirements of Section 7 of the Environment (Wales) Act 2016 to be present, e.g. house sparrow (*Passer domesticus*). There are records of *Local Biodiversity Action Plan* [RD3] listed species, skylark (*Alauda arvensis*) and song thrush (*Turdus philomelos*) from surveys of adjacent habitats, albeit very occasionally and in limited numbers (see appendix G9-4, A5025 Route Improvement Contract EIA: Breeding Bird Survey Report, Application Reference Number: 6.7.25).

9.3.22 In summary, the potential nesting features present in the study area are common and widespread in the local area. As such, the breeding bird assemblage likely to use the Off-Site Power Station Facilities is assigned a low value.

Bats

9.3.23 Cofnod data showed records of noctule bat (*Nyctalus noctula*) within the study area, see figure E9-1 (Application Reference Number: 6.5.27).

9.3.24 The habitats present within the Off-Site Power Station Facilities site have negligible potential to provide foraging resources for bats and are also unlikely to form a significant part of a commuting network in the wider environment due to the small size of the site and habitats therein. This assessment is supported by incidental data recorded during the 2016 surveys, during which only low numbers of pipistrelles (*Pipistrellus* species) and high-flying commuting noctules were recorded (see appendix E9-1, Application Reference Number: 6.5.17). Any value of the proposed Off-Site Power Station Facilities to bats is therefore limited to the potential for buildings to support roosting bats.

9.3.25 Bat surveys were completed in 2016 and comprised:

- external and internal inspections of all buildings; and
- dusk emergence surveys and dawn re-entry surveys of buildings that would be demolished, i.e. buildings M1, M2, M4, M5 and M6 as shown in appendix E9-1 (Application Reference Number: 6.5.17), with the exception of Building M3 which was not included within the scope of works at the time of survey.

9.3.26 The results from the surveys are set out in detail in appendix E9-1 (Application Reference Number: 6.5.17) and summarised in table E9-1.

Table E9-1 Summary of bat survey results

Building No.	Building potential to support roosting bats using criteria from [RD1]	Dusk emergence and dawn re-entry survey results
M1	Low	No bats recorded.
M2	Low	No bats recorded.
M3	Moderate	No surveys completed as outside the proposed development area at time of survey.
M4	Negligible	None required based on building potential.
M5	Low	No bats recorded.
M6	Negligible	None required based on building potential.

9.3.27 There were no bat roosts recorded within any of the buildings, although the residential properties around the Off-Site Power Station Facilities were noted as having potential to support roosting bats. The species recorded in the locality were common and widespread, and the site offered negligible foraging or commuting habitat; therefore, bats are valued as low in relation to the proposed development.

Otter and water vole

9.3.28 Cofnod provided no records of otter or water vole within the study area. The 2010 Otter Survey of Wales highlighted Anglesey as having an expanding otter population [RD5]. The report shows otter distribution increasing from being present at 18% of the sites surveyed in 2002 to being present at 67.5% of the sites surveyed in 2009, with new sites recorded to the west and north of the island.

9.3.29 The East Drain (described below in the Freshwater habitats and species section) has the potential to support both otter and water vole. Evidence of water vole has been recorded through an incidental sighting during a survey of the A5025 Off-line Highways Improvements. This sighting was from the East Drain, approximately 380m to the east of the Off-Site Power Station Facilities site. Otter has not been recorded, although records for otter exist in connected watercourses north and south of the proposed development (see appendix E9-1, Application Reference Number: 6.5.17).

9.3.30 Given the limited evidence for these species on the site, the legal protection afforded to them and their listing on Section 7 of the Environment (Wales) Act 2016, they are considered to be of low value.

Freshwater habitats and species

Habitats

9.3.31 The freshwater habitats recorded within the study area are described in appendix G9-1 (A5025 Freshwater Baseline Surveys 2014-2015, Application Reference Number: 6.7.22), chapter E8 (Application Reference Number: 6.5.8) and are shown in figure E8-1 (Application Reference Number: 6.5.27), and comprised two water bodies:

- East Drain: a drainage ditch close to the south-eastern corner flowing eastwards; a tributary of the Afon Llanrhyddlad; and
- Hen-shop Drain: a culverted tributary of the East Drain flowing from the north.

9.3.32 The East Drain was typical for drainage ditches in the area with some potential to support aquatic and riparian species, but this was limited by ephemerality and poor connectivity. The Hen-shop Drain was culverted with no potential to support freshwater receptors. The freshwater habitat in the study area is therefore considered to be of negligible value.

Species

Invertebrates and macrophytes

9.3.33 No species of conservation interest were recorded during freshwater surveys in 2015 and 2016 (see appendix G9-1, Application Reference Number: 6.7.22). The East Drain supported a freshwater invertebrate and macrophyte community of low quality, dominated by ubiquitous species typical of slow flowing ditch watercourses.

9.3.34 Based upon the low habitat quality and presence of species common to similar watercourses of this nature across the wider landscape, freshwater invertebrates and macrophytes are considered to be of negligible value.

Fish

9.3.35 No species of conservation interest were recorded during surveys in 2016 (see appendix G9-1, Application Reference Number: 6.7.22). Three-spined stickleback (*Gasterosteus aculeatus*) were recorded in the East Drain, a species typical of this common habitat type. The low habitat quality, seasonally variable water levels and distance from sea for migratory species mean that the fish assemblage is considered to be of negligible value.

Summary of receptors

9.3.36 In accordance with chapter B9 (Application Reference Number: 6.2.9), only those receptors considered to be of low, medium and high value and with the potential to be affected by the proposed development, are taken forward to assessment. These are listed in table E9-2. Terrestrial habitats, GCN, and freshwater habitats and species, have been assigned a negligible value and have therefore not been taken forward within this assessment.

Table E9-2 Value of receptors taken forward to assessment

Receptor	Value of Receptor
Llyn Garreg-lwyd Site of Special Scientific Interest	High
Ancient woodland	High
Coed Carreglwyd Isle of Anglesey County Council Wildlife Site	Medium
Breeding birds	Low
Bats	Low
Otter	Low
Water vole	Low

Evolution of the baseline

9.3.37 The Off-Site Power Station Facilities site predominantly supported hardstanding habitat and buildings of negligible ecological value. It is likely that, over time, the site would continue to be utilised as a garage and motor vehicle repair site. Long-term changes could relate to the use of the site, which might include the demolition of the buildings for site redevelopment.

9.4 Design basis and activities

9.4.1 This section sets out the design basis for the assessment of effects. It sets out where any assumptions have been made to enable the assessment to be carried out at this stage in the evolution of the design. This section also identifies the embedded and good practice mitigation that would be adopted

to reduce adverse effects as inherent design features or by implementation of standard industry good working practice.

9.4.2 As described in chapter E1 (proposed development) (Application Reference Number: 6.5.1), the application for development consent is based on a parameter approach. The assessment described within this chapter has taken into consideration the flexibility afforded by the parameters. A worst case scenario has therefore been assessed from a terrestrial and freshwater ecology perspective within the parameters described in chapter E1 (Application Reference Number: 6.5.1).

Construction

9.4.3 The design and construction of the Off-Site Power Station Facilities has been described in chapter E1 (Application Reference Number: 6.5.1).

Basis of assessment and assumptions

9.4.4 The key activities and elements of the design that are most relevant to terrestrial and freshwater ecology are as outlined below:

- demolition of buildings present on-site;
- clearance and landscaping of semi-improved grassland habitat;
- lighting of construction area;
- construction up to existing watercourses – no buffer zone applied;
- soft landscaping of approximately 1.0ha; and
- installation of an attenuation tank and oil interceptor to collect hardstanding runoff before discharge into the East Drain.

Embedded mitigation

9.4.5 Mitigation embedded in the design presented in chapter E1 (Application Reference Number: 6.5.1), the Wylfa Newydd Code of Construction Practice (CoCP) (Application Reference Number: 8.6), volume 3 of the Design and Access Statement (Associated Developments and Off-Site Power Station Facilities) (Application Reference Number: 8.2.3), and the Off-Site Power Station Facilities sub-CoCP (Application Reference Number: 8.9) includes the following measures relevant to ecological receptors.

- The design of the development of the Off-Site Power Station Facilities has avoided habitats of low or greater value and existing features have been retained where practicable, e.g. hedgerows, boundary features and watercourses.
- Existing boundary hedges and trees would be retained where possible.
- Retention of stone walls to the north and east of the site.
- The lighting used during construction of the Off-Site Power Station Facilities would seek to limit the effects on habitats of most value to sensitive ecological receptors.

Good practice mitigation

9.4.6 Good practice during the construction phase includes the following measures which would be implemented in accordance with the Wylfa Newydd CoCP (Application Reference Number: 8.6) and the Off-Site Power Station Facilities sub-CoCP (Application Reference Number: 8.9).

- Where possible, habitat with the potential to support bird nests, would be removed outside the breeding bird season (typically March to August inclusive). This would ensure that no birds are nesting on-site at the start of construction within or/near to the identified habitat. If it is not possible to avoid the breeding bird season, then clearance works would be supervised by the implementation of the measures outlined below.
  - An Ecological Clerk of Works (ECoW) would complete a pre-construction survey prior to removing any habitat with the potential to support nesting birds, including ground nesting species. The pre-construction survey would identify the presence of any active nests, and in the event they are identified, establish appropriate methodologies to reduce any potential impacts on these nests during clearance works.
  - The ECoW would supervise the clearance of habitats once it has been established that there are no nests present.
  - Should active nests be found, either during the pre-construction survey or during supervision, then the ECoW would set up a work exclusion zone of an appropriate distance to prevent disturbance. The exclusion zone distance would be set based on the judgement of the ECoW and the species concerned, but would typically range between 5m and 10m.
  - Work exclusion zones would be maintained until chicks have fledged or the nest has become inactive, as determined through monitoring visits by the ECoW.
- In order to manage the risk of introducing and/or spreading INNS, Horizon will prepare one (or more) Biosecurity Risk Assessment (s) and Method Statement (s) to cover all activities. Each Biosecurity Risk Assessment will consider in general:
  - measures that will be undertaken to control and eradicate INNS within the area of works; and
  - measures or actions that aim to prevent INNS being introduced to the site for the duration of the construction phase of the scheme.
- In the management of existing known presence of INNS, Biosecurity Risk Assessments and Method Statements will detail:
  - how areas with the presence of INNS will be demarcated;
  - how any contaminated materials will be appropriately managed throughout the works, including where appropriate eradication from the site;

  - appropriate disposal; and
  - how any transfer or spread will be prevented.
- In terms of prevention of new introduction to the site through terrestrial and marine pathways, Biosecurity Risk Assessments and Method Statements will detail:
  - Risk pathways and risk activities for the transfer and spread of non-native species;
  - risk assessment for the transfer and spread of individual non-native species of known concern;
  - methods to manage risk of transfer including any actions to be undertaken prior to reaching site; and,
  - contingency planning and corrective actions.
- Horizon will implement a monitoring programme for non-native species. This will include observational surveys on structures that may provide suitable substrate for non-native species. Surveys will record presence/abundance of non-native species with reporting in agreement with Natural Resources Wales (NRW). Monitoring survey requirements for specific sites are set out in the sub-CoCPs where relevant. Where new presence of INNS is discovered, Biosecurity Risk Assessments and Method Statements will be reviewed and amended where necessary. Wherever appropriate, workers will be given an activity specific tool-box talk from an ECoW. This will include photographs of any INNS species known to be present on a site.
- A pre-construction survey would be completed prior to connecting any drainage infrastructure to existing watercourses to survey for the presence of otter holts and water vole burrows which might be affected by the Off-Site Power Station Facilities.
- Dependent on the results of the pre-construction survey, provision of a replacement bat roost (in the form of bat boxes), and measures to avoid killing or injuring bats (such as roost exclusion) would be implemented when Building M3 is demolished. If required, the demolition work would take place under the provisions of a European Protected Species licence.

Operation

Basis of assessment and assumptions

9.4.7 The activities involved in the operation of the Off-Site Power Station Facilities site would be as described in chapter E1 (Application Reference Number: 6.5.1).

Embedded mitigation

9.4.8 Mitigation embedded in the design presented in chapter E1 (Application Reference Number: 6.5.1) includes the following measures relevant to ecological receptors.

- Soft landscaping, including e.g. hedgerow, shrub and tree planting, on the eastern and southern boundaries of the Off-Site Power Station Facilities site would help reduce light spill onto sensitive ecological receptors, where this does not conflict with operational and security requirements.
- The drainage design would provide attenuation capacity to address the potential for increased surface water runoff rates and pollution risks. This would avoid degradation of habitats suitable for otter and water vole.

Good practice mitigation

9.4.9 No specific good practice mitigation in relation to the operation phase of the Off-Site Power Station Facilities has been identified for terrestrial and freshwater ecology. However, measures of relevance to ecology during operation include those measures designed to further reduce hydrological effects that are set out in chapter E8 (Application Reference Number: 6.5.8) of this volume.

Decommissioning

Basis of assessment and assumptions

9.4.10 Upon closure of the Power Station, the proposed Off-Site Power Station Facilities site would either be cleared of all buildings and returned to its pre-development state (minus buildings) or the buildings would be retained for re-use. Should demolition take place, all activities would be undertaken in accordance with the relevant legislation and guidance in place at the time.

9.4.11 It is assumed that the drainage system would not be removed as part of decommissioning and therefore this system would continue to provide mitigation against surface water flooding and pollution within the runoff.

Embedded mitigation

9.4.12 Should buildings require demolition, embedded mitigation for the decommissioning of the Off-Site Power Station Facilities is likely to use similar measures to those employed during the construction phase.

Good practice mitigation

9.4.13 Good practice mitigation for the decommissioning of the Off-Site Power Station Facilities is likely to use similar measures to those employed during the construction phase should buildings require demolition.

9.5 Assessment of effects

9.5.1 This section presents the findings of the assessment of potential impact pathways associated with the construction, operation and decommissioning of the Off-Site Power Station Facilities. Table E9-3 provides a summary of the potential impact pathways.

Table E9-3 Summary of potential impact pathways for ecological receptors

Potential impact pathway	Area in which the impact may influence ecological receptors	Receptors that could be affected
Changes in air quality during construction and operation.	Dust emissions – areas within 50m of the Off-Site Power Station Facilities, and within 50m of the access roads situated up to 500m from each section's site entrance, (as set out in chapter E5 (Application Reference Number: 6.5.5). Emissions from plant and machinery (i.e. non-road mobile machinery) (as set out in chapter E5 (Application Reference Number: 6.5.5)). Potential for habitat loss or degradation in areas affected. Emissions may affect ecological receptors up to 200m from roads affected by increased traffic using the Off-Site Power Station Facilities across the whole of Anglesey. This is addressed in chapter C4 (air quality effects of traffic) (Application Reference Number: 6.3.4).	Statutory and non-statutory designated sites for nature conservation. Ancient woodland.
Habitat loss during construction.	Habitat loss would be restricted to areas cleared to make way for the construction of the Off-Site Power Station Facilities. There would be no additional habitat loss during operation of the Off-Site Power Station Facilities.	Breeding birds. Bats. Otter and water vole.
Mortality and injury during construction	Demolition of Building M3 could result in mortality or injury of bats.	Bats.

Potential impact pathway	Area in which the impact may influence ecological receptors	Receptors that could be affected
Disturbance via increases in noise and light pollution during construction, operation and decommissioning.	Disturbance via increases in lighting and noise during all stages could affect habitats within the Off-Site Power Station Facilities, and its immediate boundary.	Breeding birds. Bats. Otter and water vole.
Hydrological changes during construction, operation and decommissioning.	Hydrological changes through changes in volume and quality as a result of surface water runoff.	Otter and water vole.

Construction

Air quality changes

9.5.2 There were no statutory or non-statutory sites designated for nature conservation (see section 9.3.2) within the areas potentially affected by dust emissions, as detailed in chapter E5 (Application Reference Number: 6.5.5).

9.5.3 Changes in air quality as a result of emissions from plant and machinery have the potential to affect statutory or non-statutory sites and ancient woodland via nitrogen and acid deposition or exceedance of critical levels. As set out in chapter E5 (Application Reference Number: 6.5.5), the phased construction programme, relatively low number and size of plant and machinery items required, and low existing air quality concentrations, mean the potential effect on local air quality would be negligible. This aspect was therefore screened out from requiring further assessment.

Habitat loss

9.5.4 The habitat lost as a result of the construction of the Off-Site Power Station Facilities comprises hardstanding, species poor hedgerow and six buildings. The embedded mitigation would retain the majority of the boundary habitats of value to breeding birds and bats and includes soft landscaping planting of a hedgerow, native trees and shrubs. This net gain in habitat is considered to be a small change with a minor positive effect for bats (foraging and commuting) and breeding birds.

9.5.5 Building M3 (see appendix E9-1, Application Reference Number: 6.5.17)) would be demolished and was identified as offering moderate potential to support roosting bats. It is considered unlikely that this building would support a high status roost given limited bat activity recorded during the roost surveys on adjacent buildings. It is therefore considered this building is only likely to be used by small numbers of common species. Pre-construction surveys would be undertaken to determine whether the building was a roost. If required, good practice mitigation to provide a replacement roost (in the form of bat boxes) under a European Protected Species Licence

would result in a negligible magnitude of change, with a negligible effect predicted if this building does support roosting bats.

9.5.6 Installation of drainage into East Drain could affect otter and water vole through the loss of places of shelter and refuge. Good practice mitigation to undertake pre-construction surveys of any areas affected by drainage installation for the presence of water vole burrows and/or otter resting sites would allow such features to be avoided, leading to a negligible magnitude of change. This is detailed in the Off-Site Power Station Facilities sub-CoCP (Application Reference Number: 8.9), and the significance of the effects would therefore be negligible.

Mortality and injury

9.5.7 The demolition of Building M3 could result in the mortality or injury of bats (if a roost was confirmed in the building). The good practice mitigation measures that would form part of a European Protected Species licence (if required) would result in a negligible magnitude of change and a negligible effect on bats.

Disturbance

9.5.8 The predicted changes in noise and vibration are assessed in chapter E6 (noise and vibration) (Application Reference Number: 6.5.6). The predicted worst-case noise levels would occur in month three of the Off-Site Power Station Facilities construction programme when demolition, site clearance and groundworks would be undertaken. Disturbance due to noise and lighting could affect breeding birds, bats (if roosting in adjacent properties), otter and water vole. However, with the application of embedded mitigation (e.g. sensitive lighting positions) and good practice mitigation as detailed in the Off-Site Power Station Facilities sub-CoCP (Application Reference Number: 8.9) (e.g. avoidance of removal of vegetation during the breeding bird season), and because of the small scale of works, the magnitude of change is predicted to be negligible. Given the potentially very minor detrimental alteration to these receptors and their habitats, the effect of disturbance on these receptors would be negligible.

Hydrological changes

9.5.9 Embedded and good practice mitigation, as detailed in the Wylfa Newydd CoCP (Application Reference Number: 8.6) and the Off-Site Power Station Facilities sub-CoCP (Application Reference Number: 8.9), would avoid the potential for negative effects on otter and water vole through changes in water quality and flow. Primarily this comprises designing the Off-Site Power Station Facilities to avoid the watercourse as much as possible. Based on the design it is assessed that the ecological functioning of the watercourse for otter and water vole would not be altered. Good practice mitigation in the form of the works to remove Himalayan balsam would improve the watercourse habitat for both species. Taken together the magnitude of change due to hydrological changes is therefore considered to be negligible, with the overall significance of the effect also being negligible.

Operation

Air quality changes

9.5.10 The potential for changes in air quality during operation are limited to emissions from a back-up diesel generator, as set out in chapter E5 (Application Reference Number: 6.5.5). Given its relatively small size, infrequent and short-term use, distance from the nearest sensitive locations, and the frequency of wind blowing towards each of the nearby receptors, there is unlikely to be a perceptible change in air quality. The magnitude of change is therefore considered to be negligible and any potential effects on statutory or non-statutory sites or ancient woodland are predicted to be negligible.

9.5.11 The assessment of air quality as result of vehicle emissions is addressed in chapter C4 (Application Reference Number: 6.3.4).

Disturbance

9.5.12 During operation of the Off-Site Power Station Facilities, lighting and human activity have the potential to affect breeding birds, bats, otter and water vole. These effects would be mitigated by protecting hedges, and by the lighting design reducing light-spill towards features that could be used for foraging and commuting. The potential magnitude of change from this would be a very minor detrimental alteration to the use of these habitats by each receptor. The effects are therefore predicted to be of negligible significance.

Hydrological and habitat changes

9.5.13 The Off-Site Power Station Facilities site is considered to have a minor beneficial effect on terrestrial and freshwater receptors for the following reasons.

- Provision of a surface water drainage system that is attenuated prior to discharge is an improvement to the existing situation, where sediment-laden and potentially polluted runoff can pass in to Hen-shop and East Drains.
- The native planting proposed would create a greater area of habitat available for breeding birds and foraging bats compared to the existing situation. Both of these groups have species listed in accordance with the requirements of Section 7 of the Environment (Wales) Act 2016, so this change could be considered to contribute towards the duty to conserve and enhance species on that list.

Decommissioning

9.5.14 The potential impact pathways during decommissioning would be similar to those experienced by ecological receptors during construction. The list of embedded and good practice mitigation measures and the predicted significance of effects are therefore not repeated here. None of the effects of decommissioning are predicted to be significant.

9.6 Additional mitigation

9.6.1 The assessment of effects with the application of embedded and good practice mitigation in this chapter concluded no likely significant effects would remain. There is therefore no requirement for additional mitigation for effects on terrestrial and freshwater ecological receptors.

9.7 Residual effects

9.7.1 It is assessed that, with embedded and good practice mitigation applied, there would be no significant residual effects.

9.8 References

Table E9-4 Schedule of references

ID	Reference
RD1	Collins, J. 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. Third Edition. London: Bat Conservation Trust.
RD2	Countryside Council for Wales. 1990. *Llyn Garreg-lwyd Site of Special Scientific Interest: Citation*. [Online]. [Accessed: November 2016]. Available from: http://angleseynature.co.uk/webmaps/llyngarreglwyddesc.htm.
RD3	Isle of Anglesey County Council. 2003. *Working for the wealth of wildlife: Anglesey's local biodiversity action plan – B2 Habitat Action Plans and Species Action Plans.*
RD4	UK Government. 2016. *Countryside hedgerows: protection and management*. [Online]. [Accessed: June 2017]. Available from: https://www.gov.uk/guidance/countryside-hedgerows-regulation-and-management.
RD5	Strachan, R. 2010. *Wales Otter Report 2009-10*. Natural Resources Wales.

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