

**From:** [PMO](#)  
**To:** [Wylfa Newydd](#)  
**Subject:** RE: IACC Deadline 2 Submission : Local Impact Report - WNDA (email 25)  
**Date:** 04 December 2018 20:14:18  
**Attachments:** [image001.png](#)  
[image002.png](#)  
[image003.png](#)  
[Wylfa Newydd Development Area.pdf](#)  
[Wylfa Newydd Development Area Annex.zip](#)

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**Please note, a number of emails will follow in relation to the LIR – we will confirm the final e-mail.**

Pnawn Da/ *Good afternoon,*

Gweler ynghlwm cynrychiolaeth CSYM mewn perthynas â'r uchod / *Please see IACC's representation in respect of the above.*

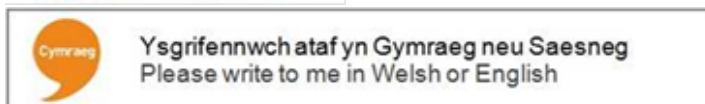
Bydd fersiwn Gymraeg yn cael ei ddarparu cyn gynted a phosib / *A Welsh version of the submission will be provided in due course.*

Cofion/ *Regards,*  
Manon

Swyddfa Rhaglen Ynys Ynni /  
Energy Island Programme Office  
01248 752435 / 2431  
[PMO@ynymon.gov.uk](mailto:PMO@ynymon.gov.uk)



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Mae'r neges e-bost hon a'r ffeiliau a drosglwyddyd ynghlwm gyda hi yn gyfrinachol ac efallai bod breintiau cyfreithiol ynghlwm wrthynt. Yr unig berson sydd 'r hawl i'w darllen, eu copio a'u defnyddio yw'r person y bwriadwyd eu gyrru nhw ato. Petaech wedi derbyn y neges e-bost hon mewn camgymeriad yna, os gwelwch yn dda, rhowch wybod i'r Rheolwr Systemau yn syth gan ddefnyddio'r manylion isod, a pheidiwch datgelu na chopio'r cynnwys i neb arall.

Mae cynnwys y neges e-bost hon yn cynrychioli sylwadau'r gyrrwr yn unig ac nid o angenrheidiwydd yn cynrychioli sylwadau Cyngor Sir Ynys Mon. Mae Cyngor Sir

Ynys Mon yn cadw a diogelu ei hawliau i fonitro yr holl negeseuon e-bost trwy ei rwydweithiau mewnol ac allanol.

Croeso i chi ddelio gyda'r Cyngor yn Gymraeg neu'n Saesneg. Cewch yr un safon o wasanaeth yn y ddwy iaith.

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# Ynys Môn

THE ISLE OF

# Anglesey

## Wylfa Newydd Local Impact Report

Chapter 17: Wylfa Newydd  
Development Area

December 2018

PINS Ref: EN010007



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## 1.0 Wylfa Newydd Development Area (WNDA) Development

- 1.1 The following chapter identifies the likely impacts of the Wylfa Newydd Development Area (WNDA) on the following;
- a) Landscape
  - b) Visual
  - c) Historic Environment
  - d) Terrestrial Ecology
  - e) Surface Water and Groundwater
  - f) Existing Contaminated Land Issues
  - g) Soils and Geology
- 1.2 The WNDA includes the proposed power station, marine works, site campus and other on-site development. All impacts are considered in this chapter, other than the proposed site campus which is dealt with separately.
- 1.3 The WNDA is part of a rural setting, of high environmental and landscape quality, which includes a small town, villages and hamlets. North Anglesey consists of the community council wards of Llanbadrig, Amlwch, Mechell, Llaneilian, Molfre, Llannerch-y-medd and Llanfaethlu. **The majority of the proposed developments direct impacts will be experienced by these communities, and associated receptors.**
- 1.4 The area surrounding the main Wylfa Newydd site has a particularly rich and sensitive coastal environment, which together with the presence of important historic assets and the rural nature of communities in its immediate vicinity, present a number of key issues that the IACC expects HNP to fully consider and for any impacts to be mitigated for as far as possible or otherwise compensated for.
- 1.5 **As confirmed in the Cumulative Impact Assessment Chapter, these communities have limited capacity and resilience to accommodate such impacts due to the concentration and cumulative effect of impacts. There is an expectation that during the construction period (and subsequent phases), residents, businesses and visitors to the area will be able to go about their normal day to day life without disruption. The IACC has confirmed through all stages of its engagement with HNP that the impacts of the project at all stages needs to be mitigated fully or compensated for.**
- 1.6 Policy GP 28a of the Wylfa Newydd SPG confirms the key principles that HNP need to have particular regard to when developing their proposals. The IACC have used these principles when assessing the DCO proposals and in considering mitigation/compensation requirements.

The Principles include the need to;

- a) Minimise impacts on local community cohesion, health and Welsh language and culture Promote the sustainable use of resources;
- b) Avoid adverse effects on water resources and water quality during construction and operation;
- c) Ensure that development is resilient to flood risk including storm surge and tsunami;
- d) Avoid, mitigate or where appropriate compensate for adverse impacts on designated sites (ensuring no net loss of biodiversity);
- e) Minimise landscape and visual impacts including in respect of the Anglesey AONB and Heritage Coast, historic assets and residential and recreational receptors as a direct result of construction and operational activities. Where it has been demonstrated by the Wylfa Newydd project promoter that the impacts are unavoidable, appropriate levels of mitigation and compensation should be provided;
- f) Maintain and enhance access to the coast via the Wales Coastal Path and to Parys Mountain via the Copper Trail. Deliver an overall improvement to both footpath networks;
- g) Identify landscape treatments, habitat creation, flood risk management and Public Rights of Way connections and improvements that integrate appropriately with the surrounding area. Landscape and green infrastructure works and enhancements that extend beyond the power station main site boundary could potentially mitigate and compensate the impacts of the project and provide enhancements where appropriate;
- h) Where development is temporary, adopt phased reinstatement and/or create new landscapes (to potentially include hedgerows, agricultural land, grassland, woodland, water features and scrubland) as soon as is reasonably practicable in order to minimise landscape and visual impacts and to compensate for impacts on these natural features. The reinstated or new landscape should be maintained thereafter;
- i) Minimise impacts on recreation including use of footpaths and cycle paths and protect open air recreation opportunities through provision of replacement open space, new or improved footpath and cycle paths, the creation of circular walking and cycle routes, any loss must be replaced or and public access around the site to should be maximise mitigate any loss of connectivity through the site during construction.

## **2.0 Landscape**

### **2.1 Context**

2.1.1 This chapter identifies the likely impacts of those aspects of the DCO development that are proposed within the Wylfa Newydd Development Area (WNDA), excluding the Site Campus which is considered in a separate chapter, on the landscape resources of North Anglesey, in particular:

- a) Landscape fabric – the direct physical effects on landscape elements and features.
- b) Landscape and seascape character – the direct physical and indirect visual effects on the character of the landscape within the WNDA and the landscape and seascape in the surrounding area.
- c) Landscape designations – the direct and indirect effects on the special qualities and purposes of designated landscapes on and near to the WNDA, in particular, the Isle of Anglesey Area of Outstanding Natural Beauty (AONB), North Anglesey Heritage Coast and Mynydd Mechell and Surrounds Special Landscape Area (SLA).

2.1.2 It also identifies the mitigation measures necessary to avoid or reduce these effects, the compensation measures required to offset those impacts that cannot be fully mitigated, the policy context and gaps in the information provided by Horizon. Finally, the additional schemes that should be secured by DCO obligations and those measures that should be secured by S106 obligations are outlined.

2.1.3 Historic landscapes including Cestyll Garden and the Dame Sylvia Crowe Mound (a landscape designed for the Magnox Wylfa Power Station) are discussed in the Historic Environment LIR chapter.

2.1.4 As identified in the Sense of Place report (IACC October 2018)<sup>1</sup>, the Island has a wide variety of landscapes and seascapes of high and outstanding quality that are a vital part of the Island's identity. These are important for the people who live and work on the island and also for visitors, many of whom are attracted to the Island by the variety and quality of the scenery. Therefore, impacts on the landscape and seascape and the mitigation and compensation measures required to avoid, minimise or offset these impacts, underpin many of the other issues considered in this Local Impact Report (LIR).

### **2.2 Impacts & Evidence Base**

2.2.1 The IACC has reviewed the proposals for the WNDA, the predicted impacts of the development on landscape and seascape resources and the mitigation and compensation measures suggested by Horizon for the WNDA in the DCO documents. The IACC has then undertaken its own assessment of likely impacts, based on the information provided to date,

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<sup>1</sup> Isle of Anglesey Council. 2018. Anglesey: A Sense of Place (Annex 17A)

and has identified the additional mitigation and compensation measures that it requires to be incorporated into the development proposals in order to minimise the impacts of the development on landscape and seascape resources and, where possible, achieve some long term benefits.

## **Landscape Fabric**

- 2.2.2 Contrary to the Overarching National Policy Statement for Energy (EN-1) (see para 2.2.17 below), ES Chapter D10<sup>2</sup> (and its associated appendices) does not include an assessment of impacts on landscape fabric stating, instead, that:
- 2.2.3 *10.3.3. Landscape receptors comprise areas of landscape and seascape character, and their constituent elements. The effect on these constituent elements, such as trees, woods or hedgerows, has been considered as part of the effects on landscape and seascape character and not as individual receptors.*
- 2.2.4 However, the loss of landscape elements as a consequence of this development will be extensive and so it is important to assess both the value of the landscape elements on and around the WNDA and the direct and indirect effects of the development on these elements, in order to understand what is being lost and the mitigation necessary to avoid, limit or compensate for these losses.
- 2.2.5 Within the power station site (defined by a red dashed line on Figure 6-6 in the Landscape and Habitat Management Strategy (LHMS) (8.16)<sup>3</sup>, all landscape features and elements, including coastal features, will be lost during the site preparation and construction phases of the project and will not be reinstated during the operational phase. Consequently, the IACC is of the opinion that the direct impacts on landscape fabric within the power station site will be Negative (Major adverse direct impacts) in the short, medium and long term.
- 2.2.6 Within the remainder of the WNDA (within the DCO limits but outside the power station site), virtually all landscape features and elements will be lost during the site preparation and construction phases of the project but will be reinstated at the end of the construction phase or beginning of the operational phase. Consequently, the IACC is of the opinion that the direct impacts on landscape fabric within the remainder of the WNDA during the site preparation and construction phases will be Negative (Major adverse direct impacts) in the short and medium term, ie at least until the end of the construction phase. These impacts will be progressively reversed during the operational phase by the LHMS which will reinstate much of the existing landscape fabric. The hard landscape elements (such as stone walls and cloddiau) will be replaced and the reinstatement of these will be immediately noticeable. Soft landscape elements (such as grasslands, scrub,

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<sup>2</sup> Examination Library Reference App-129

<sup>3</sup> Examination Library Reference App-424



hedgerows and woodlands) will take time to establish (typically 2 – 5 years for grasslands, 5 - 10 years for scrub and hedgerows and 10 – 20 years for woodlands subject to appropriate soil preparation, good plant handling and maintenance and climatic conditions). Consequently, the impacts on landscape fabric within the remainder of the WNDA will be progressively mitigated during the operational phase, reducing from Negative (Major adverse direct impacts) at the end of the construction phase to Neutral (Negligible adverse direct impacts) approximately 20 years into the operational phase.

2.2.7 Outside of the WNDA, there could also be indirect impacts on landscape fabric (particularly existing vegetation) as a consequence of the site preparation and construction phases of the development, for example, as a result of changes in air quality and surface and soil water quality and quantity. The likelihood, extent and intensity of such effects will depend on the predicted changes to the air and water environments and the effectiveness of the controls that are to be put in place. Consequently, it will also be important for appropriate monitoring to be put in place that checks the health of vegetation around the WNDA prior to and during the site preparation and construction phases, particularly in relation to the more sensitive and valued landscape elements, such as Important Hedgerows (under the Hedgerow Regulations 1997<sup>4</sup>) and historic landscapes (eg Cestyll Garden and Dame Sylvia Crowe's designed landscape, see Historic Environment LIR chapter).

2.2.8 Based on the information provided to date, it is unlikely that there would be indirect impacts on landscape fabric (existing vegetation) outside of the WNDA as a consequence of the operational phase of the development.

### **Landscape and Seascape Character**

2.2.9 The character of the landscape and seascape in North Anglesey has been characterised into discrete units in various ways and these are illustrated on the following figures in ES Volume D (6.4.101)<sup>5</sup>:

- a) Landscape character areas (LCAs) as identified in the Anglesey Landscape Strategy Update 2011 - see Figure D10-9.
- b) LANDMAP visual and sensory areas – see Figure D10-10.
- c) Local landscape and seascape character areas (LLCAs and LSCAs) as identified by Horizon in ES Chapter D10 - see Figure D10-11.
- d) National Marine Character Areas (MCAs) and Welsh Regional Seascape Character Areas (SCAs) – see Figure D10-12.

2.2.10 The assessment of impacts on landscape and/or seascape character within each LCA, LLCA and LSCA is provided in ES Appendix D10-6 (6.4.63)<sup>6</sup>. This assessment describes the direct and indirect effects of the site preparation, construction and operational phases on the character of each unit and, in

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<sup>4</sup> Hedgerow Regulations 1997 ([Link](#))

<sup>5</sup> Examination Library Reference APP-237

<sup>6</sup> Examination Library Reference APP-197

terms of magnitude and significance, assesses the combined impacts of the direct and indirect effects of each phase on each unit “overall”. Consequently, this approach does not separately assess the direct and indirect impacts and also “averages” the impacts over the whole unit, thereby failing to identify some of the more significant effects on landscape and seascape character. The assessment is also vague in terms of the extent of the significant effects that it does identify and so does not clearly identify the geographical areas within which the impacts on landscape and/or seascape character would be significant and those where the impacts would not be significant or, indeed, where there would be no effects at all.

2.2.11 As noted in para 2.2.5 above, within the power station site, all landscape features and elements will be lost during the site preparation and construction phases of the project and will not be reinstated during the operational phase. Consequently, the IACC is of the opinion that the direct impacts on landscape character within the power station site will be Negative (Major adverse direct impacts) in the short, medium and long term. This applies to those parts of LLCA 1 (North Drumlins), LLCA 2 (Wylfa Landscape Setting) and LSCA 2 (Porth-y-Pistyll) that extend into the power station site (see ES Figure D10-11, 6.4.101).

2.2.12 As noted in para 2.2.6 above, within the remainder of the WND, virtually all landscape features and elements will be lost during the site preparation and construction phases of the project but will be reinstated at the end of the construction phase or beginning of the operational phase. Consequently, the IACC is of the opinion that, together with the other construction activities, the direct impacts on landscape character within the remainder of the WND during the site preparation and construction phases will be Negative (Major adverse direct impacts) in the short and medium term, ie at least until the end of the construction phase. These impacts will be progressively mitigated during the operational phase by the LHMS which will reinstate much of the existing landscape fabric and character. However, the presence of the Wylfa Newydd during the operational phase will give rise to indirect effects on landscape character within the remainder of the WND. Consequently, the impacts on landscape character within the WND (outside of the power station site) will be progressively mitigated during the operational phase but only slightly, reducing from Negative (Major adverse direct impacts) at the end of the construction phase to Negative (Moderate adverse indirect impacts) approximately 20 years into the operational phase. This applies to those parts of LLCA 1 (North Drumlins), LLCA 2 (Wylfa Landscape Setting), LLCA 3 (Cemaes Bay Hinterland), LSCA 1 (Cemlyn Bay), LSCA 2 (Porth-y-Pistyll), LSCA 4 (Wylfa Head) and LSCA 5 (Outer Cemaes Bay) that extend into the WND (outside the power station site) (see ES Figure D10-11, 6.4.101).

2.2.13 Outside of the WND, there would also be indirect impacts on landscape and seascape character as a consequence of the site preparation and construction phases of the development, for example, as a result of views of the modified landforms, construction activities, cranes and tall structures in those locations where views are a key characteristic of the landscape and/or

seascape. This applies in particular to the more open and elevated landscapes and coastal areas around the site and is likely to occur mainly within the detailed study area, as indicated by the zones of theoretical visibility in ES Figures 10-18 – 10-27 (6.4.101).

2.2.14 The IACC is of the opinion that the indirect impacts on landscape and seascape character outside of the WNDA during the site preparation and construction phases will be Negative (Major to Moderate adverse indirect impacts) in the short and medium term, ie at least until the end of the construction phase, up to 5km from the site. This applies to those parts of LCA 4 (North West Coast) and LCA 5 (North West Anglesey), as defined in the Anglesey Landscape Strategy Update 2011<sup>7</sup> that come within approximately 5km of the site (see ES Figures D10-9 and D10-18 – 10.27, 6.4.101). More specifically, it applies to LLCA 1 (North Drumlins), LLCA 2 (Wylfa Landscape Setting), LLCA 3 (Cemaes Bay Hinterland), LLCA 4 (Cemaes), LLCA 5 (Llanfechell Farmland), LLCA 6 (Tregel), LLCA 7 (A5025 Farmlands), LLCA 8 (Llanfairynghornwy), LLCA 9 (Mynydd y Garn), LLCA 11 (Llanfechell), LLCA 13 (North Coast), LSCA 1 (Cemlyn Bay), LSCA 2 (Porth-y-Pistyll), LSCA 4 (Wylfa Head), LSCA 5 (Outer Cemaes Bay), LSCA 6 (Inner Cemaes Bay), LSCA 7 (Porth Padrig), LSCA 8 (North Coast Cliffs), LSCA 11 (Hen Borth) that come within approximately 5km of the WNDA (see ES Figures D10-11 and D10-18 – 10.27, 6.4.101).

2.2.15 Outside of the WNDA, there would also be indirect impacts on landscape and seascape character as a consequence of the operational phase of the development as a result of views of the power station in those locations where views are a key characteristic of the landscape and/or seascape. Again, this applies in particular to the more open and elevated landscapes and coastal areas around the site and is likely to occur mainly within the detailed study area.

2.2.16 Although the character of the landscape on much of the WNDA will be progressively reinstated during the operational phase, the power station will still be a dominant presence in views and will give rise to indirect effects on landscape and seascape character in the surrounding landscape and coastal areas. The IACC is of the opinion that the indirect impacts on landscape and seascape character outside of the WNDA during the operational phase will be Negative (Moderate adverse indirect impacts) in the long term, ie at least until the end of the operational phase, up to 5km from the site. This applies to those parts of LCA 4 (North West Coast) and LCA 5 (North West Anglesey), as defined in the Anglesey Landscape Strategy Update 2011 that come within approximately 5km of the site (see ES Figures D10-9<sup>8</sup> and D10-18 – 10.27, 6.4.101<sup>9</sup>). More specifically, it applies to LLCA 1 (North Drumlins), LLCA 2 (Wylfa Landscape Setting), LLCA 3 (Cemaes Bay Hinterland), LLCA 5 (Llanfechell Farmland), LLCA 7 (A5025 Farmlands), LLCA 8 (Llanfairynghornwy), LLCA 9 (Mynydd y Garn), LLCA 11 (Llanfechell), LLCA 13 (North Coast), LSCA 1 (Cemlyn Bay), LSCA 2 (Porth-y-Pistyll), LSCA 3

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<sup>7</sup>Anglesey Landscape Strategy Update 2011 ([Link](#))

<sup>8</sup> Examination Library Reference APP-200

<sup>9</sup> Examination Library Reference APP-237

(Wylfa Power Station), LSCA 4 (Wylfa Head), LSCA 5 (Outer Cemaes Bay), LSCA 6 (Inner Cemaes Bay), LSCA 7 (Porth Padrig), LSCA 10 (Outer Cemlyn Bay), LSCA 11 (Hen Borth) that come within approximately 5km of the WNDA (see ES Figures D10-11 and D10-18 – 10.27, 6.4.101<sup>10</sup>).

## **Landscape Designations**

2.2.17 The landscape designations in North Anglesey are illustrated on Figure D10-8 (6.4.101)<sup>11</sup>.

## **Anglesey AONB and North Anglesey Heritage Coast**

2.2.18 The assessment of impacts on the Anglesey AONB and North Anglesey Heritage Coast is provided in ES Appendix D10-6 (6.4.63<sup>12</sup>). This assessment describes the direct and indirect effects of the site preparation, construction and operational phases on the features and special qualities of the AONB and Heritage Coast and, in terms of magnitude and significance, assesses the direct effects on the parts of the AONB and Heritage Coast that are within the WNDA and also draws conclusions regarding the effects of each phase on these designations “overall”. It is not clear whether the latter includes both direct and indirect effects and by “averaging” the impacts over the whole of the designated areas (which are very extensive), the assessment fails to identify some of the more significant indirect effects on these designations.

2.2.19 The IACC considers it essential that the indirect effects, and also the indirect combined topic effects, of the proposed development on the AONB and Heritage Coast are assessed. This is because, whilst the direct effects on the AONB and Heritage Coast (ie on those parts of the AONB and Heritage Coast that are within the WNDA) may be the “worst case” during the site preparation and construction phases, it is the indirect effects on the AONB and the combination of direct and indirect effects on the Heritage Coast that are the “worst case” during the operational phase as these effects extend over a much wider area and will also significantly affect some of the special qualities of the AONB and Heritage Coast which could significantly affect their ability to fulfil their purposes in this part of the AONB and Heritage Coast. Consequently, suitable mitigation and compensation proposals will need to be agreed and secured, which could include the undertaking of mitigation and/or compensation proposals elsewhere in the AONB and Heritage Coast to protect and strengthen these designations (see Sections 2.5 and 2.6 below).

2.2.20 Part of the WNDA includes a small part of the AONB (immediately adjacent to the power station site) and a small part of the Heritage Coast (Porth-y-Pistyll). Within these parts of the WNDA, virtually all landscape and seascape features and elements will be lost during the site preparation and construction phases of the project. The landscape within the AONB will be

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<sup>10</sup> Examination Library Reference APP-237

<sup>11</sup> Examination Library Reference APP-237

<sup>12</sup> Examination Library Reference APP-237

reinstated at the end of the construction phase or beginning of the operational phase. However, the coastline and seascape of Porth-y-Pistyll will be highly modified by the construction of the MOLF and breakwaters.

2.2.21 Consequently, the IACC is of the opinion that, together with the other construction activities, the direct impacts on the features and special qualities of those parts of the AONB and Heritage Coast that are within the WNDA during the site preparation and construction phases will be Negative (Major adverse direct impacts) in the short and medium term, ie at least until the end of the construction phase.

2.2.22 In the case of the AONB, these impacts will be progressively mitigated during the operational phase by the LHMS which will reinstate much of the existing landscape fabric and character in this part of the AONB. However, the presence of the Wylfa Newydd during the operational phase will continue to give rise to indirect effects on the special qualities of the part of the AONB that is within the WNDA. Consequently, the impacts on this part of the AONB will be progressively mitigated during the operational phase but only slightly, reducing from Negative (Major adverse direct impacts) at the end of the construction phase to Negative (Moderate adverse indirect impacts) approximately 20 years into the operational phase.

2.2.23 In the case of the Heritage Coast, the presence of the MOLF and breakwaters and the Wylfa Newydd during the operational phase will continue to give rise to both direct and indirect effects on the part of the Heritage Coast that is within the WNDA. Consequently, the impacts on this part of the Heritage Coast will remain Negative (Major adverse direct and indirect impacts) for the duration of the operational phase.

2.2.24 Beyond the WNDA, the AONB and Heritage Coast extend to both the west and east of the WNDA and there would be indirect impacts on some of the special qualities of the AONB and Heritage Coast as a consequence of the site preparation and construction phases of the development, for example, as a result of views of the modified landforms, construction activities, cranes and tall structures in those locations where views are a special quality of the landscape and/or seascape. This applies in particular to the more open and elevated landscapes and coastal areas to the east and west of the WNDA and is likely to occur mainly within the detailed study area, as indicated by the zones of theoretical visibility in ES Figures 10-18 – 10-27 (6.4.101<sup>13</sup>).

2.2.25 The IACC is of the opinion that the indirect impacts on the special qualities of the AONB and Heritage Coast during the site preparation and construction phases will be Negative (Major to Moderate adverse indirect impacts) in the short and medium term, ie at least until the end of the construction phase, up to 5km from the site.

2.2.26 Beyond the WNDA, there would also be indirect impacts on some of the special qualities of the AONB and Heritage Coast as a consequence of the

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<sup>13</sup> Examination Library Reference APP-237

operational phase of the development as a result of views of the power station in those locations where views are a special quality of the landscape and/or seascape. Again, this applies in particular to the more open and elevated landscapes and coastal areas around the WNDAs and is likely to occur mainly within the detailed study area.

2.2.27 Although the character of the landscape on much of the WNDAs will be progressively reinstated during the operational phase, the power station will still be a dominant presence in views. The IACC is of the opinion that the indirect impacts on the AONB and Heritage Coast outside of the WNDAs during the operational phase will be Negative (Moderate adverse indirect impacts) in the long term, ie at least until the end of the operational phase, up to 5km from the site.

### **Mynydd Mechell and Surrounds SLA**

2.2.28 Mynydd Mechell and Surrounds SLA is less than 2km from the WNDAs and the IACC is of the opinion that there are likely to be Negative (Moderate adverse indirect impacts) in the short, medium and long term as a consequence of the site preparation, construction and operational phases up to 5km from the site, including that part of LCA 5 (North West Anglesey) that is designated in the JLDP as Mynydd Mechell and Surrounds SLA. However, it is considered unlikely that these Negative impacts would significantly undermine the purpose of this designation which is to protect the landscape from inappropriate development within the designated area.

## **2.3 Policy Position**

2.3.1 The Overarching National Policy Statement for Energy (EN-1) advises that Applicants should carry out a landscape and visual assessment that includes effects during construction and operation on landscape components (ie landscape fabric) and landscape character (paras 5.9.5 – 5.9.6). It also states that virtually all nationally significant energy infrastructure projects will have effects on the landscape and that they need to be designed carefully and should minimise harm to the landscape, providing reasonable mitigation where possible and appropriate (para 5.9.8). It also notes that adverse landscape and visual effects may be minimised through appropriate siting of infrastructure, design including colours and materials, and landscaping schemes (para 5.9.22).

2.3.2 The National Policy Statement for Nuclear Power (EN-6) states that assessments should be undertaken in accordance with EN-1 and that mitigation should be designed to reduce the visual intrusion of the project as far as reasonably practical (para 3.10.8).

2.3.3 PPW9 (paras 5.5.1 – 5.5.2) states that landscape considerations must be taken into account in the decision making process, all reasonable steps should be taken to safeguard or enhance the environmental quality of land, effects on landscape should be avoided, where possible, or minimised and, where practicable, features of conservation importance should be

enhanced. It also (para 5.2.9) places great importance on trees, woodlands and hedgerows as wildlife habitats and for their contribution to landscape character and tackling climate change. Draft PPW10 (paras 5.61 – 5.62) also notes the valuable contribution made by trees, woodlands, copses and hedgerows to landscape character, air quality, recreation and local climate moderation.

#### 2.3.4 Relevant policies in the Anglesey and Gwynedd Joint Local Development Plan (2011 – 2016) include:

- a) Strategic Policy PS 5 - Sustainable Development, under which all developments should, amongst other matters, protect and improve the quality of the natural environment, its landscapes and biodiversity assets, including understanding and appreciating them for the social and economic contribution they make in accordance with Strategic Policy PS 19;
- b) Policy PCYFF 4 - Design and Landscaping, under which all proposals should integrate into their surroundings, consider landscaping from the outset and where relevant:
  - i. Demonstrate how the proposed development has given due consideration to the Landscape Character Area Assessment or Seascape Character Area Assessment;
  - ii. Demonstrate how the proposed development respects the natural contours of the Landscape;
  - iii. Demonstrate how the proposed development respects and protects local and strategic views;
  - iv. Respect, retain and complement any existing positive natural features, landscapes, or other features on site;
  - v. Identify trees, hedgerows, water courses and topographical features to be retained;
  - vi. Provide justification for circumstances where the removal/loss of existing trees, hedgerows, water courses and topographical features cannot be avoided and provides details of replacements;
  - vii. Provide details of any proposed new landscaping together with a phased programme of planting;
  - viii. Demonstrate that any proposed new planting includes plants and trees of mainly native species of local provenance and does not include any non-native invasive species;
  - ix. Ensure that selection of species and planting position of any trees allows for them to grow to their mature height without detriment to nearby buildings, services and other planting; and
  - x. Provide permeable hard surface landscaping.
- c) Strategic Policy PS 8 – Proposals for Nationally Significant Infrastructure Projects and Related Developments, where the IACC will require compliance, where appropriate, with the criteria set out in this policy, including, amongst others, (3) a comprehensive assessment of the proposal's environmental (landscape, built, historic and natural), ... impacts (positive, negative and cumulative) during the construction, operation and decommissioning and restoration (if relevant) phases, as well as measures to be achieved where appropriate to avoid, reduce, alleviate and/or off-set the harm done; (4) provision of contributions to the IACC or other appropriate and agreed

organization to offset any adverse impacts and harm caused by the project ... to enhance the long term well-being and sustainability of the communities affected;

- d) Strategic Policy PS 9 – Wylfa Newydd and Related Development under which the IACC will require compliance, where appropriate, with the criteria set out in this Policy and Policies PS 10 – 12, where applicable. The criteria include: (4) early or preparatory works for the development of the nuclear power station shall demonstrate that they are necessary to ensure the timely delivery of the Wylfa Newydd Project or are designed to provide mitigation for the effects of the construction or operation of the Wylfa Newydd Project. Any early or preparatory works must be accompanied by a strategy to enable the sites to be restored to an acceptable standard should the Project not be consented or constructed and demonstrate how the costs of undertaking such restoration will be secured, including through bonding; (6) where proposals are for a temporary period both the site selection and the proposal detail shall be informed by a consideration of legacy uses, so that investment in elements such as infrastructure, buildings, ecological and landscape works brings long term benefits. Where a legacy use is proposed, delivery plans for legacy uses will be required with planning applications to demonstrate how legacy use has informed the approach to the design and layout of the related development sites, as well to contribute to the framing of a S106 and/or other agreements and CIL payments (if applicable); (8) the scheme layout and design and the scale of open spaces, landscaping, planting (including hedging and tree belts), waterways and similar features proposed should avoid, minimize, mitigate or compensate for visual, landscape and ecological impacts on the local and wider area, as well as on cultural and historic aspects of the landscape, both in the short and longer term. Proposals will be expected to be commensurate with the scale of the development, and the extent of its impact; (13) the burden and disturbance borne by the community in hosting a major national or regional nuclear related infrastructure project should be recognised; and appropriate packages of community benefits provided by the developer will be sought to offset and compensate the community for the burden and disturbance imposed by hosting the project; and (16) it is possible that as the project develops, due to unforeseen consequences resulting from the construction and operation of the Wylfa Newydd Project, the IACC may require additional information from, or works to be carried out by the developer in order to offset any additional impacts or burdens borne by the community affected. The developer should build in review mechanisms in order to monitor the full range of impacts, to review the adequacy of mitigation or compensation measures and to make adjustments as necessary;
- e) Strategic Policy PS 19 - Conserving and Enhancing the Natural Environment, where, when determining a planning application, consideration will need to be given to, amongst other matters: (2) protect or where appropriate, enhance sites of international, national, regional and local importance and, where appropriate, their settings in line with National Policy; (3) have appropriate regard to the relative significance of international, national or local designations in considering the weight to be attached to acknowledged interests, ensuring that any international or national responsibilities and obligations are fully met in accordance with National Policy; (7) protect, retain or enhance the local character and distinctiveness of the individual



Landscape Character Areas (in line with Policy AMG 2) and Seascape Character Areas (in line with Policy AMG 4); and (8) protect, retain or enhance trees, hedgerows or woodland of visual, ecological, historic, cultural or amenity value;

- f) Policy AMG 1 – Area of Outstanding Natural Beauty Management Plans – where proposals within or affecting the setting and/or significant views into and out of the AONB must, where appropriate, have regard to the relevant AONB Management Plan;
- g) Policy AMG 3 - Protecting and Enhancing Features and Qualities that are Distinctive to the Local Landscape Character where proposals that would have significant adverse impact upon landscape character as defined by the Landscape Character Areas included within the current Landscape Strategy must demonstrate through a landscape assessment how landscape character has influenced the design, scale, nature and site selection of the development. Measures should be taken to ensure that the development does not: (1) cause significant adverse impact to the character of the built or natural landscape; (2) fail to harmonise with, or enhance the landform and landscape; (3) lose or fails to incorporate traditional features, patterns, structures and layout of settlements and landscape of both the built and natural environment; Particular emphasis will be given to the landscapes identified by the Landscape Character Areas as being of high and outstanding quality because of a certain landscape quality or a combination of qualities. Additional consideration will also be given to development that directly affect the landscape character and setting of the AONBs or the National Park;
- h) Policy AMG 4 – Coastal Protection – where a proposal on the coast, including the Heritage Coast, will need to ensure, amongst other matters, that it does not cause unacceptable harm to the built environment, or the landscape, or seascape character;
- i) Policy AMG 5 - Local Biodiversity Conservation, including opportunities to create, improve and manage wildlife habitats and natural landscape including wildlife corridors, ... trees, hedges, woodlands and watercourse;
- j) Policy PS 20 - Preserving and where appropriate Enhancing Heritage Assets including Registered Historic Landscapes, Parks and Gardens; and
- k) Policy AT 3 – Locally or Regionally Significant Non-designated Heritage Assets – where proposals will be required to conserve and seek opportunities to enhance, amongst others, structures of locally or regionally significant non-designated heritage assets which create a sense of local character, identity and variation across the Plan area.

2.3.5 In the Wylfa Newydd SPG (May 2018), Objective 5 (protecting and enhancing the Island's landscape) and Objective 7 (enhancing the Island's distinctive landscape and ensuring compensation for residual effects that cannot be mitigated) are particularly relevant. The relevant Guiding Principles are GP21 (conserving and enhancing the natural environment, and mitigation measures to include: minimising disturbance during the construction and operation of ... associated developments, taking into account best practice, maximising the use of previously developed land, the adoption of high quality design principles and landscaping schemes) and GP 23 (conserving and enhancing the historic environment).

2.3.6 With regards to location, the relevant locational policy in the SPG is GP 28a (Wylfa Newydd Main Site) in which the key development principles include: *“(f) Minimise landscape and visual impacts including in respect of the Anglesey AONB and Heritage Coast, historic assets, ... as a direct result of construction and operational activities. Where it has been demonstrated by the Wylfa Newydd project promoter that the impacts are unavoidable, appropriate levels of mitigation and compensation should be provided”. (h) Identify landscape treatments, ... that integrate appropriately with the surrounding area. Landscape and green infrastructure works and enhancements that extend beyond the power station main site boundary could potentially mitigate and compensate the impacts of the project and provide enhancements where appropriate”. (i) Where development is temporary, adopt phased reinstatement and/or create new landscapes (to potentially include hedgerows, agricultural land, grassland, woodland, water features and scrubland) as soon as is reasonably practicable in order to minimise landscape and visual impacts and to compensate for impacts on these natural features. The reinstated or new landscape should be maintained thereafter”*. It also states that the project promoter should work in partnership with the IACC and others to develop the Landscape & Habitats Management Strategy and in partnership with Magnox and other applicants as appropriate (eg National Grid) to explore opportunities to mitigate cumulative impacts and maximise benefits.

2.3.7 The relevant policies in the Isle of Anglesey AONB Management Plan Review (2015-2020<sup>14</sup>) are Policy CCC3.1 (all development proposals within and up to 2km adjacent to the AONB will be rigorously assessed to minimise inappropriate development which might damage the special qualities and features of the AONB) and Policy CCC3.2 (all new developments and re-developments within and up to 2km adjacent to the AONB will be expected to adopt the highest standard of design, materials and landscaping in order to enhance the special qualities and features of the AONB).

2.3.8 With regards to the landscape character area in which this site is located (*LCA 5: North West Anglesey*), the Isle of Anglesey Landscape Strategy (Update 2011) advises that development should have regard to the AONB Management Plan, reflect the development pattern of the area, seek to use landform and vegetation patterns to mitigate impacts, ensure that the scale, form and materials respect the local vernacular and utilise and retain local field boundary patterns, including cloddiau and hedgerows.

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<sup>14</sup> Isle of Anglesey AONB Management Plan Review (2015-2020) ([Link](#))

## **2.4 Gaps in Information**

2.4.1 The main gaps in the DCO information supplied so far are as follows:

### **2.4.2 Impact Assessments:**

- a) Assessment of impacts on landscape fabric.
- b) An assessment of the indirect effects, including indirect combined topic effects, of the proposed development on the special qualities of the AONB and Heritage Coast.
- c) Suitable mitigation measures to avoid, minimise, offset or compensate for the effects on the AONB and Heritage Coast.

### **2.4.3 Landform design:**

- a) Minimum and maximum parameters (heights and slope gradients) for the landforms during both the construction and the operational phases.
- b) Further details to demonstrate how temporary and permanent slope gradients steeper than 1:3 will be achieved so that they are stable and safe, including, but not limited to: materials selection, construction, compaction, drainage, soiling, planting, etc.

## **2.5 DCO Requirements**

2.5.1 The following should be secured by way of DCO requirements:

- a) Aerial photographic survey of the WNDA and surrounding area, including parts of the AONB, before work commences on the site, to record the field pattern and locations of woodland and hedgerows, to inform the detailed landscape and habitat management scheme.
- b) Create a mapped record/register of field names for the WNDA. Many fields on Anglesey are named usually by the owner/farmer and have an historical, cultural, landscape and Welsh language significance.
- c) A scheme of monitoring that checks the health of vegetation around the WNDA prior to and during the site preparation and construction phases, particularly in relation to the more sensitive and valued landscape elements, such as Important Hedgerows (under the Hedgerow Regulations 1997<sup>15</sup>) and historic landscapes (eg Cestyll Garden and Dame Sylvia Crowe's designed landscape).
- d) A survey of the existing hard landscape elements on the site (fences, stone walls, cloddiau, etc) that identifies their locations, materials, condition and contribution to landscape character and visual amenity. To be undertaken during winter and submitted to and approved by the IACC prior to work commencing on the site.
- e) Provision of a detailed hard landscape scheme, informed by the hard landscape survey, to be submitted to and approved by the IACC prior to work commencing on the site, and that includes, but is not limited to:
  - i. Detailed plan showing the locations and dimensions of all existing and proposed hard landscape elements.

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<sup>15</sup> Hedgerow Regulations 1997 ([Link](#))

- ii. Details of the enhancements to existing features that are to be retained on the site, including stone walls and cloddiau.
  - iii. Specifications and construction drawings for the new cloddiau, stone walls, security fence and all other hard surfacing and elements within the site.
  - iv. Programme of operations for the construction and maintenance of the hard landscape scheme for the full duration of the project.
- f) Provision of a detailed soft landscape scheme to be submitted to and approved by the IACC prior to work commencing on the site, and that includes, but is not limited to:
- i. Retention and enhancement of existing mature boundary vegetation.
  - ii. All new native woodland, hedgerow, tree, shrub and scrub planting, species rich and other grasslands as proposed in the LHMS (8.16).
  - iii. Detailed schedule of plants for the woodland, hedgerow, tree, shrub and scrub planting to include species, sizes, numbers and planting spacing/densities.
  - iv. Detailed schedule of species mixes for the proposed species-rich and other grassland areas to include species and seed sowing rates.
  - v. Provenance and sources of all plants and seed mixes (provenance to be local or North Wales and plants to be grown in a local nursery on Anglesey for at least one year prior to planting to acclimatise the plants to the local conditions).
  - vi. Detailed planting plans showing the locations of all plants to be planted and grasslands to be established.
  - vii. Specification for the soiling, seeding, planting and maintenance operations.
  - viii. Programme of operations for the establishment and maintenance of the hard and soft landscape schemes for the full duration of the project.
- g) Provision of a scheme to control invasive species that identifies the invasive species and the control measures to be employed, to be submitted to and approved by the IACC prior to work commencing on the site.
- h) Provision of a scheme that identifies the existing woodland, trees, scrub, hedgerows, watercourses and other landscape features (eg stone walls, cloddiau) to be retained and the measures to be employed to protect these during construction, to be submitted to and approved by the IACC prior to work commencing on the site.
- i) Provision of further details on the layout and design of the buildings and other external structures, to include final locations, dimensions and external materials, colours and finishes, to be submitted to and approved by the IACC prior to work commencing on the site.
- j) Provision of a detailed lighting scheme that minimises the number of lighting columns, avoids light spill onto surrounding buildings, watercourses and boundary features (to minimise night-time glow and effects on landscape character, the special qualities of the AONB and Anglesey's Dark Sky status aspirations), to be submitted to and approved by the IACC prior to work commencing on the site.

## **2.6 S106 Obligations**

2.6.1 If all the DCO requirements identified above are included in the DCO, then the further measures that would be required by way of a S106 obligation would be:

- a) Provision of a Community Environmental Fund for duration of the Construction Phase plus 5 years to fund off-site screen planting within the community local to the site, eg in residents' gardens.
- b) Provision of an Environmental Fund for the duration of the Construction Phase plus 10 years to fund landscape and other improvements in parts of the AONB and Heritage Coast (local to the site). For example:
  - i. A survey of hedges, stone walls and cloddiau to identify the extent and condition of traditional field boundaries.
  - ii. A scheme for the restoration of traditional field boundaries.
  - iii. Schemes for the restoration and enhancement of important habitats, such as woodland, hedgerows, roadside verges and red squirrel habitats and to improve the connectivity between habitats.
  - iv. A scheme for the control of non-native invasive species.
  - v. Drainage management schemes for ditches and surface water courses, to enhance water quality for habitats and species, to improve agricultural land and to reduce flooding.
  - vi. Footpath improvement schemes for the Wales Coast Path and other existing public rights of way, including surfacing, gates, stiles, signage, etc.
  - vii. Rural skills programmes with local communities and schools.
  - viii. Support for events, recreational activities and environmental improvement schemes that benefit from and promote the unique qualities of Anglesey and the AONB, plus the Anglesey Geopark (GeoMôn) and the Dark Skies initiative.

## **2.7 Summary**

2.7.1 This chapter has considered the likely impacts of the proposed power station and other development on the WNDA (including the Marine Works but excluding the Site Campus) on the landscape resources of North Anglesey, the policy context, any gaps in the information provided by Horizon, the mitigation measures and additional schemes that should be secured by DCO obligations and those compensation measures that should be secured by S106 obligations.

2.7.2 There will be Negative direct impacts on the landscape fabric of the WNDA. These will be long term (for the duration of the site preparation, construction and operational phases and for most of the decommissioning phase) within the power station site. On the remainder of the WNDA, these Negative direct impacts will be medium term (for the duration of the site preparation and construction phases) but will be progressively reversed during the operational phase by the LHMS which will reinstate much of the existing landscape fabric, resulting in Neutral impacts approximately 20 years into the operational phase.

- 2.7.3 There will be Negative direct impacts on landscape character within the power station site in the long term (for the duration of the site preparation, construction and operational phases and for most of the decommissioning phase). This applies to those parts of LLCA 1 (North Drumlins), LLCA 2 (Wylfa Landscape Setting) and LSCA 2 (Porth-y-Pistyll) that extend into the power station site.
- 2.7.4 On the remainder of the WNDA, the Negative direct impacts will be medium term (for the duration of the site preparation and construction phases). These will be progressively mitigated during the operational phase by the LHMS but the presence of the Wylfa Newydd during the operational phase will give rise to Negative indirect effects on landscape character within the remainder of the WNDA in the long term (for the duration of the operational phase and most of the decommissioning phase). This applies to those parts of LLCA 1 (North Drumlins), LLCA 2 (Wylfa Landscape Setting), LLCA 3 (Cemaes Bay Hinterland), LSCA 1 (Cemlyn Bay), LSCA 2 (Porth-y-Pistyll), LSCA 4 (Wylfa Head) and LSCA 5 (Outer Cemaes Bay) that extend into the WNDA (outside the power station site).
- 2.7.5 There will also be Negative indirect impacts on landscape and seascape character outside of the WNDA in the long term (during the site preparation, construction and operational phases and most of the decommissioning phase) up to 5km from the site. This applies to parts of LCA 4 (North West Coast) and LCA 5 (North West Anglesey), as defined in the Anglesey Landscape Strategy Update 2011 and also to LLCA 1 (North Drumlins), LLCA 2 (Wylfa Landscape Setting), LLCA 3 (Cemaes Bay Hinterland), LLCA 5 (Llanfechell Farmland), LLCA 7 (A5025 Farmlands), LLCA 8 (Llanfairynghornwy), LLCA 9 (Mynydd y Garn), LLCA 11 (Llanfechell), LLCA 13 (North Coast), LSCA 1 (Cemlyn Bay), LSCA 2 (Porth-y-Pistyll), LSCA 4 (Wylfa Head), LSCA 5 (Outer Cemaes Bay), LSCA 6 (Inner Cemaes Bay), LSCA 7 (Porth Padrig) and LSCA 11 (Hen Borth).
- 2.7.6 There will be Negative direct and indirect impacts on the features and special qualities of those parts of the AONB and Heritage Coast that are within the WNDA in the long term (during the site preparation, construction, operational and most of the decommissioning phases). There will also be Negative indirect impacts on the features and special qualities of the AONB and Heritage Coast up to 5km from the WNDA in the long-term (for the duration of the site preparation, construction, operational and most of the decommissioning phases).
- 2.7.7 These long term Negative direct and indirect impacts could significantly affect the ability of the AONB and Heritage Coast to fulfil their purposes in this part of North Anglesey. Consequently, suitable mitigation and compensation proposals will need to be agreed and secured, which could include mitigation and/or compensation measures elsewhere in the AONB and Heritage Coast, to protect and strengthen these designations.

- 2.7.8 Whilst outline designs for the layout, buildings and landscape on the WNDA are provided (in Volume 2, 2.6.1<sup>16</sup>) and these plans will be controlled documents, there should be DCO requirements that require detailed surveys, landscape and other schemes to be submitted to and approved by the IACC prior to the commencement of works on site, in order to ensure that the design principles and mitigation measures are achieved.
- 2.7.9 Further to this, there should be S106 obligations for the provision of a Community Environmental Fund to facilitate off-site planting and an Environmental Fund to fund landscape improvements in parts of the AONB and Heritage Coast.

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<sup>16</sup> Examination Library Reference APP-014

## **3.0 Visual Effects**

### **3.1 Context**

- 3.1.1 The visual context of the Wylfa Newydd Development Area (WNDA) is determined by its coastal location and the proximity of the settlements of Cemaes and Tregele, in combination with the legacy of the existing Wylfa Magnox Power Station. The visual sensitivity of the local area can be measured in the large numbers of illustrative and representative viewpoints identified in the consultation exercises.
- 3.1.2 The Wylfa Magnox Power Station is a visually prominent built development which, as noted in the Sense of Place<sup>17</sup> document, can be interpreted as contributing to Anglesey's uniqueness. The landscape and visual mitigation measures involving mounding and woodland planting as designed by Dame Sylvia Crowe were innovative at the time. This was because they were amongst the first examples of the use of landform and woodland to specifically screen ground level, built development and operations at large development whilst reducing the apparent scale of the simple form of the parts of the power station that could not be screened. The woodland has matured to provide a visual resource that plays an important role in many views. This context and the need to protect and respect the historic elements of this landscape work should guide the development of sympathetic and ambitious long-term visual role for the planting and earthworks associated with the WNDA.
- 3.1.3 The importance of the coastal context can be understood by the application of Area of Outstanding Natural Beauty (AONB) and Heritage Coast designations to most of the coast along Anglesey's northern coastline. The importance of the coast, its beaches and views and what they represent to residents and visitors has been repeatedly highlighted in surveys<sup>18</sup>. The Welsh Coast Path is an important attraction for visitors which provides walkers with frequently changing views of the varied landscape, coastline and seascape with features such as Cemlyn Bay and Wylfa Head having key roles in many of these views. The way in which the coastal and drumlin topography results in variations in the availability and composition of views from the Wales Coast Path, the Copper Trail/National Cycle Route (NCR) 566 and the many other Public Rights of Way must be fully incorporated into the landscape and visual mitigation proposals. The local area benefits from a relatively dense network of Public Rights of Ways, some of which will be temporarily closed and permanently diverted, as well as some Open Access Areas such as Mynydd-y-Garn, Llanbadrig Point, Trwyn Pencarreg and Trwyn Cemlyn which provide people with some exceptional views.
- 3.1.4 Most people living close to the WNDA are residents of Cemaes or Tregele. Nevertheless, it is important that the design of the built development, landform and planting fully takes into consideration the views and visual amenity of people living

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<sup>17</sup> Isle of Anglesey Council. 2018. Anglesey: A Sense of Place (Annex 17A)

<sup>18</sup> Anglesey Visitor Survey. 2012. Beaufort Research and the Tourism Company (Annex 17B)



in properties that are located outside the two main settlements which include Llanfairynghornwy and Llanfechell. The residents of Cemaes currently have a range of views across the Main Power Station Site. Whilst a proportion cannot see the site due to topography and nearby built development and vegetation, others have partial or extensive views. The latter are residents in properties in some more elevated parts of Cemaes, and especially in properties in the settlement's western edge and alongside the A5025. Views can extend across open rolling fields of drumlins to the distant sea. At Tregel residents are less likely to have views to the sea and more likely to see pylons and the existing Wylfa Magnox Power Station. However, the Main Power Station Site is located to the immediate west of Tregel and the A5025 where it occupies over 180 degrees of some residents' views. This adds importance to ensuring the design and long-term management of the built components, landform and planting in these views minimises negative visual effects and provides a mechanism for long-term enhancement of views and visual amenity for Tregel's residents.

## **3.2 Impacts and Evidence Base**

### **3.2.1 Evidence Base**

3.2.2 IACC has undertaken a full review of the detailed viewpoint assessments contained within Appendix D10-7 - Visual Effects Schedule<sup>19</sup> of the submitted DCO documentation and the summaries which are presented within document D10-Landscape and Visual. Reviews have also included baseline photographs from representative and illustrative viewpoints (Appendices D10-4<sup>20</sup> & D10-5<sup>21</sup>); photomontage visualisations of the operational WNDA from representative viewpoints (Appendix D10-8<sup>22</sup>); the environmental lighting impact assessment (Appendix D10-10<sup>23</sup>); design information contained in the Design and Access Statement (DAS) – Volume 2 <sup>24</sup>and the Landscape and Habitat Management Strategy (LHMS) – Volumes 1 & 2<sup>25</sup>; figures in the WNDA Development Figures booklets<sup>26</sup> and construction period information in the Wylfa Newydd Code of Construction Practice<sup>27</sup> (CoCP) and the Construction Method Statement<sup>28</sup>.

3.2.3 The methodology used by Horizon bases the visual impact assessment upon 39 daytime viewpoint assessments and 12 night-time assessments. IACC's impact assessments have consequently followed a similar approach. The detailed viewpoint assessments for the construction and Years 1 and 15 of the operation

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<sup>19</sup> Examination Library reference APP-198

<sup>20</sup> Examination Library reference APP-195

<sup>21</sup> Examination Library reference APP-196

<sup>22</sup> Examination Library reference APP-199

<sup>23</sup> Examination Library reference APP-201

<sup>24</sup> Examination Library reference APP-408

<sup>25</sup> Examination Library reference APP-424/425

<sup>26</sup> Examination Library reference APP 236/237

<sup>27</sup> Examination Library reference APP-414

<sup>28</sup> Examination Library reference APP-136

period set out in Appendix D10-7<sup>19</sup> have been reviewed to ascertain if IACC agrees with Horizon's visual impact assessments and the efficacy of Horizon's best practice, embedded and additional mitigation measures to identify potential mitigation and compensation measures.

3.2.4 The visual impact assessments were subdivided to reflect the main groups of visual receptors identified in the baseline and to provide the required level of detail. The subdivision is as follows:

- a) People in Communities (Cemaes, Tregele, Llanfairynghornwy and Llanfechell);
- b) People using the Welsh Coast Path;
- c) People using the Copper Trail;
- d) People using the local Public Rights of Way;
- e) People using the A5025; and
- f) People using the local road network.

3.2.5 Additional evidence has been provided by IACC's independent review of baseline conditions for views experienced from residential properties located outside the four communities. This is because visual impacts upon residents in these properties have not been included within Horizon's visual impact assessment.

3.2.6 Horizon's visual effects schedule for day-time visual effects (Table 1.1 in Appendix D10-7<sup>19</sup>) and the night-time effects (Table 1.2 in Appendix D10-7<sup>19</sup>) concludes that there will be no positive visual effects resulting from the construction, operation or decommissioning of the proposed WNDA. IACC agrees with this conclusion and therefore concludes that there are **no positive impacts** in terms of visual effect on the main site.

3.2.7 Horizon's visual effects schedule (Appendix D10-7<sup>19</sup>) and the residual visual effects summary table (Table 10-44 in D10<sup>29</sup>) concludes that after the range of additional mitigation measures listed in Tables 10-40; 10-41; and 10-42 in the LVIA (D10)<sup>29</sup> are included in the visual impact assessment, visual effects remain negative throughout the construction, operation and decommissioning periods. At Operational Year 1 and Year 15 Horizon has identified some viewpoints at which negligible or minor negative visual effects are assessed which would be not significant in accordance with the overarching assessment methodology as set out in B1 – Introduction to the assessment process<sup>30</sup> and would be neutral impacts. The visual impact assessment methodology's reliance upon viewpoint assessment has the consequence that, with the exception of the communities of Llanfechell at Year 1 and Llanfechell and Cemaes at Year 15, the summary of operational period effects concludes that effects upon the six principal groups of visual receptors listed above is a mixture of significant and not significant effects.

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<sup>29</sup> Examination Library reference APP-129

<sup>30</sup> Examination Library reference APP-075

3.2.8 IACC agrees that negligible or minor negative visual effects would be sustained by visual receptors at Viewpoints 3; 4; 5; 12; 32; and 34 at Operation Year 1 and/or Year 15. These viewpoints are at:

- a) Llanfechell (Viewpoint 3);
- b) Carreglefn (Viewpoint 4);
- c) North of Llyn Alaw (reservoir near Llanol) (Viewpoint 5);
- d) Eastern side of Cemaes (Bridge Street) (Viewpoint 12);
- e) Northern side of Mynydd Mechell (Viewpoint 32); and
- f) South of Rhyd-y-Groes (Viewpoint 34).

3.2.9 IACC agrees that the visual effects that will be experienced by people living in Llanfechell during the operational period will be not significant and that this therefore is a **neutral impact**. IACC **does not agree** that, when assessed as a single visual receptor group, the visual effects that will be experienced by people living in Cemaes will be not significant.

### **Construction Period**

3.2.10 During the construction period Horizon has assessed significant negative visual effects will be experienced by people at or near to 33 of the 39 viewpoints that form the basis of its visual impact assessment. The exceptions are viewpoints that are sited away from the WNDA towards the southern and south-eastern edge of the landscape and visual assessment study area. Horizon conclude that significant negative effects will be experienced by people within all the six main groups of visual receptors. Horizon also assess that there will be no variance within these six groups between viewpoints where visual effects would be significant and viewpoints where visual effects would be not significant. IACC agrees with these conclusions regarding the extent of negative impacts, although notes that no viewpoint visualisations have been produced that show the visual impacts during the construction period which would help in developing additional on-site or off-site mitigation and compensation measures.

3.2.11 IACC agrees that for construction period significant negative visual impacts will be experienced by visual receptors sited in close to the boundary of the WNDA. These include visual receptors (the local population and visitors) using some of the public rights of way and sections of local road network including the closest section A5025. In addition, IACC agrees that the greatest significant negative visual impacts will be experienced by some people living in the communities of Cemaes and Tregele as well as people using the sections of the Wales Coast Path and the Copper Trail that which are routed through the landscape and visual study area. Significant negative visual impacts upon footpath users would also extend to the sections of these routes that will be temporarily and permanently diverted. IACC notes that none of the viewpoints that form the basis of the visual impact assessments for users of the Wales Coast Path or the Copper Trail are located on the temporary or permanently diverted sections resulting in an under assessment

of the spatial extent of significant negative effects upon the people who will use these routes in construction and operation periods.

3.2.12 IACC acknowledge that Horizon assess that there will be significant adverse visual effects for residents in Cemaes and Tregale. IACC retain a strong concern that the information that is provided by Horizon in the visual impact assessment and other DCO documents as listed in the Evidence Base section do not allow IACC (and other consultees) to:

- a) gain a full understanding of the nature and variation of visual impacts that will be sustained throughout the nine year construction period;
- b) allow the development of mitigation and compensation measures that maximise the potential to reduce and compensate for visual impacts; and
- c) allow IACC to develop a comprehensive understanding of how visual impacts will interact with other environmental impacts to allow a full understanding of potential impacts upon residential amenity.

3.2.13 IACC note that the visual impact assessment contains no assessment of the visual impacts upon people living in residential properties that are sited outside the boundaries of the four communities. Some of these properties are sited close to the boundaries of WNDA and will therefore be close to the proposed large-scale earthworks, mound formation and crane activities. IACC assess that it is highly likely that these residents will sustain significant adverse visual effects (which is therefore a negative impact) during the construction period.

3.2.14 Overall, visual impacts during construction are a negative impact. Some of these negative effects could be migrated to some extent by advance planting, other forms of temporary or permanent screening and/or amendments to the detailed construction programme for the formation of some of the mounds so that parts of some mounds do not have to be re-profiled at the end of the construction period. IACC recognise that these measures would lessen some negative visual impacts for some visual receptors but not remove the negative visual impact.

### **Operation period**

3.2.15 During the operation period Horizon has assessed that adverse significant visual effects at viewpoints will be reduced to not significant as follows:

- a) Operation Year 1 – reduction from adverse significant effects at 33 viewpoints (construction period) to adverse significant effects at 26 viewpoints; and
- b) Operation Year 15 – further reduction from adverse significant effects at 26 viewpoints (Operation Year 1) to adverse significant effects at 25 viewpoints.

3.2.16 The reduction in adverse significant visual effects is attributed to the screening that some visual receptors will receive from the completed earthworks (Mounds A – E); the restoration of field boundaries; and the gradual establishment of the planting and

seeding proposals as set out in the Design and Access Statement<sup>24</sup> and the Landscape and Habitat Management Plan<sup>25</sup>.

3.2.17 At most viewpoints these design proposals will be augmented by the additional mitigation measures that are described in Table 10-41 in the document D10-Landscape and Visual<sup>29</sup>. IACC does acknowledge that the adoption of suitable colour scheme has the potential to reduce visual impacts for some visual receptors, especially some more distant visual receptors. IACC has requested more details on the adoption of “*a scheme based upon natural colours*” for the Power Station buildings. This will help IACC to ascertain the ability of such a scheme to “*help integrate the buildings into the landscape*” and to verify that such a colour scheme will reduce the magnitude of residual effects as assessed at some viewpoints in the visual effects schedule (Appendix D10-7<sup>19</sup>). Without this IACC has to assume that the adopted colour scheme will not reduce visual impacts at any viewpoints and therefore for any groups of visual receptors.

3.2.18 IACC broadly agrees with the significance conclusions for the viewpoints that are presented in Horizon’s visual impact assessment for the operation period with the following exceptions listed for each of the six main visual receptors groups:

***People in Communities (Cemaes, Tregel, Llanfairynghornwy and Llanfechell).***

3.2.19 Viewpoint 13 – north-western edge of Cemaes – IACC assesses that visual effects will be significantly adverse at Operation Years 1 and 15 and assesses that Horizon have not demonstrated that the detailed design of the nearby sedimentation pond and the adoption of a long-term landscape management plan as additional mitigation will be sufficient to reduce residual effects to be adverse but not significant.

3.2.20 Viewpoint 16 – western edge of Cemaes - IACC assesses that by Operation Year 15 visual effects are likely to continue to be significant and conclude that Horizon have not demonstrated that the detailed design of the nearby sedimentation pond as additional mitigation will be sufficient to reduce residual effects to be adverse but not significant.

***People using the Wales Coast Path***

3.2.21 Viewpoint 9 – Carmel Head – IACC assesses that visual effects will be significant and adverse at Operation Years 1 and 15 and conclude that Horizon have not demonstrated that the adoption of a colour scheme for the Power Station buildings based on the use of natural colours as additional mitigation will be sufficient to reduce residual effects to be adverse but not significant.

3.2.22 Viewpoint 10 – Wylfa Head - IACC assesses that by Operation Year 15 visual effects are likely to continue to be adverse and significant. IACC conclude that the embedded, good practice and additional mitigation measures listed in Appendix

D10-7<sup>19</sup> will not be sufficient to reduce residual effects to be adverse but not significant.

3.2.23 Viewpoint 13 – north-western edge of Cemaes – IACC assesses that visual effects will be significant at Operation Years 1 and 15 and conclude that Horizon have not demonstrated that the detailed design of the nearby sedimentation pond and the adoption of a long-term landscape management plan as additional mitigation will be sufficient to reduce residual effects to be adverse but not significant.

3.2.24 Viewpoint 31 – Cemlyn Road at Cemlyn Bay – IACC assesses that visual effects will be likely to be significant at Operation Years 1 and 15 and conclude that without a photomontage visualisation being provided, Horizon have not demonstrated that the adoption of a colour scheme for the Power Station buildings based on the use of natural colours and the selection of appropriate material for the MOLF and breakwaters as additional mitigation will be sufficient to reduce residual effects to be adverse but not significant.

#### ***People using the Copper Trail***

3.2.25 Viewpoint 31 – Cemlyn Road at Cemlyn Bay – as above for Wales Coast Path.

#### ***People using the local Public Rights of Way and Open Access Areas***

3.2.26 Viewpoint 2 – junction of public footpath and A5025 east of Cemaes - IACC assesses that visual effects will be adverse and significant at Operation Years 1 and 15. IACC conclude that Horizon have not demonstrated that the adoption of a colour scheme for the Power Station buildings based on the use of natural colours and, by Operation Year 15, implementation of a long-term management plan as additional mitigation will be sufficient to reduce residual effects to be adverse but not significant.

3.2.27 Viewpoint 16 – western edge of Cemaes – as above for communities.

#### ***People using the A5025***

3.2.28 Viewpoint 2 – junction of public footpath and A5025 east of Cemaes – see above for local Public Rights of Way.

#### ***People using the local road network***

3.2.29 Viewpoint 31 – Cemlyn Road at Cemlyn Bay – as above for Wales Coast Path.

3.2.30 Overall, visual changes during operation are a negative impact upon a range of people in the six categories identified and used in the Horizon visual impact assessment. Horizon do not provide a quantitative assessment of the numbers of people resident in the communities they assess will sustain significant adverse

visual effects. Horizon's visual impact assessment does not provide a firm indication of the lengths of the sections of the various roads, cycle routes, the Wales Coast Path nor the local public rights of way network where users will sustain significant adverse effects. IACC have identified other visual receptors in properties outside the four main communities where residents will be highly likely to sustain significant adverse visual effects. Some of these adverse visual effects could be migrated to some extent by carefully located tree, shrub and hedgerow planting supported by a well-designed management plan implemented throughout the operation period or, for some residents in some individual properties by other forms of screening. These measures would lessen but not remove the negative impact for a small proportion of the people assessed as sustaining negative visual impacts.

### **3.3 Policy Position**

3.3.1 The local visual impacts created by both the construction and operation of the power station require, in the opinion of IACC, additional mitigation and also compensation. This position is supported by local policy.

#### **Joint Local Development Plan (JLDP)**

3.3.2 Policy PS 9 Wylfa Newydd and related development provides the overarching policy framework in relation to the proposal. Of particular relevance are criteria 1 and 8. The former links this Policy with other relevant Policies in the Plan. The latter sets out a requirement that a scheme's layout and design should avoid, minimize, mitigate or compensate for visual, landscape.... impacts on the local and wider area ..... both in the short and longer term.

3.3.3 Criterion 13 states that *"The burden and disturbance borne by the community ... should be recognised; and appropriate packages of community benefits provided by the developer will be sought to offset and compensate the community ..."*. These criteria support the need for the provision of off-site planting where its provision will potentially reduce adverse visual impacts sustained by residents in properties sited close to or with views of the WNDA.

3.3.4 Also of particular relevance are the requirements of Policy PCYFF 4 Design and Landscaping. Any localised screen planting within or close to the communities or alongside sections of the Wales Coast Path, Copper Trail/NCR 566, local PRoWs and the local road network including the A5025 will need to accord with many of the criteria in JLDP Policy PCYFF 4: Design and Landscaping. The supporting explanation notes that a well-designed and executed landscape scheme can become *"an ongoing asset to the community"* and that the overall aim is to *"achieve an environment that maximises the quality of life for people who live and work in the Plan area"* i.e. including people who reside in Cemaes and Tregel as well as in Llanfairyrghornwy and in properties outside these communities.

- 3.3.5 The provision of information and interpretation facilities along local PRoW network and especially the Wales Coast Path would also accord with JLDP Policy PCYFF 4, especially as their provision would facilitate subpoint 3: the demonstration of how the WNDA respects and protects local and strategic views. Interpretation facilities sited within the AONB would support JLDP Policy AMG 1 with reference to maximising the benefits to be derived from significant views within the AONB.
- 3.3.6 JLDP Strategic Policy PS 4: Sustainable transport, development and accessibility supports the potential to introduce a range of improvement measures on the Copper Trail/NCR 566 and the local road network. In particular, criterion 3 which states that “*where possible safeguard, improve, enhance and promote public rights of way ... to improve safety, accessibility ... and to increase health, leisure, well-being and tourism benefits for both local residents and visitors.*”
- 3.3.7 The IACC also consider that criterion 16 is of particular relevance. This states that as the project develops there may be unforeseen circumstances resulting from the construction and operation periods that require additional works to be carried out by Horizon to offset any additional impacts borne by the community affected. This is relevant because potential significant adverse visual impacts upon some residential visual receptors, especially in Cemaes and Tregale, may not become apparent until the construction period works are taking place, or the WNDA becomes operational. It is necessary for Horizon to monitor impacts and review the adequacy of the mitigation measures and to make any adjustments as necessary. Such adjustments may include provision of additional on- and off-site planting or the modification of components of the construction and operational detailed design, including but not restricted to, landscape and ecological design as outlined in the LHMS and the DAS for the WNDA and the Site Campus.

### **Wylfa Newydd Supplementary Planning Guidance (SPG)**

- 3.3.8 The SPG provides detailed advice to support the application of the JLDP’s Policies referred to above.
- 3.3.9 On- and off-site enhancement and compensation proposals will accord with **SPG Objectives 4 and 7**. In particular, that measures are implemented to minimise visual amenity impacts through appropriate mitigation and providing some compensation for residual adverse visual effects that cannot be mitigated i.e. as identified in Horizon’s visual impact assessment. Enhancement and compensation proposals will need to accord with Objective 7, especially enhancing the Island’s distinctive landscape.
- 3.3.10 The SPG sets out guiding principles (GPs) of which the following are especially supportive of the need for Horizon to provide on- and off-site enhancement and compensation proposals for adverse visual effects arising from the construction and operations of the WNDA:



- a) **GP 5: Tourism**, states that where there is potential for adverse impacts IACC and Horizon should identify and implement compensation measures to protect and enhance Anglesey's visitor economy. Sub-principle iv) emphasises with regard to PRowS "how development can support delivery of the statements of action contained in IACC's ROWIP 2008-2018 and the replacement ROWIP covering the next ten years when approved." GP5 also states that where there is potential for adverse impacts (as has been identified in the Horizon visual impact assessment and conformed by IACC) IACC and Horizon should identify and implement compensation measures to protect and enhance Anglesey's visitor economy. These are to include as defined in sub-principle xii) maintenance and strategic improvements to the PRowS network, cycle routes and walking trails.
- b) **GP 7: Protecting Health**, Section 4.3.11 notes that it is important that appropriate provision is made to adequately meet the increase in demand on facilities and recreational resources such as open spaces (including Open Access Areas), walking routes i.e. the PRowS network and cycle paths. Section 4.3.12 notes that the WNSA brings opportunities to enhance the well-being of residents, visitors and workers through investment in recreation facilities which could include the existing PRowS network outside the WNSA.
- c) **GP 8: Supporting Healthy Lifestyles** provides further support for enhancement and compensation works on the Wales Coast Path, Copper Trail/NCR 566, Open Access Areas and local PRowS through sub-principles ii) the identification of any opportunities to invest in existing facilities i.e. the PRowS network; and iii) improving access by sustainable means to existing facilities including improving or providing PRowS and cycle paths to increase capacity.
- d) **GP 15: Transport** concerning need for Horizon to maximise sustainable transport access to WNSA through measures such as encouragement of cycling opportunities including the provision of new and enhancement of existing cycle paths such as the Copper Trail in line with existing strategies i.e. the IACC Cycling Strategy.
- e) **GP 21: Conserving and Enhancing the Natural Environment**, principally IACC's expectation that Horizon explores opportunities to enhance Anglesey's natural environment and ecosystem services including through the adoption of high quality design principles (sub-principle xv) and landscaping schemes (sub-principle xix).
- f) **GP24: Planning Obligations** states that compensation and mitigation should relate, directly or indirectly, actual or perceived to the impacts of the Wylfa Newydd Project, including adverse impacts on the health and well-being of communities. This could relate to impacts upon visual amenity. GP24 also states the need for Horizon to engage effectively with local communities to identify appropriate compensation and mitigation.
- g) **GP26: Implementation and Monitoring** states the need for IACC and Horizon to develop arrangements for monitoring impacts and the outcomes of related mitigation and compensation measures. GP26 also reiterates the need to establish a protocol for addressing unforeseen effects and making appropriate adjustments to mitigation and compensation measures which may be particularly pertinent to some residential visual receptors in Cemaes, Treglele and properties outside these communities.
- h) **GP 27: North Anglesey Key Development Principles** – sub-principle v) referring to the need for a Community Resilience Fund (CRF) for unquantifiable and

unforeseeable impacts and which will set out measures to enhance north Anglesey as a place to live, work and visit; functions in which the A5025, local roads, cycle routes and PRowS have key roles, particularly as the main means of access for tourists and members of local communities, so that visual impacts upon these routes are a key consideration as noted under the proximity principle as set out in sub-principle vi).

- i) **GP28a: Wylfa Newydd Main Site and GP28b Wylfa Newydd Main Site Campus - Key Development Principles** – GP28a sub-principles f) where it has been demonstrated by Horizon that impacts are unavoidable i.e. adoption of all available embedded, good design and additional mitigation measures cannot prevent a significant adverse visual effect, appropriate levels of mitigation and compensation should be provided; g) improvements to footpath networks relating to the Wales Coast Path and Parys Mountain via the Copper Trail; h) identify landscape treatments and PRowS connections and improvements that integrate appropriately with the surrounding area. Landscape and green infrastructure works and enhancements that extend beyond the WNDA boundary could potentially mitigate and compensate the impacts of the project and provide enhancements where appropriate; j) minimise impacts on recreation including use of footpaths and cycle paths, use opportunities to provide new or improved footpath and cycle paths including circular routes. GP28b sub-principle x) is supportive of the provision of information and interpretation facilities on the Wales Coast Path.
- j) **GP30: Cemaes** – tourism sub-principle i) notes that maximisation of opportunities from investment in the area around Cemaes should include maintenance and, where possible, enhancement of access to the coast which is interpreted as including the local road network around Cemaes Bay and Porth Padraig.
- k) **GP31:A5025 Corridor** – Key Issue Natural Environment states that opportunities should be sought to deliver biodiversity and landscape enhancements.

### 3.4 Gaps in Information

- 3.4.1 IACC considers that the methodology used for the visual impact assessment does not provide a detailed and quantified assessment of the distribution of visual receptors assessed as sustaining adverse significant visual effects. Examples are provided below:

#### Wales Coast Path

- 3.4.2 The visual impact assessment does not allow IACC to gain a comprehensive understanding of the individual and cumulative length of the sections of the Wales Coast Path where negative significant visual effects will be experienced by its users. The visual impact assessment only allows IACC to conclude that they will be experienced at nine of the 11 selected viewpoints. IACC concludes that negative significant visual effects will be experienced along the 15.5km section of the Wales Coast Path between Viewpoint 9 (Carmel Head) in the west to Viewpoint 29 (Ogof Gynfor) to the east. Visual effects may be not significant for short

subsections south of Cemaes Bay and Cemlyn Bay due to high levels of screening provided by nearby topography.

### **Copper Trail/National Cycle Route 566**

3.4.3 The visual impact assessment does not allow IACC to gain a comprehensive understanding of the individual and cumulative length of the sections of the Copper Trail where negative significant visual effects will be experienced by its users. The visual impact assessment only allows IACC to conclude that negative significant visual effects will be experienced at four of the six selected viewpoints. None of these viewpoints are sited on the local road network along which it is proposed the permanently diverted section will be routed. IACC concludes that negative significant visual effects will be experienced by people using most, if not all, of the permanently diverted section of the Copper Trail/NCR 566; the section to the immediate west of the WNDA and some shorter, elevated sections around Mynydd y Garn.

### **Local Public Rights of Way, Open Access Areas and local road networks**

3.4.4 The visual impact assessment does not allow IACC to gain a comprehensive understanding of the individual and cumulative length of the local Public Rights of Way (PRoWs) and local road networks where negative significant visual effects will be experienced by their users i.e. it is not a quantified assessment. IACC cannot gain a comprehensive understanding of the proportion of Open Access Areas such as Llanbadrig Point, Trwyn Pencarreg, and Trwyn Cwlyn that will sustain negative significant effects. The visual impact assessment only allows IACC to conclude that negative significant visual effects will be experienced at all 11 selected viewpoints for the local PRoW network and Open Access Areas as well as six of the 12 selected viewpoints on the local road network. Given the extensive distribution of the PRoW and local road networks, this partial information is only of limited value in trying to ascertain where there may be benefits from the introduction of off-site mitigation measures to provide screening for people using sections of the PRoWs or local roads and/or developing compensation measures.

3.4.5 In summary, IACC is concerned that the visual impact assessments conclude that there will be extensive negative significant effects upon people using considerable but unquantified lengths of a national trail, a national and locally promoted cycle route and extensive networks of local PRoWs and roads. A high proportion the people walking, cycling, riding or driving along these routes will be tourists who will be contributing a proportion of the annual £300million income that tourism provides to Anglesey's economy<sup>31</sup>. The presence of the Wales Coast Path and the coastline and beaches are key attractions for many tourists. A recent visitor survey placed enjoyment of natural landscape and views and visiting the beaches as first and third most popular reasons for visiting Anglesey<sup>32</sup>. Tourist attractions that are sited

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<sup>31</sup> STEAM (Local Economic Tourism Impact) Summary. 2017. Isle of Anglesey County Council.

<sup>32</sup> Wales Visitor Survey. Holyhead Ferry Terminal and Railway Station Report. 2016.

around Carmel Head, Cemlyn Bay, Cemaes Bay and Llanbadrig Point are accessed by and experienced from these paths, cycle routes and local roads. The mitigation and compensation measures need to ensure that negative significant effects are minimised and that adequate and effective compensation measures are introduced.

### **Residents in Cemaes, Tregle and other residential properties close to WNDA**

- 3.4.6 Fewer residents in the communities of Cemaes and Tregle will experience significant adverse visual effects during the operation of the WNDA than during the construction period. The reduction in the numbers of residents sustaining adverse significant effects is not quantified in Horizon's visual impact assessment. The Horizon visual impact assessment does not allow IACC to draw the similar conclusions for the limited number of residents in the other properties close to the boundary of WNDA as these residential visual receptors were inappropriately scoped out of the visual impact assessment.
- 3.4.7 IACC acknowledges that for residents in Cemaes and Tregle there are only limited variations in conclusions on the significance of visual effects between IACC and Horizon. This is due to the visual impact assessment adopting a community wide scale spatial scale for the residents of Cemaes and Tregle. Appropriate subdivisions of the two settlements (and also of Llanfairynghornwy) would have provided a more detailed assessment and a clearer understanding of the distribution of significant adverse visual impacts within these settlements. IACC does nevertheless maintain that the development of detailed on-site mitigation measures and off-site mitigation and compensation measures that will be effective for construction and operation periods requires finer grain of visual impact assessment for the communities of Cemaes, Tregle and Llanfairynghornwy. This in turn requires:
- a) More detail about proposed on-site mitigation measures over and above that provided in the LHMS, DAS and landscape and landform related drawing in the volumes of plans, sections and drawing provided in the DCO Site Plans (Parts 1<sup>33</sup> and 2<sup>34</sup>). There are gaps in information about the treatment of vegetation, land cover and field boundaries in areas on the closest boundaries to Cemaes and Tregle as well as close to individual properties including Tre'r-gof-isaf, Pen Carreg, Mynydd Ithel and properties alongside the A5025. As an example, Figure 5-12a in Volume 1 of the LHMS<sup>25</sup> shows an illustrative section between Tregle and the laydown area during the construction period. This section shows that there will be an area approximately 100m wide between the WNDA boundary and the 7m high screen bund that will later form the outer slope of Mound B. The temporary and permanent diversions of the Wales Coast Path will be routed through this 100m wide area and it will be prominent in the fore- and/or middle ground for a proportion of visual receptors in Tregle. Horizon have provided no indication of the treatment of

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<sup>33</sup> Examination Library reference APP-014

<sup>34</sup> Examination Library reference APP-015

this area during the construction period and only limited information for the operation period (the section in Figure 6- 11a of the LHMS<sup>25</sup>). Without further details being provided about the construction and operation period mitigation measures on the perimeter of the WND A IACC has to assume a worst case scenario that no mitigation measures will be introduced during the construction period beyond the generic measures shown on the Reference Point Drawings 2 and 3 in the Site Plans<sup>33</sup> and the LHMS<sup>25</sup>. Horizon should provide drawings, plans and visualisations that show detailed planting and seeding mixes; the distribution of the types of field boundary treatments shown in the DAS<sup>27</sup> and the detailed design and alignment of the temporary diversion of the Wales Coast Path including treatments at all field boundaries. The overarching objective must be to reduce negative visual impacts upon users of the temporary diversion of the Wales Coast Path and residents in the properties close to the WND A boundary e.g. on the northern side of the A5025 and on Maes Cynfor and Cae Derwedd on the western edge of Cemaes.

- b) Increased detailed baseline information about the acknowledged variation in the residents' views of the WND A site and the presence or absence of different screening elements in these views. This would facilitate a stronger understanding of locations and areas within the two communities where the acknowledged negative significant visual effects would be sustained by some residents, especially during the construction period for which no viewpoint visualisations are presently provided. This would allow the consideration of additional on-site and potential off-site enhancement and compensation works early in the construction period. Early completion would increase their visual (and landscape and ecological) effectiveness and would reduce the amount of delayed 'reactive' mitigation developed in response to impacts that only become fully apparent subsequent to certain construction or operation activities commencing or components being introduced.

### General information gaps

3.4.8 Information gaps that have been identified include:

- a) Minimal details about the restoration of the Site Campus area to baseline conditions at the end of the construction period. This is of strong relevance to the Wales Coast Path and some of the restored footpaths that will be incorporated into the local PRoW network during the operation period.
- b) Confirmation of the principal components of the long-term landscape management strategy and that it will be implemented throughout the operation period.
- c) Confirmation of and details about the selection of a colour scheme for the principal components of the Main Power Station that is to be based upon "*natural colours*" that "*seek to break down the scale and massing of the power station buildings and integrate them into the landscape*" as per one of the additional mitigation measures that Horizon has assessed as reducing the magnitude of visual change at a proportion of the viewpoints that form the core of its visual impact assessment. IACC have requested that some of the representative viewpoint photomontage visualisations contained in Appendix D10-8<sup>22</sup> have additional photomontage visualisations produced that show the application of such a colour scheme.

- d) Increased information about the formation of Mounds A and B during the first two years of the construction period and the reprofiling of Mound A required at the end of the construction period. This information is required as they will be the closest mounds to Cemaes and Treglele with consequent contributions to the visual impacts sustained by these communities.

### **3.5 DCO Requirements**

- 3.5.1 The mitigation measures that are relevant to the visual impacts identified in this LIR that are set out in Tables D10-40, D10-41 and D10-42 in ES D10<sup>29</sup> have been reviewed against the evidence base, negative impacts and gaps in information listed in this LIR. Whilst no completely new additional mitigation measures have been identified, IACC have identified some requirements for more detailed information to be provided by Horizon outside the information that Horizon will provide under DCO Requirements WN8, WN9 and WN11.

#### **DCO requirements to mitigate construction impacts**

- 3.5.2 IACC requests a DCO requirement which requires the submission of details of the colour treatments of external surfaces for the main facilities in the contractor's compounds and construction laydown areas that are likely to be important elements in the views of some residential and visual receptor groups. The details should be submitted to IACC for approval prior to the commencement of construction activities at the power station site.
- 3.5.3 IACC also requests the submission of plans and cross sections showing the treatment of the peripheral areas of the WNDA site outside the perimeter construction fence during the construction period. IACC note the statements and plans that show the retention of field boundaries along many sections of the edge of the WNDA site and the aspiration to enhance these features in the manner set out in Table D10-40, summarised in Section 5.4, in particular paragraphs 5.4.11 & 12, of the LHMS<sup>25</sup> and illustrated on some of the sections provided in Figures 5.8 -5.12b in the LHMS<sup>10</sup>. IACC considers that these additional mitigation works provide one of the principal means of partly mitigating some of the negative significant visual effects assessed by Horizon for a proportion of the residential receptors in Treglele and Cemaes and requires the submission of information in advance of these works taking place so that it can ensure that the level of mitigation which is assumed, is delivered successfully.
- 3.5.4 These additional mitigation works referenced in the preceding paragraph will likewise be important for recreational receptors using the temporarily diverted section of the Wales Coast Path which will be routed through these peripheral areas as shown on drawing LFM-DWG-00003: Reference Point 3: Construction in the Site Plans<sup>33</sup> and Appendix B in the LHMS<sup>25</sup>. IACC requires that Requirement PR8 is therefore amended such that the presently submitted plans and sections are amended to show retained field boundary features; specify the location and

type of new field boundaries and retained vegetation enhancement works; and the location and type of new planting proposals in the same manner as specified under WN9 for the final landscape scheme. Where necessary the plans should extend into the WNDA site, inside the perimeter construction fence, to include details of temporary or permanent seeding, planting and field boundaries in permanent or temporary slopes of Mounds A and E and the construction period screening mound that will later be incorporated into Mound B. This is necessary to ensure that negative visual impacts upon visual receptors are being minimised through the construction period.

- 3.5.5 IACC requests a DCO requirement to require the submission of the detailed sequence of the formation of the landscape mounds (principally Mounds A, E and the initial screening mound that will form part of Mound B) in the initial part of the construction period. This should include wirelines from relevant representative and illustrative viewpoints in Cemaes and Tregelze that show the sequence of the formation of the mounds in the early construction period. In tandem with the previous requirement detailed information must be provided on the temporary seeding, planting and field boundaries to be established on the landscape mounds as early as feasible in the construction period.
- 3.5.6 Notwithstanding the details presently submitted, IACC requires a an amended to WN19 such that details of the colour treatments for the buildings in the Site Campus and of the boundary fencing are submitted to and approved by IAC prior to commencement of their development/installation. These design components will be important in potentially reducing negative significant visual effects for recreational receptors using the retained PRowS to access Wylfa Head during the construction period.

### **DCO requirements to mitigate construction impacts**

- 3.5.7 IACC will require an amendment to requirement WN3 such that in addition to the submission of details of the external appearance and materials, (and other information), revised photomontage visualisations are also to be provided from a selection of the representative viewpoints used in Appendix D10-822. The selection should concentrate upon representative viewpoints where the adoption of a natural colour scheme is assessed as contributing to a reduction in the residential level of visual effect (D1029 and Appendix D10-7<sup>19</sup>). This information will be necessary for IACC to be able to understand the success or otherwise of the submitted details in mitigating the appearance of the power station and as such enable it to discharge the requirement.
- 3.5.8 IACC requires a specific requirement such that Horizon provide additional detail with regard to the permanently diverted section of the Wales Coast Path over and above the route that is shown on Figure 6.26 in the LHMS and that is provided in Section 6.6 of the LHMS<sup>10</sup>. The new requirement should include for a scheme to be presented to and approved by IACC which should provide for the detailed

design of the footpath and include plans and sections to show details of field boundaries, the means of crossing the field boundaries and planting proposed alongside the WCP as well as the location of the facilities shown on Figure 6.25 in the LHMS25. This information is required, in a visual context, to ensure that opportunities to screen the power station from the WCP are maximised and thereby to mitigate impacts.

### **3.6 S106 Obligations**

3.6.1 IACC has identified further measures concentrating on off-site improvements and compensation for which it would require an obligation.

3.6.2 IACC considers that the adverse visual impacts that will be sustained during the operation period, and particularly in the construction period, by residents in communities and at properties located outside communities. The mitigation of these adverse visual effects will require a mechanism whereby residents and landowners can identify the requirement for additional mitigation to provide screening of views towards the WCP and the specific works to be funded and delivered.

3.6.3 IACC considers that the adverse visual impacts that are assessed as being sustained by receptors on the sections of the WCP, the PRow network routed outside the WCP site, the local road network and the closest section of the A5025 require additional mitigation.

3.6.4 The mitigation needs to take the form of a commitment to resource IACC such that it can liaise with community councils and landowners to identify and deliver specific works along specific sections of the off-site PRows and roads suitable for:

- a) Changes to vegetation management to facilitate increased screening of construction and operational components whose presence contributes to negative visual effects; and
- b) The introduction of suitable field boundary treatments and nearby planting to provide screening for the operational period.

3.6.5 Funding should also be available for on-going management throughout the operational lifetime of the power station.

3.6.6 The works would be informed by the following studies which shall be funded by Horizon:

- a) Field boundary survey alongside all roads and PRows within a study area to be defined by IACC as well as within Open Access Areas to categorise their type and condition;
- b) Development of a scheme to restore traditional field boundaries (stone walls, cloddiau and hedgerows) and important habitats located alongside PRows and



- local roads to improve habitat connectivity and inputs into any future Green Infrastructure strategy; and
- c) A survey of the condition and accessibility of the local PRoW network in tandem with the current Rights of Way Improvement Plan as a starting point for the development of a comprehensive long-term (10 years from the start of the construction period) programme.

3.6.7 Notwithstanding the above, IACC considers that opportunities for mitigation of significant negative visual impacts upon people using the local PRoWs, Open Access Areas and local road network are limited. In addition therefore, Horizon should provide resources to compensate for the negative significant effects by enhancing the existing local PRoWs as well as sections of the Open Access Areas and sections of the Wales Coast Path located across Anglesey. It is known from IACC's Rights of Way Improvement Plans<sup>35</sup> that there is plenty of scope for improvements to the local PRoW network. These compensation measures should be developed with IACC's tourism and footpath officers to ensure that they are compatible with wider strategies to improve the condition and accessibility of the local PRoW network for residents and tourists. This should maximise connectivity and access to the Wales Coast Path and Open Access Areas and facilitate on-going management of the local PRoW network throughout the operation period.

### **3.7 Summary**

- 3.7.1 This LIR reviews the likely visual impacts of the construction and operation of development within the WNDA upon the range of visual receptors that live, work, visit and travel through the detailed LVIA study area.
- 3.7.2 Many residents in Cemaes, Tregelle and Llanfairynghornwy will sustain changes in their views due to the construction and operation of development within the WNDA. A proportion of these residents have been assessed as sustaining adverse significant effects, especially during the construction period, even after the implementation of a range of additional mitigation measures. The extent of the adverse significant visual effects within these communities has not been fully defined in the Horizon visual impact assessment. IACC assess that some residents in properties sited outside the boundaries of these communities will sustain adverse significant visual effects.
- 3.7.3 It is apparent that a proportion of residents, whilst not sustaining significant adverse visual effects, will have some of the views that they are likely to place a high value upon substantially and permanently changed. Changes in their views will be generated by the presence of some of the built components at the WNDA and/or foreshortening of views by one or more of Mounds A-E as well as other permanent features such as sedimentation ponds and/or temporary features during the construction period. It is important that the Code of Construction

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<sup>35</sup> The Isle of Anglesey Rights of Way Improvement Plan 2008-2018 and the Isle of Anglesey Right of way Improvement Plan 2: Consultation Draft May 2018 ([Link](#))

Practice (CoCP)<sup>27</sup> and the detailed design of the relevant construction activities, especially the formation of Mounds A-E and activities on the western, southern and eastern boundaries of the WNDA, minimise adverse visual impacts. It is important that the detailed design of the parts of the operational WNDA site that are close to residents, maximises the introduction of positive visual elements into their views. As well as ensuring that the built components across WNDA and the New Power Station buildings are screened as effectively as possible, detailed landscape and habitat design must pay attention to enhancing the visual amenity of these residents. At present IACC is concerned that the potential for this on-site enhancement is not always apparent in the design information provided in the DAS<sup>24</sup>, LHMS<sup>25</sup>, the relevant drawing in DCO application<sup>33:34</sup> nor in the relevant photomontage visualisations<sup>22</sup> that are provided in support of the LVIA.

- 3.7.4 Residual negative significant effects should be compensated through use of a well-funded CRF to implement and manage a range of environmental projects. These should be identified by residents in tandem with IACC officers through a mechanism to be defined with Horizon based upon the use of similar CRFs for major developments. The CRF should be designed to remain in place throughout the construction and operation periods. The use of the CRF should facilitate the sense of place of the communities' residents and ensure that this part of north Anglesey remains an attractive destination for Anglesey's visitors.
- 3.7.5 The Horizon visual impact assessment concludes that visual receptors using a 15.5km section of the Wales Coast Path, sections of the Copper Trail/NCR566, some Open Access Areas and high proportions of the local PRoW and local road networks will sustain adverse significant visual effects during the construction and operation periods even after the implementation of a range of additional mitigation measures. These routes are important resources for the wellbeing of residents and make major contributions to Anglesey's attractiveness to its many visitors. IACC consider that it is crucial that negative significant visual impacts are minimised and that a comprehensive range of compensatory measures are introduced as early as possible. The need to ensure that the design of the temporary and permanent diversions of the Wales Coast Path within the WNDA ensures that the diversions do not result in this section of the Wales Coast Path becoming visually unattractive so that walkers are dissuaded from using it is a key consideration for IACC. Beyond the WNDA, the CRF must be used to reduce the proportion of the Copper Trail/NCR566, Open Access Areas, local PRoWs and local roads where negative significant effects will be sustained by their users. The principal role of the CRF for these groups of visual receptors will be however the potential to provide compensation measures that improve the condition, facilities and management of the Open Access Areas, local PRoWs and local roads, including the field boundaries and habitats sited alongside them. In this manner their accessibility will be increased and their value to the residents and visitors will be improved.

## 4.0 Historic Environment

### 4.1 Context

- 4.1.1 The historic environment of Anglesey is rich and varied. It shares common characteristics with the wider Welsh, British and European historic environment, but is distinctive as a result of the specific circumstances of past settlement and activity that arise from the island's location and geography.
- 4.1.2 The Isle of Anglesey Council's (IACC) Sense of Place Report (IACC 2018, 23<sup>36</sup>) notes that Anglesey has 'one of the richest prehistoric landscapes anywhere in the United Kingdom and is an archaeological treasure'. There is extensive archaeological evidence for activity of later periods. Much of this evidence resonates with documentary historical sources to make important contributions to local identity, which are also significant in the development of Welsh cultural and national identity (IACC 2018, 25).
- 4.1.3 Within Anglesey in general, prehistoric remains are frequently well-preserved and highly visible, with features such as the Bryn Celli Ddu henge and passage tomb, Ty Mawr standing stone, Trefignath burial chamber and Mein Hirion standing stones. This visibility of heritage assets within the changing landscape provides a direct and accessible connection with the past that contributes significantly to a distinctive sense of place and affords opportunities for heritage-based tourism, and contributes to an understanding of a distinctively Welsh prehistory that informs modern Welsh culture. While prehistoric heritage assets within the Main Site are less prominent, the awareness of a prehistoric landscape surviving as archaeological features and in less tangible elements such as place names, means that these heritage assets retain a discernible presence in the landscape.
- 3.1.4 Similarly, early-medieval activity, dating from the emergence of the Brythonic kingdoms that eventually became Wales, is evidenced within Anglesey by churches and place-names, such as the Church of St Padrig at Llanbadrig. The presence of remains of this date within the site, particularly the early-medieval cemetery at Wylfa Head adds significantly to the connection of the place with its past.
- 4.1.5 More recent heritage assets relating to the agricultural landscape include Cloddiau and other field boundaries many of which are important hedgerows under the Hedgerow Regulations 1997, plus rural farmsteads, typically rendered or white-painted with slate roofs and associated buildings such as former mills. These combine with the distinctive physical landscape to provide a distinctive historic character that is a key contributor to sense of place. This rural character was exploited by Violet Vivian in her creation of the garden at Cestyll and formed the inspiration for Dame Sylvia Crowe's landscaping at Wylfa.
- 4.1.6 This distinctive historic landscape in which the Main Site is located is readily accessible by a number of paths and roads, including the Wales Coast Path, which includes alternate routes around the existing power station. In addition to making an important contribution to a strong sense of place, the historic environment also contributes to tourism.
- 4.1.7 The Wylfa Newydd Main Development Site comprises a large area, encompassing an archaeological landscape which includes remains of past activity from the

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<sup>36</sup> Sense of Place Report (IACC 2018) (Annex 17A)

prehistoric period to the recent past. Some elements of this landscape are particularly significant, representing substantial and well-preserved elements of changing patterns of settlement and land use. The scale of the construction and associated works means that physical disturbance and loss of heritage assets, comprising buried archaeological remains, historic buildings, important hedgerows and designed landscapes would arise across a wide area. Associated developments would be of a smaller scale, but still have the potential to disturb or remove heritage assets. Loss or disturbance would constitute an adverse effect, which would be permanent and irreversible, although effects could potentially be mitigated by archaeological investigation and recording.

- 4.1.8 The historic designed landscapes at Cestyll (a Grade II Registered Historic Park and Garden) and Wylfa (designed by Dame Sylvia Crowe for the original Wylfa Power Station) would be affected by the proposed development. Under the current proposals, a large proportion of Cestyll Garden and its Essential Setting would be lost and the relationship of the Dame Sylvia Crowe landscaping with the natural and built form of the area would be disrupted. The loss of parts of Cestyll Garden could be avoided and, whilst the other effects on both designed landscapes would be adverse, these could be mitigated to a degree where appropriate proposals for restoration and ongoing management can be agreed.
- 4.1.9 Surviving archaeological heritage assets within the area around the proposed Wylfa Newydd are generally well preserved because of the relatively limited extent of modern development and the prevailing pastoral use of agricultural land. Past settlement is likely to have clustered around specific points in the landscape, with different locations being selected for different types of site, and near-surface archaeological remains can be expected to be well-preserved and close to the existing ground surface. These expectations have been borne out by archaeological investigation of these sites. Built heritage assets comprise primarily agricultural buildings, although Cestyll Garden and the industrial landscape of the existing Wylfa power station make important contributions to the historic environment within and near the Main Development Site.
- 4.1.10 The construction of Wylfa Newydd could also cause harm to the significance of heritage assets by the introduction of new development into the settings, or perceptual surroundings, of heritage assets. This could arise through change including changed noise levels, the visible presence of new development, or the removal of elements in a view or a surrounding landscape which contribute to the significance of a heritage asset. These changes could occur during construction and operation of the proposed development. In some cases, change would be reversible, in other cases it would persist. Change could be beneficial or adverse and, where adverse, could be mitigated by measures such as best-practice construction mitigation, design which responds to historic character or provision of visual and audible screening.

## **4.2 Impacts and Evidence Base**

- 4.2.1 This Section outlines impacts on the historic environment. The evidence for these impacts is primarily set out within the applicant's Environmental Statement (ES) dated June 2018. Where other evidence for the impacts is of relevance, this is referenced in the text.

## Direct effects on archaeological remains

- 4.2.2 Archaeological research, comprising desk-based assessment, geophysical survey and intrusive evaluation, has demonstrated the presence of extensive archaeological remains within the Main Development Site, dating from later prehistory to the modern period. The most significant of these sites have been identified within the Main Development Site at Wylfa Head and Site 05 South, where remains of national importance have been observed. Other remains within the Main Development Site are anticipated to be of local or regional significance.
- 4.2.3 Horizon has carried out extensive desk-based and field surveys which should provide a clear understanding of the extents and heritage significance of the remains within main development site. The submitted Environmental Statement does not, however, fully reflect the extent or findings of these surveys and its treatment of the valuation of archaeological remains is questionable. Key concerns include:
- a) The presentation of the results of archaeological fieldwork within the ES does not reflect the full extent of fieldwork that has taken place to date.
  - b) The ES does not effectively incorporate the results of archaeological work but instead focuses on assessing effects on individual Historic Environment Record (HER) records which frequently comprise elements of more comprehensive and significant heritage assets.
  - c) The ES does not adopt a scheme of valuation that is clearly compatible with the understanding of heritage significance that is presented in NPS EN-1<sup>37</sup> (para. 5.8.2) or Conservation Principles (Cadw 2011)<sup>38</sup>.
- 4.2.4 The implications of these general concerns, where they have a bearing on this Local Impact Report, are set out in more detail below. In this discussion, specific heritage assets are referred to by their ES gazetteer number and, where such exists, by HER or designation reference number.
- 4.2.5 The proposed development, as outlined in the DCO application, would effectively allow for the removal of any and all archaeological remains within the Main Development Site boundary, with the exception of areas, such as the Tre'r Gof SSSI, where intrusive engineering works are specifically excluded.
- 4.2.6 The removal of archaeological remains of acknowledged national significance (or 'high importance' in the submitted ES assessment methodology) at the Romano-British settlement at Tyddyn Gele (Asset 547: it is not clear in the ES whether this comprises Assets 566, 567, 568 and 569) and the early-medieval cemetery at Porth Wylfa (Asset 580; no HER reference) would result in substantial harm to the significance of archaeological remains of equivalent significance to a scheduled monument through loss of archaeological and historic interest. The Roman Settlement at Porth-yr-Ogof (Asset 573), flint processing site West of Porth Wylfa (Asset 579) and Enclosure and Cist Cemetery at Pennant (Asset 205) are also assessed as of 'high importance' in the ES; it should be confirmed whether this assessment means that these assets are also considered to be of equivalent significance to scheduled monuments. In this context, failure to integrate the results of the archaeological work carried out to date means that assessment of the value of

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<sup>37</sup> Overarching National Policy Statement for Energy (EN-1) ([Link](#))

<sup>38</sup> Conservation Principles (Cadw 2011) ([Link](#))

features close to, and potentially associated with, Asset 579, which are individually assessed as between negligible and medium importance, appears potentially erroneous. It should be clarified whether or not these features form part of a more important wider archaeological landscape. The limited engagement of the ES with the significance-based approach set out in NPS EN-1 and Conservation Principles (Cadw 2011) means that the contribution of the historic interest of these heritage assets to their significance has been entirely disregarded. The removal of these sites would be considered to have a Negative impact, even where appropriate mitigation by recording could be secured.

- 4.2.7 The ES identifies a crash site of a Bristol Beaufighter (Asset 185, NMR 240139), which would be disturbed during construction works. These remains could be designated as a controlled site under provisions of the Protection of Military Remains Act 1986. While it would be possible to mitigate loss of archaeological and historic interest, further consultation with MoD would be required to ensure that any statutory obligations could be met, particularly where casualties were not recovered at the time of the crash. Current MoD policy is to deny a licence under PMRA where it cannot be demonstrated that human remains are not present. Provided that obligations under the Protection of Military Remains Act could be met to the satisfaction of MoD, and that appropriate mitigation is in place, this would be considered to be a Neutral impact.
- 4.2.8 In other cases, the total removal of archaeological remains which are of local or regional value for archaeological and historic interest would, in the absence of mitigation, result in the loss of heritage significance deriving from archaeological and historic interest. This loss could be mitigated, to a degree, by an agreed scheme of archaeological investigation (see 4.4.1 – 4.4.8 below) that would allow appropriate investigation and recording of these heritage assets to be secured. Following appropriate mitigation, these are assessed to be Neutral.

### **Direct effects on built heritage**

- 4.2.9 The proposed clearance of the Main Development Site would result in the loss of three non-designated historic buildings. Nant Orman, Cemaes (Asset 138; HER 36611), and Tre'r Gof Uchaf, Cemaes (Asset 163; HER 36610) are assessed in the ES as of medium value; Tyddyn Gele, Garage and Outbuildings (Asset 263) is considered to be of low value.
- 4.2.10 The ES valuation scheme suggests that non-designated historic buildings are of medium value, the same valuation as is applied to listed buildings. This suggests that the loss of these buildings should be treated as substantial harm to the significance of a designated heritage asset in line with NPS EN-1 para. 5.8.14 and 5.8.15. As these valuations have not, however, been arrived at with regard to the significance-based approach set out in NPS EN-1 and Conservation Principles (Cadw 2011), it is very difficult to ascertain whether they are correct and the policy test set out in NPS EN-1 is appropriate.
- 4.2.11 Nant Orman is thought to be of early Victorian date and was recorded as the home of Ishmael Jones, a prominent mariner and shipbuilder in Cemaes in the mid-19<sup>th</sup> century (Cooke *et al.* 2009)<sup>39</sup>; it is recorded as having unusual interior carpentry. It could be considered as of listable quality for architectural and historic interests, but

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<sup>39</sup> Proposed Nuclear Power Station at Wylfa, Anglesey, North Wales (Cooke *et al.* 2009) ([Link](#))

this valuation is very difficult to make in the absence of any detailed information provided in the application.

- 4.2.12 Tre'r Gof Uchaf is identified as being of medium significance, although the HER record for this site, cited by the Cultural Heritage Baseline Report (Appendix D.11-1; APP-203 and APP-204) notes that the historic house of this name which is shown on 19<sup>th</sup>-century historic mapping was demolished 'in recent years', and does not appear on Ordnance Survey mapping until after the Second World War – the extant house appears to be of late 20<sup>th</sup>-century date. It appears unlikely that this house could be considered to be a heritage asset or of listable quality.
- 4.2.13 The farmhouse at Tyddyn Gele is thought to date from 1780, although no source is cited for this date (Cook *et al.* 2009). While this building has been heavily altered and the low valuation is conceivably accurate, if early elements survive in a coherent form it could conceivably be of listable quality for archaeological, architectural and historic value. The absence of any detailed survey information precludes further assessment of the value assigned in the ES.
- 4.2.14 Loss of Tre'r Gof Uchaf does not appear likely to give rise to an adverse effect. Loss of the non-designated buildings at Tyddyn Gele and Nant Orman, in the absence of any further mitigation, would be Negative effects, and may require the NPS EN-1 policy tests on substantial harm to be considered. Where these building are assessed as not of listable quality, their loss could be mitigated to a degree and would be considered Neutral impacts.

### **Direct and indirect effects on historic and designed landscapes**

#### *Cestyll Garden*

- 4.2.15 Cestyll Garden (HLT 2; GD 45) is a Grade II Registered Park and Garden of Special Historic Interest in Wales. It consists of two Registered Areas (the Valley Garden and the Kitchen Garden, Gardener's Cottage and House Plot) set within an Essential Setting (which includes the original driveway to the house). There are also two Significant Views out towards Porth-y-Pistyll, one from the Valley Garden and one from the House Plot. Cestyll Garden has gained statutory protection under the Historic Environment (Wales) Act 2016. The statutory area is to be confirmed by Cadw and the Welsh Government in due course but it is understood that this will include the two Registered Areas, the majority of the Essential Setting and also Felin Gafnan, a Grade II\* listed building located adjacent to Afon Cafnan on the edge of the Valley Garden.
- 4.2.16 The construction of the Main Development Site, as currently proposed, would result in the loss of one of the Registered Areas in Cestyll Garden (the Kitchen Garden, Gardener's Cottage and House Plot) plus a substantial proportion of its Essential Setting (including the original driveway to the House and adjacent field boundary wall). Both of the Significant Views from the Valley Garden and House Plot would also be affected during construction, operation and beyond. It should be noted that the Gardener's Cottage has already been partially demolished by Horizon who started to demolish it before being stopped by GAPS.
- 4.2.17 This heritage asset is also particularly sensitive to vibration, dust and changes in the noise baseline. Vibration and dust could affect the viability of mature trees and other plants in the Garden. The sounds of Afon Cafnan running through the Garden, and of the wind and the waves breaking in Porth-y-Pistyll, are key perceptual elements of

the Garden which could be affected by noise emitted by construction activities. The setting of the Garden would also be transformed by the audible and visible presence of construction activities, including:

- a) The permanent and irreversible loss of the north-eastern part of the present essential setting of the garden;
- b) a soil mounds D and E to the south of the garden (see WN0902-HZDCO-LFM-DRG-00023; APP-015);
- c) the presence of the Marine Off Loading Facility (MOLF) and associated breakwater, which would affect the existing views out to sea across Porth-y-Pistyll including the Significant Views from the Valley Garden and House Plot (see photomontage Viewpoint 15 in Appendix D10-8; APP-199);
- d) the temporary waste water treatment plant which is proposed within the Essential Setting, to the immediate west of the Kitchen Garden (see WN0907-HZCON\_LAP-DRG-00023 in the Marine Licence Application), the impacts of which have not been assessed in the ES (Volume D); and
- e) the dominant presence of the power station platform immediately to the East of the Garden.

4.2.18 These changes would combine to exacerbate the harm which would arise through loss of historic and architectural interests.

4.2.19 The ES proposes (in Appendices D11-6; APP-213 and D11-8; APP-215) that mitigation would be provided by:

- a) Level 2 Historic building recording;
- b) Level 2 Historic Landscape survey;
- c) Photographic survey of the garden and Significant Views in their current form;
- d) The use of “*appropriate materials*” for the construction of the MOLF and breakwaters;
- e) Translocation of the Lady’s Finger of Lancaster apple trees from Cestyll Kitchen Garden;
- f) A commitment to agree with the National Trust, Cadw and GAPS the designs of appropriate landscape measures to restore and/or enhance the former location of the Kitchen Garden;
- g) Monitoring soil pH and a visual inspection of the condition of plants during the bulk earthworks of the construction period; and
- h) A commitment to undertake discussions with landowners and other interested parties to consider appropriate enhancement measures such as greater interpretation (eg on-site interpretation boards at the Valley Garden), enhanced public access to the Valley Garden, regular maintenance and restoration of the Valley Garden.

4.2.20 IACC is concerned that the lack of any detail in all these proposals means that the effectiveness of this mitigation cannot be fully assessed. The scale of the loss of historic fabric would also mean that any restoration would represent, at best, partial mitigation of any harm. Harmful effects would also persist through the operation and decommissioning of the proposed development, including the permanent change to



the shoreline at Porth-y-Pistyll following the construction of the breakwaters and MOLF and the presence of the Power Station platform, which would remain as a permanent and dominant presence, for which no mitigation is proposed.

- 4.2.21 IACC is of the opinion that these changes would lead to a Negative impact, which would constitute substantial harm to the significance of this heritage asset during the 10 year construction period and which would persist through the operation of the proposed development and beyond.
- 4.2.22 Any such harm should be exceptional, clearly and convincingly justified and weighed against the public benefit of the development (NPS EN-1, para 5.8.14). However, IACC is of the opinion that Horizon has not provided clear and convincing justification for the substantial harm which will be caused to Cestyll Garden and has not yet demonstrated that the loss of the historic fabric is necessary in order to deliver the substantial public benefits of the development. Indeed, IACC is of the opinion that amendments to the scheme and the incorporation of additional measures could be reasonably implemented that would avoid the loss of historic fabric and, therefore, reduce the predicted impacts on Cestyll Garden.
- 4.2.23 For example, the loss of the Kitchen Garden, Gardener's Cottage, House Plot and parts of the Essential Setting (for a laydown area and the waste water treatment plant) have not been fully justified and could be avoided. The current justification for this laydown area in the Planning Statement (para 6.4.208, Document 8.1; APP-406) states "*There are no alternative locations that could accommodate the construction laydown area that would result in the loss. It needs to be in this location to provide access to the western breakwater, with all other areas adjacent to Porth-y-pistyll bay required to support proposals such as the MOLF. Repositioning the laydown area further away from Cestyll Gardens would require other laydown areas within WNDA to be repositioned, which would be likely to encroach on the Tre'r Gof SSSI*". On a site this large, it should be possible to achieve a modification to a laydown area on the western side of the site without causing laydown areas on the eastern side of the site to encroach upon the SSSI. Therefore, this appears to be an attempt to retrospectively justify the location of the laydown area and is not a justification as to why it needs to be in this location. No justification is provided for locating the temporary waste water treatment plant within the Essential Setting or for the loss of the original driveway to the House and adjacent field boundary. It has been IACC's impression throughout the consultation process that the project was designed to avoid direct impacts on the Valley Garden but without regard to the need to avoid direct impacts on any other parts of Cestyll Garden and its Essential Setting, despite its Grade II Registered status and now its statutory protection.
- 4.2.24 IACC considers that some of the mitigation measures proposed will require minor modifications to the design of the Project, within the parameters proposed. For example, one of the mitigation measures is a stated commitment to restore and/or enhance the former location of the Kitchen Garden. The current restoration details outlined in the Landscape and Habitat Management Scheme (LHMS, Document 8.16; APP-424 and APP-425) suggest that the Kitchen Garden location would be buried beneath a steep wooded slope (see Figure 6-11c on p96 of the LHMS, Document 8.16; APP-424 and APP-425 which shows the steep wooded slope but does not identify the location of the Kitchen Garden), which would not enable the restoration or enhancement of the Kitchen Garden. However, the parameter approach would allow for a more appropriate landform in this location which would

enable the Kitchen Garden, Gardener's Cottage, House Plot and Essential Setting to be fully restored. The height of the Power Station platform nearest to the Kitchen Garden (Zone 1B) has a maximum height of 22mAOD and a minimum height of 6mAOD (Table WN5, draft DCO). Levels around the Kitchen Garden are approximately 12m AOD, which means that the final height of the Power Station platform adjacent to the Kitchen Garden could be between approximately 10m above and 6m below the current ground levels around the Kitchen Garden. The LHMS has assumed a finished platform level of 18mAOD and, hence, shows a steep wooded bank over the Kitchen Garden, between the edge of the Power Station platform and the Valley Garden (as shown on Figure 6-11c on p96 of the LHMS, Document 8.16). However, if the final Power Station platform height were to be at, or only slightly above or below, the current ground levels around the Kitchen Garden then, even if the loss of the Kitchen Garden, Gardener's Cottage, House Plot and part of the Essential Setting during the construction phase can be justified, these elements of the Cestyll Garden could be reinstated and restored back to their original condition once the laydown area and waste water treatment plant are no longer required. This reinstatement should use the existing materials retained on site for this purpose.

- 4.2.25 The loss of the original driveway to the House and adjacent field boundary (along the edge of Mound D) could be avoided by pulling back the toe of Mound D to avoid encroaching upon these historic assets. This could be achieved by slightly steepening the slopes on the western side of Mound D. It would not be necessary to reduce the height (i.e the screening effects) of Mound D.
- 4.2.26 Further to this, IACC is also of the opinion that the mitigation measures proposed are not adequate to reduce the other impacts on Cestyll Garden, arising from, for example, vibration, dust, noise and lighting during construction, any changes to water quality and the presence of the Power Station and Marine Works for the duration of the operational phase. These impacts are likely to be greater than predicted in the ES (Volumes D and I) as a result of the recent removal of much of the mature tree belt within the Garden which would have partially mitigated some of these impacts on the Valley Garden.
- 4.2.27 All these mitigation measures should be set out in a detailed Conservation Management Plan for Cestyll Garden (4.1.14 below) to ensure that appropriate restoration and enhancement measures are identified and secured. Following the application of agreed mitigation, any harm would be of a lesser magnitude but the impact would remain Negative.
- 4.2.28 As noted above, it is understood that Cadw are presently reviewing the boundary of the designated area to reflect changes to the designation regime in line with provisions of the Historic Environment (Wales) Act 2016 which would place this designation on a statutory footing. Whilst the results of Cadw's review have not been published, it is understood that it would not affect the conclusions of the assessment presented in this LIR.
- 4.2.29 IACC would expect all the mitigation measures suggested by Horizon and by IACC, Cadw, WHGT and others to be secured by way of the DCO (see Section 4.4.14 – 4.4.20 below). Further to this, IACC also considers that the mitigation measures proposed are not adequate to compensate for the losses and impacts identified and that additional mitigation should be developed that would reduce and compensate for the predicted impacts on Cestyll Garden

### *Dame Sylvia Crowe Designed Landscape*

- 4.2.30 The landscape around the existing Wylfa Power Station (HLT 3) was designed by Dame Sylvia Crowe, one of the most eminent landscape architects of the 20<sup>th</sup> century who pioneered the principles of assimilating large structures into the landscape. The Power Station and its designed landscape are of heritage significance for their architectural, cultural and historic interests and this is recognised in *LANDMAP* which evaluates the existing Wylfa Nuclear Power Station (including its designed landscape) as outstanding for its historic and cultural aspects. They are examples of how contemporary landscape design can create a sense of congruity between man-made structures and the surrounding landscape. Her design includes small, man-made, drumlin-like mounds, which mimic the natural drumlin landscape around the site, clothed in dense woodland. These minimise visual intrusion by screening low-level 'clutter' and reduce the apparent scale of the Power Station. They also frame views of the Power Station, allowing the reactor and turbine buildings to stand in stark isolation, and allowing carefully stage-managed glimpses into the wider Power Station complex, to celebrate the achievements of the nuclear age.
- 4.2.31 An assessment of the significance of the Dame Sylvia Crowe designed landscape is provided in ES Appendix D11-5; APP-212). IACC agrees that its historic value is high (as it was designed by Dame Sylvia Crowe, an eminent and pioneering landscape architect) and its evidential value is high (there is comprehensive documentary evidence of her design philosophy and intentions for the site). However, IACC considers its aesthetic value to also be high (rather than medium). Horizon has not provided a survey of this designed landscape. However, an arboricultural survey of the wooded mounds has been included in the National Grid DCO application for the North Wales Connection Project (Document 5.30). Comparing this with Dame Sylvia Crowe's planting plans from the 1960's suggests that her original vision was achieved and that her designed landscape remains largely intact. Whilst the woodland may be in need of active management, it is also clearly evident that it continues to fulfil its original purposes - without the mounds and woodland, the aesthetics and impact of the existing Wylfa Power Station would be very different.
- 4.2.32 Therefore, whilst this designed landscape is not a Registered Park and Garden of Special or Outstanding Historic Interest in Wales (unlike the Dame Sylvia Crowe designed landscape around Trawsfynydd Nuclear Power Station in Snowdonia National Park), IACC considers the significance of the Dame Sylvia Crowe designed landscape to be high rather than medium (as assessed by Horizon in ES Appendix D11-5; APP-212). Consequently, the impacts on HLT 3 would also be greater than assessed in the ES (Appendix D11-6; APP-213 and Chapter D11; APP-130). Whilst direct loss of the designed landscape arising from the Wylfa Newydd power station would be limited to the stone walls and other planting to the south of the mounds, the changing form and layout of the Wylfa power stations would fundamentally and permanently affect the relationship of the Dame Sylvia Crowe designed landscape, the existing Wylfa Power Station and the surrounding landscape, affecting both architectural and historic interests, and resulting in a Negative impact. This effect would be at its greatest during construction when construction activity in the area in the foreground of views toward the existing power station buildings and landscaping would be prominently visible, although the permanent presence of the Wylfa Newydd power station would mean that Negative impacts would persist through the operational period. The loss of the distinctive rocky outcrops in the bay which contribute to its character and natural appearance would persist beyond

decommissioning and in the absence of detail on the treatment of the breakwaters post-decommissioning, it appears likely that these effects would persist, albeit at a reduced magnitude, beyond the operational period.

- 4.2.33 The ES proposes mitigation of this heritage asset through recording and there is a commitment in the LHMS to maintain and enhance 17 ha of the woodland to the east of the existing power station on Dame Sylvia Crowe's wooded mounds (para 6.5.17, LHMS, Document 8.16; APP-424 and APP-425). However, it is not clear how recording would provide any mitigation of the loss of historic or architectural interest and it is suggested that that mitigation be set out in a detailed Conservation Management Plan (see 4.4.15 below) to ensure that appropriate restoration and enhancement measures would be identified and secured. Should appropriate landscape mitigation be applied, the impact from the Wylfa Newydd power station (alone) could become Neutral.
- 4.2.34 However, the ES (Volume I) does not appear to have taken full account of the impacts of the National Grid DCO application for the North Wales Connection Project which proposes to remove a swathe of trees right through the middle of the woodland on the larger of the two mounds. Whilst National Grid has identified a relatively narrow belt of trees that would be removed and affected either side of the existing overhead line (as shown in Document 4.11 and Document 5.7.1.17 of the National Grid DCO application), removing trees from the middle of a woodland results in adjacent trees being exposed to conditions that they are not used to, such as greater wind effects, resulting in further loss of trees due to wind throw. As a consequence of the age and condition of the woodland and the prevailing windiness of Anglesey, the effects of wind throw in this case could well be more extensive and could result in much more of the existing woodland being lost. This would impact on the heritage, landscape, visual and ecological values of this Designed Landscape and could compromise Horizon's ability to rely upon this woodland for the purpose of mitigating and offsetting the effects of the Wylfa Newydd Project and its cumulative impacts with the existing Wylfa power station.
- 4.2.35 Even if appropriate landscape mitigation is applied to the Dame Sylvia Crowe Landscape by way of a woodland management plan that provides remedial works and ongoing active management, there will be a net loss of trees through the middle of the woodland and the cumulative impact from the Wylfa Newydd and existing Wylfa power stations on the historic significance of the Dame Sylvia Crowe Landscape would be Negative. There would also be consequential impacts on the ecological value of the woodland and on the wider landscape and visual amenity which are covered elsewhere in this LIR.

#### ***Other historic landscapes***

- 4.2.36 No further significant adverse effects on the significance of designated or historic landscapes are anticipated. Effects on other historic and designated landscapes are anticipated to be Neutral.

#### **Indirect effects on off-site heritage assets**

- 4.2.37 Construction works on the Main Development Site and the resulting operational development have the potential to introduce prominent and far-reaching change to the settings of nearby heritage assets. Where this change affects the contribution of

the setting of heritage assets to significance, this has the potential to give rise to a negative impact.

- 4.2.38 The Grade II\* listed Corn Mill at Felin Gafnan (Asset 137, LB 24416) would experience the greatest change. This is a heritage asset of the highest significance (as defined in NPS EN-1, 5.8.15) for historic, archaeological and architectural interests. During construction of the MOLF, this structure could be subject to vibration effects from piling operations that could be sufficient to give rise to material damage to the structure. The fragile nature of this asset and the machinery within it means that this effect alone could amount to substantial harm to its significance, a Negative impact.
- 4.2.39 Even where physical damage resulting from vibration could be avoided, harm to historic and architectural interests arising through change to setting could approach or amount to substantial harm. Change to the setting of the Corn Mill is inseparable from the potential effects on Cestyll garden; the viewer sees each of these assets in the context of the other, and the approach to the Mill is through Cestyll Garden. The present setting is defined by its location on the fringes of Cestyll Garden where the River Cafnan flows into Porth-y-Pistyll and would be entirely transformed by the visible and audible activities associated with the construction of the MOLF and other elements of the main site. As with Cestyll Garden, this asset is particularly sensitive to changes in the noise baseline. The change in the landscape in the wider area around the asset during construction, while not necessarily directly visible from the asset, would further affect the viewer's understanding of the context of the site, reducing historic interest. This harm would reduce slightly on the completion of construction activity, although harm arising from the change to setting caused by the visibility of the breakwaters of the MOLF and the changed form of Porth-y-Pistyll would persist through the operation of the proposed development. This impact would remain Negative.
- 4.2.40 Other listed buildings at Felin Gafnan comprise the Grade II listed Corn Drying House (Asset 141, LB 24417) and Mill House (Asset 144, LB 24418). These heritage assets would also be subject to change to setting arising during the construction and operation of the proposed development, because of the visibility of construction activities and the completed development in views of and from these heritage assets and audibility of intrusive construction noise. This adverse change would be sufficient to amount to harm to significance and would give rise to Negative impacts.
- 4.2.41 The ES proposes avoidance of the effects of vibration on Felin Gafnan Corn Mill through the adoption of unspecified controls on the potentially damaging operations. The principle of this mitigation is accepted, but more detail is required to provide the reassurance that this mitigation would be appropriate and effective (4.5.21 below) before any firm conclusions can be drawn on the likely magnitude of effect.
- 4.2.42 Further mitigation of the loss of architectural and historic interests of the listed buildings at Felin Gafnan would be required although IACC considers that it is unlikely that such mitigation would be effective given the magnitude of the likely effect. As a minimum however, IACC would require any Conservation Management Plan for Cestyll Garden to also consider the setting of these heritage assets.
- 4.2.43 The ES notes that the Grade II listed church of St Patrig at Llanbadrig (Asset 174, LB 5356) would be subject to adverse change arising from the audible and visible perception of construction activity at Wylfa. While noise is identified as an important

contributor to any adverse effect, there is no statement of how the predicted noise levels have been determined nor what specific elements of construction would cause increased noise. This effect appears likely to give rise to harm to the significance of the asset, a Negative impact.

4.2.44 The failure to provide any meaningful discussion of the effects of construction noise or understanding change in the settings of heritage assets, means that the ES conclusions that other listed buildings within the vicinity of the proposed development would not be affected cannot be verified. IACC is of the opinion that the Old Farmhouse at Plas Cemlyn (Asset 215; LB 24415) would be subject to a degree of harm to significance during construction as a result of visible and audible change to setting arising from construction activities. This impact would be Negative.

### **4.3 Policy Position**

4.3.1 This wider contribution made by the historic environment is recognised in policy. National Planning Policy Statement (NPS) EN-1 sets out the positive contribution that heritage assets can make to sustainable communities and economic vitality, and the importance of sustaining and enhancing the significance of heritage assets including the contribution made by their settings. Planning Policy Wales 2016 (PPW) sets out the importance of the historic environment to Wales' culture and its character, and its contribution to sense of place and cultural identity, noting that '...it is vital that the historic environment is appreciated, protected, actively maintained and made accessible for the general well-being of present and future generations.' The Gwynedd and Anglesey Joint Local Development Plan (JLDP) notes the contribution of Anglesey's historic environment its identity, cultural and economic life and sets out policies to protect that contribution

#### **Direct Effects on non-designated historic buildings**

4.3.2 EN-1 (5.8.5) is clear that where non-designated archaeological remains are of equivalent significance to designated heritage assets, the relevant policy test requiring the applicant to demonstrate '...that the substantial harm to or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm' must be met. In this context, it is concerning that no clear evidence has been put forward to demonstrate the necessity of the loss of these heritage assets and that, contrary to NPS EN-1 (5.8.19), the ability to record these heritage assets is presented as the sole justification for their removal.

4.3.3 In the case of archaeological heritage assets of lesser significance, NPS EN-1 notes that the Examining Authority should take into account the nature and significance of any heritage assets which may be affected (5.8.12) and take into account the desirability of sustaining and enhancing the significance of heritage assets (5.8.13).

4.3.4 PPW (6.5.5) sets out that the conservation of heritage assets is a material concern in determining a planning application, and that there should be a presumption towards preservation in situ of nationally important heritage assets, whether or not these are designated as scheduled monuments. While harm to non-designated heritage assets should be weighed against the benefits of the proposed scheme, harm to scheduled monuments (or non-designated heritage assets of national importance) should be only be permitted in exceptional circumstances.

4.3.5 Strategic Policy PS 9 in the JLDP sets out at criterion 1 the need for the development of the power station to be shaped having regard to all relevant Policies in the Plan. In

terms of the campus style construction workers' accommodation proposed for the main site, criterion 5 requires that development should not have an unacceptable adverse environmental impact. Criterion 8 sets out an expectation that a scheme's layout and design should avoid, minimise, mitigate or compensate for visual, landscape and ecological impacts on the local and wider area, as well as on cultural and historic aspects of the landscape, both in the short and longer term.

- 4.3.6 The assets and assessment of impacts on the assets described above trigger the need to consider the requirements of a number of other Policies in the Plan, which includes Strategic Policy PS 20 which expects that development will preserve and where appropriate enhance a range of historic assets, their setting and significant views. The historic assets include areas of archaeological importance. A more detailed policy position is set out in Policy AT 4, which states that proposals that would affect locally significant archaeological remains should only be permitted where the need for the development overrides the significance of the archaeological remains. SPG sets out at Policy GP22 the expectation that an assessment should be undertaken and supported by appropriate fieldwork to inform the determination of the application.
- 4.3.7 NPS EN-1 sets out that the examining authority should '...require the developer to record and advance understanding of the significance of the heritage asset before it is lost' (5.8.20), although it also notes (5.8.19) that the ability to record a heritage asset should not be presented as a justification for its loss. PPW sets out that local planning authorities may set out conditions to protect heritage assets or to require investigation, recording and dissemination of archaeological remains which would be disturbed during development (6.5.7). Policy AT4 of the JLDP sets out that 'Where proposals are acceptable, a condition will be attached to the permission stating that no development should take place until an agreed programme of archaeological work has taken place.'
- 4.3.8 There is no specific policy in PPW in respect of non-designated buildings which are not identified as local heritage assets. Policy which draws on specific legal protections for listed buildings would not apply in this case unless these buildings were to be formally listed.
- 4.3.9 In addition to the criteria in Policy PS 9 described above, criterion 7 of Policy PS 20 requires proposals to consider impacts on buildings of architectural/ historic/ cultural merit that are not designated or protected by legislation. A more detailed policy position in relation to criterion 7 is set out in Policy AT 3 of the JLDP, which sets out that 'Proposals will be required to conserve and seek opportunities to enhance buildings, structures and areas of locally or regionally significant non-designated heritage assets, which create a sense of local character, identity and variation across the Plan area...' SPG Policy GP22 notes the general expectation that Anglesey's heritage assets should be conserved and enhanced.

#### **Direct and indirect effects on historic and designated landscapes**

- 4.3.10 NPS EN-1 (5.8.14-15) sets out a specific requirement that development causing substantial harm to designated heritage assets, including Grade II Registered Historic Parks and Gardens, should be exceptional and only permitted where '...the substantial harm to or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm'.

- 4.3.11 The Applicant's Planning Statement (Document 8.1) argues that this harm is necessary and unavoidable if the benefits of the scheme are to be realised (Doc. 8.1, 6.4.172), referring to App. A of the Planning Statement (4.2.147 – 4.2.152), which sets out the reasons for the siting of the MLF. This rationale appears reasonable, but the application does not contain a clear evidence base for the decision-making process that led to the selection of the present form of MLF or its location within the site. In that nature and severity of the effect on Cestyll Garden is a direct result of the design and siting of the MLF, this omission does not provide the robust justification that is required by NPS EN-1 5.8.15. No rationale is cited to support the contention that other substantial harms, particularly at Site 05 South, Wylfa Head and Porth-yr-Ogof meet this test.
- 4.3.12 With regard to the Dame Sylvia Crowe landscaping, NPS EN-1 notes that the nature and significance of any heritage assets which may be affected (5.8.12) and the desirability of sustaining and enhancing the significance of heritage assets (5.8.13) should be taken into account.
- 4.3.13 PPW notes that the effect of a development proposal on a designated park and garden is a material consideration in any planning determination.
- 4.3.14 Given the impacts described above on the Grade II Cestyll Registered Historic Park and Garden and the Dame Sylvia Crowe landscaping, the requirements of Policy PS 20 are of particular relevance. As referred to above, this Policy sets out that (whilst seeking to support the wider economic and social needs of the Plan area) only proposals that will preserve and where appropriate enhance Registered Historic Landscapes, Park and Gardens will be granted. On this basis the requirements of Policy AT 1 are also of particular relevance, which requires proposals to be shaped by the Register of Landscape, Parks and Gardens of Special Historic Interest in Wales, in order to preserve these assets. Based on the local heritage significance for architectural and historic interests of the Dame Sylvia Crowe landscaping, the requirements of Policy AT3 of JLDP are of relevance. This sets out that 'Proposals will be required to conserve and seek opportunities to enhance buildings, structures and areas of locally or regionally significant non-designated heritage assets, which create a sense of local character, identity and variation across the Plan area...' These Policy requirements are in addition to the criteria in Policy PS 9 described above, SPG Policy GP22 notes the general expectation that Anglesey's heritage assets should be conserved and enhanced.

#### **Indirect effects on off-site heritage assets**

- 4.3.15 The Infrastructure (Decisions) Regulations 2010 sets out a requirement for the decision-maker to have regard to the desirability of preserving a listed building or scheduled monument and its setting.
- 4.3.16 NPS EN-1 (5.8.14) clearly sets out that harm to significance can arise as a result of change to setting.
- 4.3.17 NPS EN-1 (5.8.14-15) sets out a specific requirement that development causing substantial harm to designated heritage assets, including Grade II listed buildings, should be exceptional and development causing substantial harm to designated heritage assets of 'the highest significance' (including Grade II\* listed buildings) should be wholly exceptional. In either case, development should only be permitted



where ‘...the substantial harm to or loss of significance is necessary in order to deliver substantial public benefits that outweigh that loss or harm’.

- 4.3.18 NPS EN-1 (5.8.15) sets out that where harm is less than substantial, the harm should be weighed in the balance against the benefits of the proposed development. NPS EN-1 (5.8.18) further sets out that the examining authority should treat favourably applications which would preserve the features of an asset’s setting which contribute to its significance.
- 4.3.19 PPW notes that the effects of development on listed buildings should be material considerations in planning and that any action should be ‘in proportion to the impact of the proposals, and the effects on the significance of the assets and their heritage values’. It also sets out that development should have regard to the desirability of preserving a listed building and its setting, and notes the relevant statutory tests.
- 4.3.20 In accordance with national policy and legislation (described in Table 25 of the JLDP), Policy PS 20 of the JLDP clearly sets out the requirement to consider impact on the setting and views into and out of designated buildings/ areas, which include Listed buildings before consent is granted. The impacts on off- site listed buildings described above therefore means that Policy PS 20 is of particular relevance. Policy AT3 of the JLDP sets out that ‘Proposals will be required to conserve and seek opportunities to enhance buildings, structures and areas of locally or regionally significant non-designated heritage assets, which create a sense of local character, identity and variation across the Plan area...’ SPG Policy GP22 notes the general expectation that the Anglesey’s heritage assets and their settings should be conserved and enhanced.

### **Gaps in Information**

- 4.3.21 There are a number of information gaps in the application document with regard to the historic environment. Some of these gaps have a material effect on this response to the application, making it difficult to come to an informed understanding of the potential effects of the proposed scheme.

### **Direct Effects on Archaeological Remains**

- 4.3.22 The results of archaeological work carried out before the submission of the DCO application have only been partially included within the ES. It is therefore difficult for IACC to reconcile features identified in the evaluation work for which reporting exists with those identified in the ES. It is also not clear how far the results of archaeological fieldwork have been used to inform the valuation of heritage assets of lesser significance. This is particularly concerning where evidence of the most significant sites at 05 South and Wylfa Head is not available. This additional information would also be required to inform the development of any detailed mitigation proposals.
- 4.3.23 The absence of further information on the Bristol Beaufighter crash site is also concerning. It is possible that this site could be designated as a controlled area under the Protection of Military Remains Act 1986. Consequently, the absence of any detailed desk-based or field survey aimed at understanding the nature and circumstances of the crash, the survival or otherwise of the airframe and the potential presence of human remains means that the significance of these remains is unclear.
- 4.3.24 The ES assigns values to individual features without clear regard to the contribution of related features which has resulted in the value of the archaeological remains

being understated. The lack of engagement with the significance-based valuation methodology set out in Conservation Principles (Cadw 2011) and NPS EN-1 means that the historic interests of these archaeological remains has not been considered, either in terms of their significance or in deciding on appropriate mitigation strategies. No mitigation is currently proposed for the loss of historic interest of these assets. Recommendations for this mitigation are set out at 4.4.1-4.4.8 below.

#### Direct effects on non-designated historic buildings

4.3.25 The EIA significance assessment methodology does not engage with the significance-based approach for valuing heritage assets and understanding change as set out in Conservation Principles (Cadw 2011) and within NPS EN-1 (5.8.2).

4.3.26 The absence of any survey of the buildings at Nant Orman and Tyddyn Gele means that it is very difficult to reach an informed understanding of the significance of these heritage assets.

#### Direct and indirect effects on historic landscapes

4.3.27 Landscape level mitigation proposals for Cestyll Garden is set out in two appendices to the ES (Appendices D11-6; APP-213 and D11-8; APP-215). This provides only a very brief overview of proposed restoration work and is not sufficient to provide any certainty that mitigation proposals would be sufficient to mitigate the harm predicted. Mitigation in respect of harm to the Dame Sylvia Crowe landscaping is proposed only in terms of recording (Appendix D11-6; APP-213), which appears unlikely to form effective mitigation.

4.3.28 The assessment of the significance of Cestyll Garden (Appendix D11-4; APP-211) is generally appropriate, but it places excessive weight on the presently degraded state of the kitchen garden and house site, and does not adequately consider the contribution of these elements of the garden to the significance of the asset. The consideration of the impacts on Cestyll Garden arising from changes in its setting (beyond loss of areas currently identified by Cadw as part of the Essential Setting of the garden) does not clearly reflect guidance in The Setting of Heritage Assets in Wales<sup>40</sup> (Cadw 2017).

4.3.29 With regards to Cestyll Garden, the following additional information should be presented to the Examining Authority:

- a) Clear and convincing justification that demonstrates what, if any, loss is necessary in order to deliver the project, with reference to appropriate studies undertaken to determine the location, scale and method of construction of the Power Station, Marine Works and laydown areas.
- b) Clarity regarding exactly what is to be lost, how Cestyll Garden and its Essential Setting will be affected by the final design and the mitigation and restoration proposed within and around the Garden (e.g annotated plans and sections at a suitable scale that clearly show the various elements of the Garden (pre and post construction) and the relevant parts of the Power Station structures, levels, lay down areas, mounds, banks, etc. during construction and during operation. The implications of the parameter approach on Cestyll Garden, including varying the height and location of

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<sup>40</sup> Setting of Historic Assets in Wales (Cadw 2017) ([Link](#))

the Power Station platform and associated elements of the project, should be clearly illustrated and explained.

- c) Clarity regarding the individual and combined impacts (noise, dust, vibration, lighting, visual impact, etc) on Cestyll Garden and its associated Grade II\* Listed Building (Corn Mill), and the measures proposed to mitigate these as much as possible.

4.3.30 With regards to the Dame Sylvia Crowe Designed Landscape, the following additional information should be presented to the Examining Authority:

- a) Arboricultural Survey that records the locations, species, height, diameter, canopy spread, approx age, condition and recommended management for all the trees and shrubs in the woodlands on and around the mounds.
- b) Clear reproductions of Dame Sylvia Crowe's designed landscape plans (Plates 4 and 9 - 15 in ES Appendix D11-5 (APP-212) are fussy and faint and so her vision for the landscape is not clearly illustrated).

#### **Indirect Effects on off-site heritage assets**

4.3.31 The EIA significance assessment methodology does not engage with the significance-based approach for valuing heritage assets and understanding change as set out in Conservation Principles (Cadw 2011) and within NPS EN-1 (5.8.2).

4.3.32 The potential effects of vibration on the Grade II\* Corn Mill are appropriately discussed in qualitative terms, but no reference is made to where the technical information on which this conclusion is based can be found.

4.3.33 The assessment of the magnitude of change on the Grade II\* Corn Mill, as set out in the ES are not consistent with those included at Appendix D11.06 (APP-213).

4.3.34 With regard to the church of St Patrig, Llanbadrig, there is no reference to how the understanding of change to noise at the receptor has been predicted, either on a qualitative or quantitative basis. This makes it very difficult to give weight to the conclusions of the assessment. Conversely, this omission of any discussion of noise effects makes it difficult to give weight to the assessment that no further effects would arise on other off-site heritage assets, such as those at Cemlyn and Cemaes.

4.3.35 Reference is made in the ES (D11; APP-130)) at Sections 11.7.12 and 11.7.13 to substantial harm being anticipated to arise at Cestyll Garden. There is no statement as to whether harm of less than substantial magnitude to other designated heritage assets is anticipated.

#### **4.4 DCO Requirements and S106 obligations**

##### **Direct effects on archaeological remains**

###### **Requirements**

4.4.1 The ES sets out the principle that a detailed and binding Written Scheme of Investigation (WSI) for archaeological mitigation fieldwork will be agreed with Cadw, Gwynedd Archaeological Planning Service (GAPS) and IACC. This WSI is required in advance of the determination of the DCO in order to provide confidence that archaeological works would deliver the anticipated and claimed degree of mitigation.

4.4.2 This scheme of works would cover all archaeological fieldwork carried out as mitigation of the proposed effects of the scheme, including areas of the proposed

scheme where no significant adverse effects are anticipated and would be secured through the Code of Construction Practice (CoCP) or as a DCO requirement.

- 4.4.3 The WSI should set out specific research aims, cross-referenced to local, regional, national and international period-based and thematic research agendas as appropriate.
- 4.4.4 IACC requires that any WSI should contain provision for:
- a) Set piece excavation of areas of demonstrable archaeological significance;
  - b) Strip map and sample of areas of archaeological significance where the extent and nature of archaeological remains are less well-defined;
  - c) Additional investigative trenching as required to better define areas of potential archaeological interest;
  - d) Detailed recording of listed and non-designated historic buildings (see 4.4.24 below);
  - e) Detailed landscape and vegetation survey at Cestyll Garden
  - f) Detailed desk-based and fieldwork investigation of the site of the Bristol Beaufighter crash site; and
  - g) Targeted archaeological monitoring of intrusive works.
- 4.4.5 The WSI should also set out mechanisms to secure the formal reporting of the results of archaeological fieldwork, comprising unpublished (archive) reporting, formal publication reporting either in an appropriate peer-reviewed archaeological journal(s) or as monograph(s), and popular reporting.
- 4.4.6 The extent, significance and diversity of the anticipated archaeological remains within the site, and the potential involvement of more than one archaeological contracting organisation in specific elements of the mitigation works means that it may become appropriate to provide a series of reports and publications discussing specific aspects or themes of the remains observed. Consequently, the WSI should set out specific scopes for reporting of archaeological works in line with the stated research aims of the works.
- 4.4.7 The WSI should set out specific protocols for action that are in line with the DCO provisions cited above.
- 4.4.8 It is IACC's opinion that the scheme of archaeological investigation should be agreed in advance of the determination of the DCO to ensure that the content of the WSI can be appropriately scrutinised and confirmed.

## **Obligations**

- 4.4.9 The loss of historic interest ensuing from the total removal of significant archaeological remains can be mitigated, in part by the provision of an appropriate and agreed scheme of interpretation and engagement. It has been acknowledged by Horizon that there is significant public interest in archaeological investigation of the area, and the archaeological heritage assets that would be affected relate to formative periods of Welsh history and identity. Any engagement scheme should be considered at a project level to allow integration with other mitigation and offsetting measures required in respect of other effects, most notably Welsh Language and Culture, Landscape and Socio Economic and Tourism.

4.4.10 Where this engagement scheme relates to the historic environment, it is recommended that this scheme comprises three elements:

- a) A scheme of community engagement, comprising popular engagement with local communities through regular media and internet updates in addition to activities such as talks and open days;
- b) Specific educational initiatives to tie in the school curriculum for Wales, including in STEM subjects as well as History;
- c) Proposals for interpretation and display of material, both on site, in visited locations (e.g. long distance path network) and in museums/visitor centres using material installations and digital technologies to provide a legacy to benefit understanding of the past and provide an enriched visitor experience.

4.4.11 Before the effectiveness of any engagement strategy can be agreed, further information will be required to set out the ambition and specifications for the engagement works to demonstrate that this strategy is appropriate to the significance and nature of any archaeological remains, and that it can be effectively delivered in a manner which will achieve the stated aims, including:

- a) a clear statement of the aims and objectives of the proposed engagement strategy;
- b) statements of the specific engagement methodologies;
- c) statements of the anticipated outcomes, both quantitative and qualitative, of the engagement strategy.

4.4.12 The delivery of engagement strategy should be secured through its inclusion within a certified document or a scheme to be approved under a requirement. Funding for the engagement strategy would be secured through a financial obligation

### **Direct effects on non-designated historic buildings**

#### Requirements

4.4.13 Where recording of historic buildings is to be undertaken, standards and methodology should be set out in the overarching Written Scheme of Investigation (0 above). This should include proposals for detailed recording of non-designated buildings at Tyddyn Gele and Nant Orman in advance of their loss.

### **Direct and indirect effects on historic landscapes**

#### Requirements

4.4.14 A detailed Conservation Management Plan will be required to be approved to set out general aims and objectives, methods and practical measures to ensure that elements of Cestyll Garden which are directly disturbed during construction can be appropriately and sensitively restored following completion of the construction works.

4.4.15 A separate Conservation Management Plan should also be developed and approved to set out detailed proposals for the ongoing management of the Dame Sylvia Crowe landscaping at Wylfa and to ensure that landscaping proposals are designed to respond to the existing landscaping scheme. These conservation management plans must be based on a strong understanding of the relevant designed landscapes that has been achieved through an appropriate level of archaeological investigation and recording.

- 4.4.16 Standards and methodology for investigative fieldwork to inform the development of a Conservation Management Plan and as mitigation of direct loss should be set out in the overarching Written Scheme of Investigation (see 4.4.8 above).
- 4.4.17 Where it is not practicable for a single Conservation Management Plan to be agreed where a heritage asset or group of assets (e.g. Cestyll and the listed buildings Felin Gafnan) are in multiple ownership, a suite of individual Conservation Management Plans may be submitted under the umbrella of a consolidated Cultural Heritage Mitigation Strategy. The implications of any inconsistency and any limitation to the ability to secure mitigation resulting from the development of multiple Conservation Management Plans will be considered carefully.
- 4.4.18 In addition, DCO requirements should be provided that:
- a) Prevent the loss of any part of Cestyll Garden Registered Area and Essential Setting (or Statutory Area if this is confirmed) until there is reasonable certainty that the relevant parts of the development are to proceed.
  - b) Require a design to be submitted to and agreed with IACC (in consultation with NRW, Cadw and WHGT) for the re-modelling of the west breakwater at the end of the construction phase, to give it a more natural appearance/profile so that it appears more like a vegetated rocky island for the duration of the operational and decommissioning phases (rather than an engineered structure). This is required to reduce the long-term impact of the breakwater on the Significant Views and other views from Cestyll Garden.
  - c) Require the Kitchen Garden, Gardener's Cottage, House Plot and Essential Setting (and any other parts of Cestyll Garden Registered and/ or Statutory areas that have been affected) to be reinstated using the existing materials retained for this purpose, as soon as possible during the construction phase, with the reinstatement to be carried out in line with the agreed *Conservation Management Plan*.
  - d) Identify and implement measures to safeguard and/or mitigate against potential adverse effects on Cestyll Garden that could arise, e.g from dust, vibration, changes to water quality, light pollution, visual intrusion, etc.
  - e) Require all other mitigation identified for Cestyll Garden in this LIR.
  - f) Require an Arboricultural Survey that records the locations, species, height, diameter, canopy spread, approximate age, condition and recommended management for all the trees and shrubs in the woodlands on and around the mounds (if not already provided during the Examination process, see Section 4.4.18 f) above).
  - g) Require a Woodland Management Plan for the Dame Sylvia Crowe Designed Landscape to be submitted to and agreed with IACC which includes, but is not limited to, remedial works to trees, some felling and replanting, the re-establishment of a woodland edge and a programme for the works, including on-going management for the duration of the Wylfa Newydd Project.

## Obligations

- 4.4.19 Sufficient monies should be secured to provide for the cost of any restoration of Cestyll Gardens and the Dame Sylvia Crowe landscaping. This sum should be

secured through a Section 106 agreement or similar mechanism and should allow for the costs of the initial landscaping as well as a subsequent period of aftercare and management to ensure that restoration proposals provide a mature landscaping design.

- 4.4.20 It may also be appropriate for funds for the Conservation Management Plans and enhancement works proposed within the parts of Cestyll Garden that are outside of Horizon's ownership to be secured by way of S106 obligations.

#### **Indirect effects on off-site heritage assets**

##### Requirements

- 4.4.21 Best practice measures to minimise additional traffic movements, construction noise, dust and light spill from construction activities should be agreed through approval of the CoCPs. This could include measures such as restrictions on working hours or types of plant in use at particular locations or times.
- 4.4.22 Measures to ensure that temporary buildings, mounding, roadways and similar structures are removed on completion of construction activity should be agreed and secured.
- 4.4.23 Measures to prevent physical damage to the Grade II\* Corn Mill at Felin Gafnan must be approved in advance of construction. This should be the subject of a pre-commencement requirement. Any mitigation proposals must be site specific and supported by appropriate calculations based on the specific machinery intended to be used and a detailed understanding of the specific ground conditions of the works, the building and the surrounding area as far as is necessary to develop a robust understanding. Where monitoring is proposed as mitigation with stand-downs triggered by exceedances of specified parameters (e.g. vibration or structural movement), these parameters must be agreed in advance of consent being granted to allow the effectiveness of this mitigation to be confirmed.
- 4.4.24 Detailed recording of the Grade II\* listed corn mill at Felin Gafnan will be required as a precaution and to inform sensitive restoration in the event that mitigation measures intended to avoid vibration damage are ineffective.
- 4.4.25 Landscaping proposals for the completed development should be required to respond to the design philosophy of the existing Wylfa power station, particularly in terms of response to the use of the local drumlin landscape and planting to screen low-level 'clutter' and minimise visual intrusion of new elements of the proposed development in the settings of heritage assets. Similarly, surface finishes for new elements of infrastructure should also be agreed.
- 4.4.26 Landscape design proposals for the restoration of Cestyll Garden and the Dame Sylvia Crowe landscaping should be guided by the agreed Conservation Management Plans.

#### 4.5.0 Summary of Chapter

- 4.5.1 This LIR Chapter presents the Council's understanding of the effects of the proposed Wylfa Newydd development on the historic environment of Anglesey. It sets out the likely effects of the proposed scheme, relevant planning policy, identifies data gaps which may have a material influence on the assessment of impacts and sets out proposed requirements and obligations which would be required where the scheme receives consent.
- 4.5.2 The proposed development would potentially give rise to Negative impacts resulting in substantial harm to the significance of designated heritage assets (or non-designated heritage assets of equivalent significance) at:
- a) The Grade II Cestyll Registered Park and Garden;
  - b) The Dame Sylvia Crowe Designed Landscape;
  - c) The Grade II\* listed Corn Mill at Felin Gafnan;
  - d) nationally-significant archaeological remains, including those at Porth Wylfa, Porth-yr-Ogof, Pennant and Tyddyn Gele; and
  - e) Non-designated historic buildings at Tyddyn Gele and Nant Orman.
- 4.5.3 NPS EN-1 requires development causing substantial harm to the significance of these heritage assets to be 'exceptional' or 'wholly exceptional' and clearly justified as being unavoidable in order to achieve the substantial public benefits of the wider development. The applicant needs to provide clear justification of the harm to Cestyll Garden, the Corn Mill at Felin Gafnan and archaeological sites at Site 05 South and Wylfa Head, referencing detailed studies of options and alternatives to the proposed development in order for these effects to be considered acceptable. With regards to Cestyll Garden, the applicant should also provide clarity regarding exactly what is to be lost, how Cestyll Garden and its Essential Setting will be affected by the final design and the mitigation and restoration proposed within and around the Garden. The applicant should also provide an Arboricultural Survey of the woodlands in the Dame Sylvia Crowe Designed Landscape and clear reproductions of Plates 4 and 9 - 15 in ES Appendix D11-5 (APP-212).
- 4.5.4 At Felin Gafnan, the applicant should provide a clearer and more robust description of mitigation measures intended to preclude potential structural damage to the building. This may result in any harm being considered to be of less than substantial magnitude
- 4.5.5 The applicant should provide clarification of the significance of non-designated buildings at Nant Orman and Tyddyn Gele, drawing on site survey of these buildings, to identify whether these structures are genuinely of equivalent significance to Grade II listed buildings. The applicant should also provide clarification of the significance of two further sites, the Roman Settlement at Port-yr-Ogof and West of Porth Wylfa, drawing on field survey that has already been undertaken, to identify whether these are of equivalent value to scheduled monuments.
- 4.5.6 The proposed development would give rise to Negative impacts amounting to harm of less than substantial magnitude to a number of designated heritage assets or heritage assets of equivalent significance, comprising:



- a) Grade II listed buildings at Felin Gafnan, comprising the Corn Drying House and Mill House;
- b) The Grade II listed church of St Patrig at Llanbadrig;
- c) Other impacts of the proposed scheme could, in principle, be mitigated to Neutral, although the detail of such mitigation remains to be agreed. A range of mitigation measures have been identified above, including Conservation Management Plans, which should be secured by way of DCO requirements and S106 obligations.

## 5.0 Terrestrial Ecology

### 5.1 Context

5.1.1 This Chapter of the LIR considers the effects of the Main Power Station Site development on terrestrial ecology receptors on and near the site. It is based on the documentation provided by Horizon in its application, including:

- a) the Environmental Statement and its associated appendices, including the ecology Technical Summary Reports (TSRs); and
- b) those associated documents containing mitigation elements relied on by the ecology assessment, including the Landscape and Habitat Management Plan (LHMS)<sup>41</sup>, the Design and Access Statement<sup>42</sup>, the Code of Construction Practice<sup>43</sup>, and the Workforce Management Strategy<sup>44</sup>.

5.1.2 It also draws on information provided within a meeting with Horizon on 17 October 2018, although it should be noted that some data requests and queries raised at that meeting have not yet been resolved. The LIR focuses on those receptors or aspects that are not subject to NRW assents, consents or licensing, and so does not consider effects on statutorily protected sites (SSSIs, SACs, etc.) or the requirements of protected species licensing.

5.1.3 The development site predominantly comprises agricultural grasslands with limited biodiversity value, with the field boundaries generally being cloddiau or (less frequently) hedgerows. There are a number of habitats that are consistent with those 'habitats of principal importance' listed pursuant to Section 7 of the Environment (Wales) Act 2016, or listed on the Anglesey Local Biodiversity Action Plan (LBAP). Areas of 'higher value' habitat are generally localised, and overall the site is not particularly unique or notable (in biodiversity terms) in a district or county context: the habitats present are generally common and widespread across the Island.

5.1.4 Having said that, the proposed development of the Wylfa Newydd Main Power Station Site is a substantial development that will require the clearance of most habitats within the Wylfa Newydd Development Area (WNDA) (409 hectares) and consequent displacement of fauna; the construction period up to final reinstatement will last at least nine years, with some elements of construction and the establishment of reinstated habitats continuing substantially beyond this. Whilst many habitats or species populations do not appear notable in any more than a local context, the fundamental scale and duration of the proposed scheme presents risks to the integrity of biodiversity receptors locally that would simply not be present for smaller, shorter duration schemes. The development as a whole will directly affect around 0.5% of Anglesey's land area, and so has the potential to significantly affect the biodiversity value (positively and negatively) of Anglesey's north coast for decades, and the LIR considers the scheme in this context.

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<sup>41</sup> Examination Library reference APP-424 / APP-425

<sup>42</sup> Examination Library reference APP-407 / APP-408

<sup>43</sup> Examination Library reference APP-414 / APP-415

<sup>44</sup> Examination Library reference APP-413

## 5.2 Impacts and Evidence Base

### 5.2.1 Evidence Base

The Ecological Impact Assessment (EclA)<sup>45</sup> indicates states that “*Only receptors of a low, medium or high value that would potentially be affected by construction activities associated with the Power Station, other onsite development, Marine Works and the Site Campus within the WNDAs are taken through to the impact assessment...with receptors of negligible value being scoped out of further consideration*”. The receptors identified with a low, medium or high value are:

- a) Tre'r Gof SSSI
- b) Cae Gwyn SSSI
- c) Cemlyn Bay SSSI
- d) Bae Cemlyn/Cemlyn Bay SAC
- e) Llyn Llygeirian SSSI
- f) Glannau Ynys Gybi/Holy Island Coast SPA
- g) Glannau Ynys Gybi/Holy Island Coast SAC
- h) Corsydd Môn/Anglesey Fens SAC
- i) Corsydd Môn a Llyn/Anglesey and Llyn Fens Ramsar
- j) Llyn Dinam SAC
- k) Glannau Aberdaron and Ynys Enlli/Aberdaron Coast Bardsey Island SPA
- l) Mynydd Cilan, Trwyn y Wylfa ac Ynysoedd Sant Tudwal/Mynydd Cilan, Trwyn y Wylfa and the St. Tudwal Islands SPA
- m) Craig yr Aderyn (Bird's Rock) SPA
- n) Ancient woodland
- o) Fungi
- p) Freshwater fish
- q) Arfordir Mynydd y Wylfa - Trwyn Penrhyn Wildlife Site
- r) Trwyn Pencarreg Wildlife Site
- s) Afon Wygyr Wildlife Site
- t) Cors Cromlech Wildlife Site
- u) Arfordir Trwyn y Buarth – Porth Wen Wildlife Site
- v) Cors Cae-Owen Wildlife Site
- w) Rhostir Mynydd Mechell Wildlife Site
- x) Tir Gwlyb Teilia Neuadd Wildlife Site
- y) Cors Mynachdy Wildlife Site
- z) Lichen
- aa) GCN
- bb) Chough
- cc) Bats
- dd) Otter
- ee) Water vole
- ff) Red squirrel
- gg) Macroinvertebrates (individual ponds where species of conservation interest were located)
- hh) Terrestrial habitats

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<sup>45</sup> Chapters B9 and D9 of the ES

- ii) Terrestrial invertebrates
- jj) Common toad
- kk) Adder and common lizard
- ll) Breeding birds
- mm) Over-wintering and passage birds
- nn) Notable mammals (brown hare, hedgehog and polecat)
- oo) Freshwater habitats

5.2.2 It should be noted that the EclA does not explicitly assess all of these – several of the Wildlife Sites (for example) are not considered in detail, presumably due to the absence of effect pathways (although the rationale for this is not clearly set out in Chapter D9). However, based on IACC’s review this is not a potentially significant omission as these sites are unlikely to be affected by the scheme.

5.2.3 The evidence base for the EclA comprises a series of ‘Technical Summary Reports’ (TSRs), generally one for each receptor or group of similar receptors, which summarise a number of survey reports relating to each receptor.

5.2.4 The evidence base is not detailed here. IACC’s review suggests that it largely provides a suitably robust baseline for the assessment of effects for most receptors, although there are some areas where the TSRs are not clear, or where deviations from established survey guidance are not explained or justified. These are noted in the ‘Data Gaps’ section below. The original survey reports have not been submitted with the application and so the deviations or survey constraints cannot be verified. Other areas of uncertainty are present, although these are unlikely to influence the conclusions of the EclA.

5.2.5 The methodology employed by Horizon for the EclA is consistent with current guidance<sup>46</sup>.

5.2.6 IACC has reviewed all of the submission documentation relevant to the biodiversity assessment, including Chapter D9 and associated figures and appendices; the TSRs; design information contained in the Design and Access Statement (DAS) – Volume 2; the Landscape and Habitat Management Strategy (LHMS) – Volumes 1 & 2; the construction period information in the Wylfa Newydd Code of Construction Practice and the Construction Method Statement; and other documentation including the Workforce Management Plan.

5.2.7 Horizon identify two positive impacts within the ES:

- a) on great crested newts (“*the implementation of the Landscape and Habitat Management Strategy...would lead to the creation of suitable habitats for GCN that would result in a long-term positive effect*”); and
- b) in relation to the Ecological Compensation Sites proposed to offset the anticipated damage to the Tre’r Gof SSSI (“*The assessment concludes that there would be the potential for large-scale improvements in the quality and extent of*

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<sup>46</sup> CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester ([Link](#))

*rich-fen and mire habitat, although it is recognised that there is a degree of uncertainty in relation to the extent and quality of habitat created. As such, a moderate rather than major positive effect has been concluded for this habitat”)*

- 5.2.8 With regard to great crested newts, the Landscape and Habitat Management Strategy (LHMS) does have the potential to provide positive impacts; however, Horizon have made no commitment to maintaining or increasing the number of ponds across the site (although IACC understands that this is being reviewed). Accordingly, any enhancements to the terrestrial habitats around the existing pond with GCN will have a very limited positive effect, particularly as availability of terrestrial habitat is unlikely to be the limiting factor on the expansion or distribution of GCN populations locally. It is therefore unclear how GCN will benefit from the terrestrial enhancements advertised by the LHMS if there is limited accompanying aquatic habitat creation. The significant reduction in pond numbers across the site will largely remove the possibility of meaningful future colonisation of the site by this species, and so the proposals arguably do little to improve the resilience of GCN populations or their conservation status locally. IACC therefore considers the effects on GCN to be ‘neutral’.
- 5.2.9 With regard to the Ecological Compensation Sites, as these relate to the effects on Tre'r Gof SSSI IACC has relied on NRW's assessment. However, we would suggest that the ‘moderate positive’ effect noted in the ES is optimistic given the often substantial uncertainties involved in creating viable wetland habitats. A significant positive effect would require that the mitigation offset the loss of the existing SSSI entirely, and then provide substantive additional enhancements over the baseline.
- 5.2.10 IACC believes that the principal mechanism for a positive impact on biodiversity receptors is the Landscape and Habitat Management Strategy (LHMS). Whilst the details of the LHMS remain to be confirmed, the design principles and commitments set out in the draft have, over the long-term, the potential to result in a net positive effect on some biodiversity receptors and provide biodiversity enhancements more generally compared to the baseline. However, delivery and monitoring of the LHMS will be critical to this, and IACC believes that more measurable commitments need to be made to ensure that the conclusions of the ES can be verified through future monitoring of the LHMS.
- 5.2.11 Horizon's EclA considers the impacts on the following receptors to be ‘negligible’ or nil:
- a) Llyn Llygeirian SSSI
  - b) Trwyn Pencarreg Wildlife Site
  - c) Great crested newts (notwithstanding the ‘positive effects’ noted above)
  - d) Common toad
  - e) Adder and Common Lizard
  - f) Otter
  - g) Water vole
  - h) Freshwater habitats

5.2.12 IACC has reviewed these assessments and agrees with the conclusions in relation to Llyn Llygeirian SSSI; Otter; Water vole; and Freshwater habitats and accordingly classes these as neutral impacts for the purposes of this report. The IACC has some reservations regarding great crested newts and (to a lesser extent) toads (the ‘negligible’ assessment is correct if the terms of assessment are narrowly focused on maintenance of the existing populations, rather than the fact that the scheme prevents the possibility of meaningful future colonisation of the site due to the removal of ponds), although IACC understands that the position regarding pond reinstatement is being reviewed.

5.2.13 However, IACC is not convinced that the case for ‘negligible effects’ has been robustly made for Trwyn Pencarreg Wildlife Site; or for Adder and Common Lizard.

5.2.14 With regard to **Trwyn Pencarreg Wildlife Site**, Para. 9.5.101 of the ES states that “...chapter D5 (Application Reference Number: 6.4.5) scopes out significant effects on the wildlife site resulting from dust deposition, increased rates of nitrogen and acid deposition and elevated levels of NO<sub>x</sub>. The effects of changes in air quality Wylfa Newydd Power Station Chapter D9 Terrestrial and freshwater ecology on Trwyn Pencarreg Wildlife Site are therefore not considered further in this assessment”.

5.2.15 However, Chapter D5 does not appear to “scope out significant effects” as the modelled NO<sub>x</sub> changes are above the critical level for this site, so it is subject to additional assessment (see table D5-16). Indeed, Para. 5.5.81 states that “Where the predicted increase is above the criteria set out in chapter B5...further consideration is given to the significance of direct and in-combination effects due to predicted changes in air pollutant concentrations and deposition in chapter D9...for the following receptors... Trwyn Pencarreg Wildlife Site based on the magnitude of predicted changes to long-term and short-term NO<sub>x</sub> concentrations in the year 2 peak”. This assessment is not completed within D9. IACC recognises that the AQ change is likely to be ‘significant’ in relation to air quality thresholds rather than in relation to consequent changes to ecological receptors, but this assessment needs to be made, or the cross-referencing clarified. This was raised with Horizon at the meeting on the 17 October, although additional clarification has not yet been received and so IACC must consider the effects on this receptor to be ‘negative’.

5.2.16 With regard to **Adders and Common lizard**, IACC has some queries regarding the surveys undertaken (see Data Gaps, below) although it is likely that the ES provides a reasonable estimation of the extent of ‘high-value’ habitat at the site for these species. However, IACC has reservations regarding Horizon’s conclusion that there will be ‘negligible’ effects on these receptors, or at least the process through which this conclusion is drawn. Horizon’s core argument is that:

- a) the value of the reptile populations is ‘low’ (probably reasonable, notwithstanding the survey uncertainties and the absence of a broader literature or data review (see Data Gaps, below); and so

- b) the total loss of all available habitat (optimal and sub-optimal) within the development site; the displacement or translocation of reptiles to off-site areas several hundred metres away for the duration of the build (at least a decade, plus time for restored habitats to mature – so probably in excess of 15 years); and the associated fragmentation of habitats and populations at the district scale will be fully mitigated in the short- to medium-term by the provision and enhancement of the small ‘receptor areas’, and by the LHMS in the long-term.

5.2.17 However, reptiles are very often patchily distributed due to their habitat preferences and ‘hot-spots’ can be disproportionately important for the maintenance of populations or meta-populations over a wider area. Section 4 of the Reptile TSR rightly notes that “*Small populations are much more vulnerable to stochastic extinction events making the reptile community within the survey area very fragile*” although this is not explored in the ES chapter despite the very real possibility of this occurring. Realising the potential benefits of the LHMS and successful re-colonisation of the site in a reasonable timescale will be dependent on reptile populations remaining present and viable in the local area throughout the duration of construction.

5.2.18 The mitigation measures proposed are fairly standard, and are known to be effective for many schemes; fundamentally, though, this development is a substantially larger undertaking (in both area and timescales) than virtually all other developments in the UK, and the associated disruption clearly has the potential to undermine several aspects that are key to reptile population integrity (including access to and availability of optimal habitats, exposure to mortality risks, dispersal between habitat patches, fragmentation of populations, etc.). IACC is concerned that the uncertainties inherent in scaling-up the mitigation proposals are not examined (e.g. appropriate capture effort, population persistence, suitability and maturity of receptor areas, etc). It may not be possible to resolve many of these uncertainties ahead of implementation, and so IACC would require a substantive population monitoring scheme for the duration of the construction and LHMS to allow these uncertainties to be tested and appropriate interventions identified if required.

5.2.19 Horizon’s EclA identifies ‘adverse effects’ (either minor, moderate or major) on the following receptors:

- a) Tre’r Gof SSSI
- b) Cemlyn Bay SSSI/SAC
- c) Cae Gwyn SSSI
- d) Arfordir Mynydd y Wylfa – Trwyn Penrhyn Wildlife Site
- e) Ancient woodland
- f) Terrestrial habitats
- g) Fungi
- h) Lichen
- i) Terrestrial invertebrates
- j) Chough
- k) Breeding birds
- l) Over-wintering and passage birds
- m) Bats

- n) Red squirrel
- o) Notable mammals
- p) Macroinvertebrates
- q) Freshwater fish

5.2.20 IACC has reviewed these assessments and largely agrees with the conclusions. However, it should be noted that the ‘combination’ assessments appear to be only employed where two or more adverse effects are identified, presumably on the assumption that ‘negligible’ effects cannot operate cumulatively to result in ‘significant’ effects. For example, the effect of habitat loss on red squirrel populations is considered ‘negligible’, and the effect of disturbance considered ‘minor adverse’, and so the combined effect of these aspects on the likely persistence of red squirrels at the site is not assessed. This obviously relies on each ‘alone’ element correctly representing the effects, and there are some areas where additional clarity would be beneficial, principally in relation to red squirrel, chough, Arfordir Mynydd y Wylfa – Trwyn Penrhyn Wildlife Site and bats. In summary:

5.2.21 **Chough:** Para 9.5.214 of the ES notes that "*The removal of most habitats would be temporary in the short- and medium term as the provisions of the Landscape and Habitat Management Strategy ...include the reinstatement, creation and enhancement of habitats that would be suitable for chough*". It is difficult to see how the loss of 'most habitats' for 10 - 15 years would constitute a medium magnitude of change except if considered solely over the long-term with the assumption that re-colonisation will be rapid. The commitments of the LHMS will have some benefits for chough, although benefits are being claimed for many species groups with different requirements. For example, Para. 9.5.215 notes that the LHMS will "*create habitats of higher value for foraging chough than the habitats currently present within the WNDA ...[including]...100ha of coarse-sward species-rich grassland*" although 100 ha of coarse sward grassland (sub-optimal for chough), most of which is some distance from the nest sites, is of limited value.

5.2.22 With regard to the construction period, IACC considers that the ‘medium’ magnitude of change due to habitat loss (and hence of ‘moderate adverse’ significance, before additional mitigation is applied) may underplay the magnitude of change, based on the disproportionate use by chough of the area directly affected by the site campus (field 146 accounting for >63% of foraging time in 2017 surveys). It is understood that Horizon has additional data regarding the use of these areas by chough from 2018, which should be reviewed.

5.2.23 Furthermore, disturbance of chough due to visitor pressure associated with the site campus is not, in IACC’s view, considered to an appropriate extent – particularly in relation to cumulative effects with habitat loss. The ES states that (in relation to Arfordir Mynydd y Wylfa – Trwyn Penrhyn Wildlife Site) "*The potential for workers accommodated in the Site Campus to cause habitat degradation would be controlled through the provisions of the Workforce Management Strategy (Application Reference Number: 8.5)...[which] prevents direct access to the Arfordir Mynydd y Wylfa - Trwyn Penrhyn Wildlife Site from*



*the Site Campus*". However, the 'Workforce Management Strategy' submitted with the application includes no commitments at all in this regard, only including a rather weak requirement that "All personnel must be aware of nearby sensitive ecological receptors (such as Wylfa Head, Tre'r Gof and Cemlyn SSSIs, Cemlyn Lagoon, and nature reserves)...and ensure no damage or interference of any kind is caused to these areas..."). IACC therefore has no way of verifying the statements regarding the prevention of 'direct access', nor is there any assessment of what this would mean practical terms within the ES. It is understood that the Workforce Management Strategy has been, or is being, updated but IACC can only base its review on the information provided and, in any case, the mechanisms for workforce management need to be clearly identified and assessed (e.g. how much of a deterrent will the absence of direct access present? What are the provisions for wardening etc? What is the baseline visitor rate to Wylfa Head? How will effects be monitored?). This aspect is linked to the provisions required for safeguarding the Arfordir Mynydd y Wylfa – Trwyn Penrhyn Wildlife Site (see below). IACC therefore requires more information to be persuaded that the residual effect predicted by Horizon ('minor adverse') is robust.

#### 5.2.24 **Arfordir Mynydd y Wylfa – Trwyn Penrhyn Wildlife Site**

IACC notes that it would be exceptional for a new residential development of this scale to not explicitly and comprehensively consider potential visitor pressure effects on nearby designated sites (and this would include all of the other sites in the vicinity) – and the reliance on the temporary nature of the workers accommodation is not a robust mitigating factor given the damage that can result in relatively short periods of time if behavioural guidance measures are not applied. As with cough, the mitigation proposed (or its predicted effectiveness) is not clear. IACC would therefore wish to see the mitigation relied on in the ES clearly set out in the WMS, and evidence that it is deliverable, with specific measures identified to manage visitor pressure and mitigate its effects. IACC therefore requires more information to be persuaded that the residual effect predicted by Horizon ('minor adverse') is robust.

5.2.25 **Red Squirrel:** The ES concludes that the negative impact due to loss of habitat for red squirrel will be of 'negligible significance', based on the loss of 3 ha. of habitat suitable for red squirrel and the retention of 10.5 ha associated with Dame Sylvia Crowe (DSC) Mound, offset by provision of 22 ha. of restoration under the LHMS. This underplays the potential significance of short-term connecting habitat loss and the isolation of the DSC mound for 10+ years; the Red Squirrel TSR notes that "*Rodriguez and Andren's (1999) study predicted that squirrels utilise fragments if they are larger than 10 ha in size and are within 600 m of a source population*" - other evidence would also suggest that an isolated 10 ha woodland is not sufficient to support an independently viable population (even with the proposed supplementary feeding). This is also likely to be the case when considered cumulatively with disturbance effects (which are initially assessed as being 'minor adverse').

5.2.26 Furthermore, it is apparent that the National Grid (NGET) North Wales Connection Project will remove a section of trees through the middle of the DSC woodland (see NGET Figure Set 4.11, Ref. DCO\_A/TR/PS/01 - Trees and

Hedges Potentially Affected Plans<sup>47</sup>). Whilst NGET has identified a relatively narrow belt of trees that would be removed and affected (as shown on Plan 5.7.1.17), removing trees from the middle of a woodland usually results in adjacent trees being exposed to wind throw, which may be a significant issue given the location and exposure of Anglesey. It is also likely that the construction phases will coincide. The 'cumulative' impact assessment includes no substantive consideration of the effects of the NGET scheme, particularly if the woodland is fragmented. This is a potentially significant omission, given the key role that the DSC woodland plays in the mitigation and hence assessment of effects on red squirrel in the ES.

5.2.27 Additional mitigation is identified (artificial dreys, supplementary feeding), and as no residual effects are identified in either the 'alone' or 'cumulative' assessments it is assumed that these measures are considered to be effective. IACC does not accept this conclusion: given the cumulative effects of population isolation, small woodland size, disturbance and habitat fragmentation operating over 10+ years, with the addition of the NGET scheme in the same timeframe, it should be assumed that the population using the site will be lost for the duration of the works at least, and probably longer, and that the site will be largely isolated from recolonization into the 'long-term'. The loss of a 'low' population is significant in a local context but perhaps less so taking the population of Anglesey into account. For information, the RSST estimates that the population of red squirrels on Anglesey is approximately 700, which would be the largest population in Wales, although it remains fairly fragmented and so connectivity between populations and smaller patches of habitat is important for population resilience. On this basis the magnitude of change is arguably 'medium' in the short- and medium-term, with the prospect of an appropriate LHMS eventually mitigating this in the long-term (once connecting woodland is established and matures). However, the LHMS needs to be designed to facilitate recolonisation from local known populations and should include provision for at least one woodland block over 10 ha in addition to the DSC woodland to ensure that the long-term value of the site is enhanced over the baseline. The assessment should also be clearer regarding the cumulative effects of the NGET scheme on the retained habitats; it is not clear whether the numbers referred to in the ES are taking the losses predicted in the NGET application into account.

5.2.28 **Bats:** The ES indicates that there will be a 'minor adverse' effect on bats, but only in relation to disturbance; loss of habitat (including virtually all features that might be used for roosting (trees and buildings) is assessed as being 'negligible' (taking into account the LHMS). IACC has two principle concerns with this assessment:

- a) the assessment underplays the significance of losing most habitat features across several hundred hectares for at least 10 years (and probably several decades for some features, such as tree roosts); and
- b) there is a lack of clarity regarding the mitigation proposals, particularly for the loss of roosts, and hence the relationship to the assessment of effects.

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<sup>47</sup> North Wales Connection Project PINS website ([Link](#))

- 5.2.29 For example, Para. 9.5.299 states that “*Good practice mitigation would also be required if trees supporting bat roost potential would be lost. This would comprise the provision of bat boxes to mitigate the loss of roosting features. All works affecting tree roosts would be subject to an EPSML, as outlined in appendix D9-20.*” The good practice mitigation in Section 9.4 makes no mention of bat box provision; and it is not clear whether this proposed mitigation is for ‘known roosts’ (which would be required in any case), “*trees [with] bat roost potential*”, or “*roosting features*”; or what the quantum of provision is. The subsequent reference to the EPSML in para. 9.5.299 does not add clarity – is this ‘mitigation’ for the loss of ‘known roosts’ or ‘mitigation’ for the reduction in the number of features that might be available to roosting bats across the site?
- 5.2.30 The provision of bat boxes is then identified as an “Additional Mitigation” measure in Table D9-10, which states that “*To compensate for the loss of potential roost features due to building demolition and tree felling, 24 Schwegler bat boxes would be hung within an area of retained woodland to the east of the Power Station*”.
- 5.2.31 It is not clear then how this relates to the assessment (i.e. is the ‘additional mitigation’ meant to be factored into the assessment of effects? The statement in para. 9.5.304 that “*It is predicted that...the effect on roosting bats would be negligible...Additional mitigation is described in section 6.9.*” would suggest not); nor is it clear what this provision specifically relates to: the baseline notes that there are 16 known building roosts (and presumably additional buildings with features that might be used by bats) and “*57 trees and some areas of plantation woodland with features that have the potential to support roosting bats*”. So, is the provision of 24 bat boxes intended to mitigate the loss of 16 known roosts, plus at least 57 trees with features that could be used?
- 5.2.32 This was explored at the meeting on 17 October, and the mitigation strategy was clarified, although IACC has not received further information or confirmation of the precise provision of compensatory roosting habitat and how this relates to the loss of roosting opportunities across the site. Furthermore, the current mitigation strategy appears to be based primarily around the licensing requirements for the loss of known roosts (with some over-provision), which is inevitably a narrower consideration than the overall suitability of the landscape for bats. The concentration of roost provision around a small number of ‘bat barns’ will provide some benefits to bat populations locally, principally if breeding productivity increases - but the significance of losing all features that might be used for opportunistic roosting over several hundred hectares for 30+ years (assuming time for trees to reach some level of maturity) should not be underestimated, particularly the importance of having such features available away from maternity roosts for males and non-breeding females. Overall, this is still considered a negative impact. IACC has concerns that the current commitment to roost provision does not offset the long-term loss of roosting opportunities site-wide; the provision of bat boxes in the short and long-term should reflect this loss.

### 5.3 Policy Position

- 5.3.1 The policies that are relevant to mitigation include Section 6 of the Environment (Wales) Act 2016. This places a duty on public authorities to *'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of their functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'*. TAN5 requires developers to *'avoid adverse effects on nature conservation, minimise unavoidable effects by mitigation measures and compensate for residual effects on nature conservation'*.
- 5.3.2 IACC is of the opinion that this national legislation and policy, supported by local policy below justifies its request for additional mitigation requested above.
- 5.3.3 The overarching policy position in relation to the Wylfa Newydd Project is provided by Policy PS 9 Wylfa Newydd and related development. Criterion 1 of Policy PS 9 requires that the development of the nuclear power station (and related development) should be shaped by consideration of all relevant Policies in the JLDP. Based on the assessment of impacts described above the following criteria in Policy PS 9 are also of relevance:
- 5.3.4 Criterion 6 states that in preparing the Local Impact Report, the IACC will require that *'site selection and the proposal detail shall be informed by a consideration of legacy uses, so that investment in elements such as infrastructure, buildings, ecological and landscape works brings long term benefits'*.
- 5.3.5 Criterion 8 states that when determining a planning application, there is a need to *'Protect, retain or enhance trees, hedgerows or woodland of visual, ecological, historic cultural or amenity value'*.
- 5.3.6 Other relevant Policies in the JLDP include Policy PS 19, which seeks to avoid repetition of national policy and legislation and sets a presumption against development that has a significant adverse effect on the natural environment, countryside and coastline, unless the need and benefits of the development in that location clearly outweighs the value of the site or area and national policy protection for the site and area in question. The assets include the type of habitats and species that would be affected by the proposal. The following development management policies are also of particular relevance:
- 5.3.7 Policy AMG 3 sets a requirement that proposals should avoid significant adverse impact on features and qualities that are unique to the local landscape in terms of visual, historic, geological, ecological or cultural aspects.
- 5.3.8 Policy AMG 5 addressing Local Biodiversity Conservation states that proposals must *'protect and, where appropriate, enhance biodiversity...considering opportunities to create, improve and manage wildlife habitats and natural landscape including wildlife corridors...trees, hedges'* etc.
- 5.3.9 Policy AMG 6 deals with sites of regional or local significance, including wildlife sites, and sets a requirement to avoid direct or indirect significant harm unless

there is an overriding need for the development and subject to appropriate mitigation measures.

5.3.10 Wylfa Newydd SPG GP21 states that *'where adverse impacts cannot be avoided, appropriate mitigation and/or compensation measures will require to be implemented'*.

5.3.11 The IACC also consider that criterion 16 is of particular relevance. This states that as the project develops there may be unforeseen circumstances resulting from the construction and operation periods that require additional works to be carried out by Horizon to offset any additional impacts. A robust review mechanism is critical.

## **5.4 Gaps in Information**

5.4.1 IACC have identified several gaps and areas of ambiguity or inconsistency in the ecological information provided by Horizon, relating to both the evidence base and the mitigation proposals. These gaps and ambiguities mean that IACC cannot agree with, or adequately test, all of the EclA conclusions. The principal areas of concern are set out in the following sections. IACC believes that these uncertainties should be fully resolved prior to consent, or the implications for the assessment fully understood so that they can be adequately balanced against the need for the development and suitably precautionary mitigation can be defined.

### **Landscape and Habitat Management Strategy (LHMS)**

5.4.2 The EclA relies heavily on the mitigation provided by the Landscape and Habitat Management Strategy (LHMS) when reaching its conclusions. However, many of the principles or commitments within the LHMS remain generic and lack detail, which ensures that verifying many assessment conclusions (e.g. with regard to S.7 habitats, see below) is not possible. There are a number of inconsistencies between the LHMS and the mitigation commitments in the EclA (e.g. number of bat barns) which do not allow the stated effects in the EclA to be robustly tested.

### **Section 7 Habitats**

5.4.3 Section 6 of the Environment (Wales) Act (2016) requires, *inter alia*, that the public authority have regard to the list of habitats and species published by NRW pursuant to Section 7 of the Act (herein 'S.7' habitats or species).

5.4.4 Horizon's conclusion regarding effects on habitats is summarised in Para. 9.5.136 of ES Volume D – WNDA Development D9 as being: *"...medium in the medium-term. As the habitat permanently lost under the footprint of permanent infrastructure mainly comprises low quality grassland, and the provisions of the Habitat Management Strategy would mitigate habitat losses in the long-term through the creation of habitats of higher biodiversity value, the medium magnitude of change is not expected to affect the integrity of terrestrial habitats. As such, a minor adverse effect due to habitat loss, fragmentation or modification is predicted"*. Whilst IACC would agree that much of the site is low

ecological value agricultural land, the baseline habitat data are not presented in a manner that allows this assessment to be easily tested. In particular, the areas of each S.7 habitat that will be permanently or temporarily lost are not stated, and nor is the timescale over which any effects will be offset by the LHMS. This information was requested at a meeting on [DATE], but has not yet been forthcoming. IACC believes that the applicant needs to clearly identify the S.7 habitats present at the site; the amounts permanently lost and temporarily lost; the net gain predicted as a result of the LHMS; and the timescales over which these gains will be realised. This should cross-reference the NVC survey as far as possible to specifically identify the rarer and higher-value S.7 habitats, and commitments for replacing these. This will allow the assessments in the EclA to be tested now and through long-term monitoring of the LHMS delivery.

## Reptiles

5.4.5 The absence of survey details within the Technical Survey Report (TSR) (e.g. area surveyed; density of tiles; etc.) means that the survey results cannot be put into context or their limitations fully assessed. The reptile TSR does state that “[Survey] *limitations are unlikely to significantly alter the conclusions...primarily due the quantity of data available from four years of survey data, coupled with background data from Cofnod and incidental sightings*”. However, there are not ‘four years of survey data’ as stated but several surveys from several locations, undertaken during a four-year period. No locations have ‘four years of survey data’ – for most locations there are only one or two years of survey data. It is possible that survey limitations in a given year would affect results for locations surveyed in that year, which would not necessarily be ameliorated by further data from subsequent surveys. This information was requested at the meeting on 17 October, but has not yet been forthcoming. IACC consequently cannot have full confidence in the statement that “[Survey] *limitations are unlikely to significantly alter the conclusions...*”. In addition, Section 4 of the TSR notes that “*A full review of the literature pertaining to the population of reptiles on Anglesey has not been carried out as it does not form part of the scope of this report*”. A literature review is unlikely to be particularly revealing although arguably an attempt would be appropriate to allow the results to be put in a local / regional context (if possible) – e.g. how do the results compare with known high-value areas on the Island? This is information that local reptile groups would be able to provide, and adders are known to be patchily distributed across the Island.

## Bats

- 5.4.6 There are several deviations from established survey guidance (both currently, and at the time of survey) that are not explained, and which could affect the characterisation of the baseline. Most notably:
- 5.4.7 Walked activity surveys started 40 minutes after sunset, whereas the published 2012 bat survey guidelines suggest it is most appropriate for surveys to commence 15 minutes prior to sunset.

- 5.4.8 Static detector surveys ran for three consecutive nights at a time, whereas the 2012 guidelines suggest five consecutive nights is appropriate for a 'medium value' site.
- 5.4.9 It is not made clear in the technical summary report why this deviation away from the guidelines would not result in a potentially significant change in the data collected. The justification provided for starting activity surveys 40 minutes after sunset is that "*the aim was to record foraging and commuting activity only and not activity associated close to their roosts*", which is not entirely convincing (it arguably assumes that all roost locations are known, and so activity near these is not of interest; and it restricts identification of areas that may be important in the immediate post-emergence period (e.g. sheltered 'warm-up' foraging areas; habitats connecting roosting sites and foraging grounds). Identification of potentially important features the bats rely upon immediately after leaving a roost requires surveys from sunset onwards. Based on information provided in the meeting on 17 October, it is understood that this was due to a continuation of survey approach from the early surveys, although IACC would like the implications of these deviations examined.
- 5.4.10 The other main issue with the bat assessment is not necessarily a data gap, rather a lack of clarity regarding the mitigation proposals, particularly for the loss of roosts, and hence the relationship to the assessment of effects; this is addressed above.

### **Red Squirrel**

- 5.4.11 As noted, the cumulative effects of the Wylfa Newydd scheme with the NGET proposals on the retained habitats of the DSC mound are not clearly set out, and it is not clear whether the retention figures provided within the Wylfa ES (i.e. 10.5 ha. retained to mitigate effects on red squirrel) take any account of the NGET proposals.

### **Breeding Birds**

- 5.4.12 The specific survey dates and specific times at which surveys were undertaken are not provided, which influence the results of breeding bird surveys. In addition, with regards to the target species, the technical summary provides no indication whether surveys were appropriately tailored to maximise the likelihood of observing the target species. For instance, many bespoke survey guidelines have been produced to assess for presence/ absence of raptors and other Schedule 1 species i.e. many of the birds defined as target species in the assessment. Hardey *et al.* (2009) provides a commonly used methodology for assessing for presence of breeding peregrine. However, the methods used to assess for breeding peregrine appear to be in contrast to those outlined in Hardey *et al.*, and the same principle likely applies to surveys carried out for the remaining target species. There may be adequate justification for this, but it is not provided in the technical summary.
- 5.4.13 The Breeding Bird Technical Summary uses Fuller's valuation tool to assign a value to the breeding bird assemblage recorded at the site. The technical

summary uses the 70 confirmed breeding birds recorded to assign a value of 'regional' importance to the breeding bird assemblage at the site. However, Paragraph 9.3.73 of section D9 of the Environmental Statement goes on to state that whilst Fuller has been considered, when taken in context with the large size of the study area, and the long survey period, the breeding bird assemblage can instead be assigned a low value.

5.4.14 In summary, the technical summary and the ES explicitly employs a valuation tool to assess the value of the breeding bird assemblage. The valuation tool used assigns a value of between regional and national importance to the breeding bird assemblage recorded at the site. However, the valuation tool is then described as inappropriate for use on a site of such scale, and the valuation it provides is not followed; no explanation or justification is provided for reaching the conclusion that the breeding bird assemblage recorded is of low value. This requires further clarification.

## **5.5 DCO Obligations and Requirements**

4.5.1 Subject to the above confirmation, IACC seeks amendments to the relevant sub-COCP, LHMS, and/or a requirement for method statements to safeguard ecological receptors. IACC considers that this additional mitigation would be appropriately precautionary and in-keeping with Section 6 of the Environment (Wales) Act 2016. Over-provision of mitigation or enhancement may be required where the assessment of effects is questionable due to data gaps.

## **5.6 Summary**

5.6.1 Horizon has identified significant residual effects for the following receptors:

- a) Tre'r Gof SSSI
- b) Arfordir Mynydd y Wylfa – Trwyn Penrhyn Wildlife Site
- c) Ancient woodland
- d) Fungi
- e) Chough

5.6.2 IACC concurs with this assessment and classes these as negative impacts for the purposes of this report. However, there are a number of areas where the impacts of the construction phase are arguably underplayed due to a reliance on the mitigation provided in the long-term by the LHMS. In reality, the construction stage effects will affect several hundred hectares and be in operation for a decade at least, with residual effects from this lasting substantially longer before the benefits of the LHMS are realised.

5.6.3 In addition, there are information or data gaps within the TSRs which mean that some effects on some receptors cannot be robustly reviewed. IACC would require that these gaps be filled.

5.6.4 As a result of these aspects (concerns over the assessment of the short- and medium-term effects for some receptors, and the difficulty in verifying some assessment conclusions) IACC considers that additional mitigation or



enhancement measures are required to offset the assessment uncertainties, alongside detailed monitoring schemes.

## 6.0 Surface Water and Groundwater

### 6.1 Context

- 6.1.1 Anglesey has an important and valuable natural environment. The Sense of Place report describes the topography of the Island as generally subdued with a rolling, undulating pattern interspersed by harder, rocky outcrops. The landform falls east to west, consistent with the north east – south west alignment of the island’s main rivers. This general character belies a complex, underlying geology which contains some of the oldest rocks in Wales and Britain as a whole. Anglesey also hosts a significant number of protected sites, including European Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), National Nature Reserves and Sites of Special Scientific Interest (SSSIs), many of which are dependent on groundwater and/or surface water inputs.
- 6.1.2 The area that could potentially be affected by the proposed development of the Wylfa Newydd Main Power Station Site includes all the water features that may be hydrologically linked to the site and the land areas that drain these features. The surface water study area encompasses five small surface water catchments while the groundwater study area has been defined to extend 3km in radius from the centre of the Wylfa Newydd Development Area. The study areas include locations that are at significant risk from flooding as well as sensitive receptors including water dependent SSSIs at Tre’r Gof, Cae Gwyn and Cemlyn Bay, designated Bathing Water areas and private water supplies.
- 6.1.3 Following a multi-stakeholder effort between the Council, NRW and Dwr Cymru to implement measures to improve the water quality at Cemaes, after being classed as ‘poor’ during the 2016 and 2017 bathing seasons due to diffuse pollution from agricultural land within the catchment, the bathing water has now been confirmed as having a ‘sufficient’ rating in the latest 2018 report<sup>48</sup>.
- 6.1.4 The water quality problem at the beach has also formed part of a £5.8m Acclimatize Project, a study led by Aberystwyth and Dublin Universities looking at the effects of climate change on ‘at risk’ beaches in Wales and Ireland. The Study included developing technology for modelling likely bacteriological water quality based on a number of monitored parameters such as river flow, tide, temperature, relative humidity and rainfall. This has help to inform a more sophisticated public advice system at the beach to advise beach users about the suitability of the water for bathing (see Twitter page @traethcemaes).

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1. Bathing Waters Directive compliance by bathing water, 2018  
[\(Link\)](#)

6.1.5 The Council considers the water quality at Cemaes to remain 'at risk' and that any further deterioration in microbial quality due to the development could be deleterious to future EU compliance and impact on the coastal community which is heavily dependent on tourism. The beach lies within the Anglesey AONB and part of the beach is also within the North Anglesey Heritage Coast.

## 6.2 Impacts and Evidence Base

6.2.1 IACC has assessed the relevant ES chapter and supporting appendices, including the Flood Consequence Assessment<sup>49</sup>. IACC has not undertaken a detailed technical review of the groundwater modelling report but has assessed the reported results in the context of the ES chapter<sup>50</sup>. IACC concludes that for most identified receptors which could be impacted, suitable mitigations are identified, and the potential magnitude of change is agreed. IACC does however have significant concerns with regards to potential flood risk impacts, proposed sustainable drainage solutions (SuDS) and Tre'r Gof SSSI.

6.2.2 Horizon's ES chapter for WNDA (Table D8-9 - Summary of Residual Effects, 6.4.8 ES Volume D- WNDA Development D8 -Surface water and Groundwater<sup>51</sup>) does not note any positive effects resulting from the proposed development during the construction, operation and decommissioning phases. IACC agrees with this conclusion.

6.2.3 Horizon has identified multiple minor adverse surface water and groundwater effects which would be less than significant. Fifty four such effects assessed are detailed in Appendix I3-1 (Master residual effects<sup>52</sup>). IACC agrees with these except those in relation to flood risk on Nant Cemaes and effects of increased suspended sediment load on Afon Cafnan, Nant Cemaes and Tre'r Gof. These are discussed further below.

6.2.4 Horizon's ES chapter for WNDA (Table D8-9 - Summary of Residual Effects, 6.4.8 ES Volume D- WNDA Development D8 -Surface water and Groundwater<sup>53</sup>) notes five moderate adverse effects and one major adverse effect:

**a) Change in natural catchment area through landscape mounding and managed drainage, which could alter the rainfall/runoff rates and baseflow from groundwater leading to changes to water availability.**

- i. Tre'r Gof catchment and water within Tre'r Gof SSSI - Moderate adverse effect during construction, major adverse effect during operation.
- ii. Afon Cafnan catchment, Cemaes catchment and Cemlyn Catchment - Moderate adverse effect during operation.

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<sup>49</sup> Examination Library Reference APP-150 – APP-157 9 (FCA is in 8 parts)

<sup>50</sup> Examination Library Reference APP-127

<sup>51</sup> Examination Library reference APP-[127]

<sup>52</sup> Examination Library reference APP-[391]

<sup>53</sup> Examination Library reference APP-[127]

b) **Changes to surface water/shallow groundwater inflows at seeps and flushes affecting water availability and quality due to managed drainage system.**

- i. Tre'r Gof catchment and water within Tre'r Gof SSSI - Moderate adverse effect during construction.

Appendix I3-1 (Master residual effects<sup>54</sup>) expands this to include:

c) **Effects of increased suspended sediment in runoff from landscape mounding prior to full vegetation growth could affect water quality.**

- i. Tre'r Gof catchment and water within Tre'r Gof SSSI – Moderate adverse effect during construction (assessed as neutral in Table D8-9).
- ii. Cemaes catchment – moderate adverse effect during construction and operation (assessed as neutral in Table D8-9).

6.2.5 IACC has assessed the relevant chapter and supporting appendices, including the Flood Consequence Assessment<sup>55</sup>, and concludes that for most identified receptors which could be impacted, suitable mitigations are identified, and the potential magnitude of change is agreed.

6.2.6 Horizon have committed to detailed development of a sustainable drainage systems (SuDS) to be provided post-DCO. The system will match baseline conditions as closely as practicable, in agreement with the regulator as part of the final landform design". However, IACC's assessment concludes that, in the absence of further detail relating to the proposed drainage schemes (construction and operation phases), it is unable to agree with Horizon's assessment as it needs to be satisfied that the mitigation as proposed is likely to be sufficient to reduce impacts related to changes in water quantity and increased suspended sediment in run off to minor/moderate adverse.

6.2.7 The IACC assessment also concludes the following additional significant impact:

- a) **Flood Risk** - IACC cannot confirm that the development within the main site will not result in an increased in flood risk receptors on the Nant Cemaes (Brookside Garage and adjacent residential properties) during both construction and operational phase. Horizon has committed to more detailed assessment and considers that this will 'design out' the risk. However, the submitted documents indicate that all this detail is to be provided post-DCO. The ES then takes the position that on the basis this mitigation will be successful, the potential effect is 'not significant'. Without further detail being provided by Horizon including further modelling and mitigation design detail, IACC cannot be satisfied that following mitigation flood risk will be negligible.

### 6.3 Policy Position

6.3.1 Criterion 1 of Policy PS 9 Wylfa Newydd and related development, which is the overarching Policy for the Wylfa Newydd Project, expects the proposal to be

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<sup>54</sup> Examination Library reference APP-[391]

<sup>55</sup> Examination Library reference APP-[150-157]

shaped by any relevant Policies in the Plan and any relevant supplementary planning guidance. Criterion 8 of Policy PS 9 is also relevant to the issues raised in relation to Tre Gof, as it expects that the scheme's layout and design to avoid, minimise, mitigate or compensate for a range of impacts, which includes ecological impacts. The following provides a schedule of Policies that are relevant to issues raised above, e.g. flood risk, impact on habitats.

6.3.2 Strategic Policy PS 5 Sustainable Development, criteria 6, 7 and 8:

- a) *6 - Protect and improve the quality of the natural environment, its landscapes and biodiversity assets, including understanding and appreciating them for the social and economic contribution they make in accordance with Strategic Policy PS 19;*
- b) *7 - Reduce the effect on local resources, avoiding pollution [...]; and protecting soil quality;*
- c) *8 - Reduce the amount of water used and wasted; reducing the effect on water resources and quality; managing flood risk and maximizing use of sustainable drainage schemes; and progressing the objectives of the Western Wales River Basin Water Management Plan.*

6.3.3 Strategic Policy PS 19: Conserving and where appropriate enhancing the Natural Environment, criteria 2 and 3 state:

- a) *2- Protect or where appropriate enhance sites of international, national, regional and local importance and, where appropriate, their settings in line with National Policy;*
- b) *3 - Have appropriate regard to the relative significance of international, national or local designations in considering the weight to be attached to acknowledged interests, ensuring that any international or national responsibilities and obligations are fully met in accordance with National Policy;*

**WN-SPG 2018:**

6.3.4 Advice on how to apply relevant Policies is provided in this SPG. The following provides a schedule of guiding principles (GP) set out in the SPG, which are of particular relevance to the issues raised in this section of this Chapter of the LIR:

6.3.5 GP22 Conserving the Water Environment

*The Wylfa Newydd project promoter will be required to demonstrate that the construction and operation of the power station, associated and related developments, either alone or in combination with other proposals, would not have an adverse impact on water quality, riparian habitats and aquatic species (including migratory fish populations) or commercial and recreational users.*

*Where the potential for adverse impacts is identified, measures should be implemented to mitigate these impacts. Such measures could include:*

*i. Surface water runoff control from construction sites and protection of the receiving environment, including soils/water pathways through the incorporation of Sustainable Drainage Systems into the design of new developments;*

*[...]*

*iii. The implementation of Environmental Management Plans;*

*[...]*

*v. Securing the provision of appropriate water supply and wastewater infrastructure to meet demand arising from the construction and operation of the main site, associated and related developments, in accordance with GP15.*

#### **6.3.6 GP28a Wylfa Newydd Main Site – Key Development Principles**

*[...]*

*c. Avoid adverse effects on water resources and water quality during construction and operation;*

*d. Ensure that development is resilient to flood risk including storm surge and tsunami;*

*e. Avoid, mitigate or where appropriate compensate for adverse impacts on the following sites (ensuring no net loss of biodiversity):*

*i. the integrity of Natura 2000 sites (or their interest features) including Cemlyn Bay SAC, Ynys Feurig, Cemlyn Bay and The Skerries SPA, Menai Strait and Conwy Bay SAC, Liverpool Bay SPA, Lavan Sands SPA and Puffin Island SPA (where development at the main Wylfa Newydd site, either alone or in-combination with other proposals, gives rise to the likelihood of significant effects on a Natura 2000 site then Appropriate Assessment will be required);*

*ii. the condition of SSSIs including Tre'r Gof SSSI;*

*[...]*

*iv. key habitats and protected species, including those identified in the Anglesey Local Biodiversity Action Plan.*

*h. Identify [...], habitat creation, flood risk management [...] that integrate appropriately with the surrounding area. Landscape and green infrastructure works and enhancements that extend beyond the power station main site boundary could potentially mitigate and compensate the impacts of the project and provide enhancements where appropriate;*

### 6.3.7 GP28b Wylfa Newydd Main Site Campus Style Temporary Construction Worker Accommodation – Key Development Principles

*In addition to that set out in policy GP28b:*

*xi. Avoiding adverse effects on the availability and quality of water resources for existing communities within North Anglesey that may otherwise arise from the accommodation of temporary accommodation workers.*

#### GP20 Adapting to Climate Change

*Requires appropriate inclusion for the effects of climate change in designs, with regards to remaining operational during times of flooding, compensatory flood storage, uses of SuDS, requires flood warning and evacuation plans.*

*Policy therefore provides support to require Horizon to ensure the flood risk measures are ‘comprehensive’; and to ensure that the natural environment is fully protected.*

- 6.3.8 The submitted application does not provide sufficient confidence that the Tre'r Gof SSSI can be protected through detailed design and engineering measures as expected within NPS EN6 Volume II. The potential loss of the SSSI would be contrary to national (PPW) policy and to local policy particularly JLDP Policy PS 19.

## **6.4 Gaps in Information**

- 6.4.1 **Flood Risk** - The ES, Chapter D8<sup>56</sup> confirms that the development, through modifying and increasing catchment areas at the WNDA, will result in an increase in flood risk to receptors on the Nant Cemaes (Brookside Garage and adjacent residential properties) during both construction and operational phase.
- 6.4.2 The FCA<sup>57</sup> confirms that ‘*Currently the drainage design is at an outline stage and further design work is required to refine the drainage scheme to remove the impact on fluvial and pluvial flood risks identified by the modelling..*’ The ES goes on to confirm that with more detailed assessment including hydraulic modelling and mitigation design detail that effects to identified receptors will be reduced to negligible. IACC is concerned that without the detail of the mitigation design included as part of the DCO it cannot be confirmed that mitigation measures are feasible and can be delivered to mitigate the increased flood risk, at both the construction and operational phase.
- 6.4.3 Horizon should provide further detail to demonstrate that increased flood risk can be managed and that the proposals are compliant with NPS-EN1 and TAN15 in addition to JLDP policy PS 5.

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<sup>56</sup> Examination Library reference APP-[127]

<sup>57</sup> Examination Library reference APP-[150]. Page 79.

- 6.4.4 **Surface Water and Groundwater** - The ES, Chapter D8<sup>58</sup> confirms that following mitigation (embedded, good practice and additional), changes to surface water and groundwater quantity and suspended sediment loads, may still pose a risk to receptors, which include Afon Cafnan, Nant Cemaes and Cemaes Bay and Nant Cemlyn, during the operational and construction phases.
- 6.4.5 The ES confirms that Horizon will develop a passive engineered solution of the drainage system, with the system matching baseline conditions as closely as practicable possible and in agreement with the regulator as part of the final landform design. There is a need to acknowledge that sensitive ecological receptors (low flows) and flood risk receptors (high flows) will not be adversely affected. Specific concern relates to turbidity and sedimentation risk for Bathing Water quality at Cemaes Bay.
- 6.4.6 Further detail of the mitigation design detail should be provided by Horizon to demonstrate that mitigation can be implemented successfully, and to confirm that the drainage system (SuDS) will match existing baseline, as close as practically possible.
- 6.4.7 We are aware that further modelling and assessment is being progressed by HNP in consultation with Welsh Water and this is to be submitted into the examination process. The IACC would be seeking confirmation from NRW that they are satisfied with the conclusions of these assessments including proposed mitigation proposals.
- 6.4.8 **Tre'r Gof SSSI** - The DCO application does not exclude the possibility of significant adverse effect on the Tre'r Gof SSSI and includes three sites where habitat creation and enhancement works are proposed to offset the anticipated effects of the development on Tre'r Gof SSSI. IACC needs to be assured that the compensation package can offset the anticipated effects. Investigations undertaken by HNP to assess the feasibility of the compensation sites should enable development of detailed conceptual models of the sites and surrounding areas and include groundwater and surface water level and flow monitoring, water quality monitoring and substrate sampling.

## 6.5 DCO Obligations and Requirements

- 6.5.1 Mitigations in the ES are general and high-level. No substantive detail is included to enable an appraisal of mitigation effectiveness. The ES indicates that the operation of monitoring schemes during the construction phase will be fine-tuned as required based on ongoing monitoring/operation of the scheme.
- 6.5.2 Providing further information post-DCO at the detailed design stage for drainage scheme may be acceptable in other circumstances. However, in this case the potential for impacts on the SSSI and the national and local policy support afforded

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<sup>58</sup> Examination Library reference APP-[127]



to it mean that potential approaches to mitigate should be confirmed in advance of consent, such that suitable land-take is confirmed as available within the application area for any required water management mitigations. Should the ExA take a different approach, IACC would ask that a requirement is included such that the details of the additional design work are submitted to and approved by IACC prior to commencement of development at the main site (including the site campus).

- 6.5.3 In addition to the above, IACC requires compensation for the potential loss of the SSSI. The sites identified by Horizon need to be secured with any works necessary to improve their conditions relative to Tre'r Gof undertaken to a timescale to be agreed by IACC in consultation with NRW.

## **6.6 Summary of Surface Water and Groundwater Impacts**

- 6.6.1 The key issue is ensuring a comprehensive approach to avoiding or mitigating for the adverse effects to Tre'r Gof SSSI. Further details of the proposed drainage scheme design and the effectiveness of water quality measures to protect against sediment ingress to watercourses and downstream impacts on SSSIs and bathing water areas is also required.

## 7.0 Existing Contaminated Land Issues

### 7.1 Context

7.1.1 The Wylfa Newydd Development Area (WNDA) is bounded to the north by the existing Magnox power station. The former power station had the potential to cause contamination either through using contaminated materials (e.g. contaminants within fill materials) or because of the processes carried out (e.g. chlorinated solvents). Construction of the new site has the potential to mobilise existing contamination which could result in the exposure of receptors<sup>59</sup> to the contamination.

7.1.2 Desk study reporting undertaken for the development identified several Areas of Potential Concern (APCs) which have been subjected to site investigation (boreholes and chemical analysis etc.). Details of these reports are presented in Table 2.1 of 6.4.24 ES Volume D – WNDA Development App D7-1 – Soils and Geology Baseline Conditions Report<sup>60</sup>.

7.1.3 These APCs are shown on Figure D7-6 of the environmental statement (6.4.7 ES Volume D – WNDA Development D7 – Soils and geology)<sup>61</sup>.

7.1.4 Potential effects of radiological contamination are not considered in this section.

### 7.2 Impacts and Evidence Base

7.2.1 The site investigations undertaken are reported in the ES (6.4.7 ES Volume D – WNDA Development D7 – Soils and geology)<sup>3</sup> as having identified the following:

- a) Low concentrations of polycyclic aromatic hydrocarbons (PAHs) and low concentrations of polychlorinated biphenyls (PCBs) (up to 1.1 µg/kg).
- b) Metals were recorded in soils but were generally below the relevant generic assessment criteria<sup>62</sup> (GAC). Some soil leachate sample concentrations exceeded water quality standards<sup>63</sup> (WQSS) for ammonium, copper, chromium, lead, manganese and zinc.
- c) Within APC7 a sump and valve chamber has been identified in which chlorinated solvents (in particular, trichloroethene) were recorded to a maximum concentration of 1,100 µg/l (the Environmental Quality Standard<sup>64</sup> for

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<sup>59</sup> Regulatory management of land contamination in Wales and the rest of the UK is based on risk.

For contamination to present a risk a contaminant linkage must be present that contains:

- 1) A source of contamination
- 2) A receptor capable of being harmed (e.g. future users of the site, adjacent residents, groundwater)
- 3) A pathway capable of exposing a receptor to the contaminant

<sup>60</sup> Examination Library reference APP-143

<sup>61</sup> Examination Library reference APP-126

<sup>62</sup> Generic assessment criteria are assessment concentrations that are considered to represent contaminant concentrations below which there is no unacceptable risk to human health for specific scenarios and are used to screen site investigation data.

<sup>63</sup> Water quality standards including environmental quality standards (see footnote 4) for fresh and saline water and drinking water standards. It should be noted that these standards are not derived for the regulation of contamination in groundwater.

<sup>64</sup> Environmental Quality Standards are set under the Environmental Quality Standards Directive (2008/105/EC) with the aim of achieving good surface water chemical status. ([Link](#))

trichloroethene is 10µg/l). A localised area of hydrocarbon-contaminated soil was also identified within APC7, with a total petroleum hydrocarbon concentration of 1,130 mg/kg and low concentrations of PAHs

- d) Asbestos was identified in APC10, APC12 and APC17.
- e) Made ground comprising waste material was identified in APC17, APC18 and APC19.

7.2.2 No ground investigation data are available for APC16 - Treglele petrol station.

7.2.3 Limited ground investigation has been undertaken outside of the APCs and the material encountered has mainly consisted of reworked natural materials. Soil leachate analysis has identified concentrations of chromium, copper, lead, manganese, mercury, nickel and zinc in excess of the Water Quality Standards.

7.2.4 The IACC review of the ES documentation referred to above has concluded that the assessments reflect the level of effect that would be generated at each stage in the main site lifecycle. However, this conclusion is subject to appropriate control and management of impacts being exerted during the construction phase.

7.2.5 Horizon's residual effects schedule (Table D7-11 Summary of Residual Effects, Chapter D7) concludes that there will be the following major positive significant effects in relation to the remediation of contaminated land during construction for:

- a) Construction workers (short-term)
- b) Adjacent land users (short-term)
- c) Future site users (short-term)
- d) High sensitivity controlled waters, e.g. Tre'r Gof catchment (long-term).

7.2.6 The schedule concludes that there will be the following moderate significant effects in relation to the remediation of contaminated land during construction for:

- a) Subgrade 3b soil (long-term)
- b) Medium sensitivity controlled waters, e.g. Afon Cafnan catchment (long-term).

7.2.7 The assessment of positive impacts is generally considered reasonable. However, the assessment of construction workers and adjacent land users does not appear to consider the potential effects on construction workers involved in the remediation or adjacent land users during the remediation. It is noted however that compliance with health and safety legislation should mitigate any adverse effects on construction workers and adjacent land users such that they are not significant.

7.2.8 Horizon has identified several minor beneficial effects on receptors of contamination that would be less than significant:

- a) Grade 5 soils
- b) Low sensitivity controlled waters.

7.2.9 Horizon has identified several minor adverse effects on receptors that would be less than significant:

- a) Soil quality (ALC grades / subgrades 2, 3a, 3b and 5) in relation to degradation through mixing with made ground
- b) Soil quality (ALC grades / subgrades 2, 3a, 3b and 5) in relation to disturbance of unexpected contamination and pollution incidents
- c) Controlled waters in relation to disturbance of unexpected contamination
- d) Construction workers and adjacent land users in relation to pollution incidents.

7.2.10 IACC considers the assessment of neutral impacts to be reasonable.

7.2.11 Horizon has identified one significant adverse effect in relation to land contamination associated with construction workers; the potential exposure of construction workers to unexpected contamination. IACC considers that it should be possible to provide some mitigation for this effect through adequate planning and management.

### **7.3 Policy Position**

7.3.1 Criterion 1 of Policy PS 9 Wylfa Newydd and related development, which is the overarching Policy for the Wylfa Newydd Project, expects the proposal to be shaped by any relevant Policies in the Plan and any relevant supplementary planning guidance. Based on the above assessment of impacts it is considered that the following Policy is of particular relevance:

7.3.2 JLDP Strategic Policy PS5: Sustainable Development states that all development proposals should:

*“Reduce the effect on local resources, avoiding pollution and incorporating sustainable building principles in order to contribute to energy conservation and efficiency; using renewable energy; reducing / recycling waste; using materials from sustainable sources; and protecting soil quality;” (criterion 7).*

7.3.3 The Wylfa Newydd SPG under GP 21 (Conserving and Enhancing the Natural Environment) identifies that where adverse impacts cannot be avoided mitigation and compensation measures may include remediation of contaminated land.

### **7.4 Gaps in Information**

7.4.1 IACC considers that there are gaps in the assessment which forms part of the DCO application including:

- a) The potentially negative effects of remediation have not been considered.
- b) No investigation information is available for APC16 - Tregel petrol station.

7.4.2 App D7-2 – Land Contamination Risk Assessment and Remediation Strategy

7.4.3 Previous site investigation factual reports are to be provided as Appendix B to App D7-2; these have not yet been provided with the submitted documentation.

7.4.4 There are several gaps in the report including the following:

- a) Gaps in the conceptual model used as the basis of the risk assessment:
  - i. Potential for plant uptake and subsequent vegetables to be consumed by livestock not considered as a potential pathway.
  - ii. Ecologically important receptors not considered.
  - iii. Inhalation of fibres not identified in pathways – appears to have been considered as dusts in CSM.
  - iv. Flowchart 3 - APC 9 – no reference to groundwater depth and potential vapour risks from NAPL and hydrocarbon/chlorinated solvents identified in groundwater.
  
- b) Gaps in the risk assessment including:
  - i. No assessment of risk to ecology / livestock for future agricultural use.
  - ii. Use of only C4SL and S4ULs means that a lot of substances have not been screened against human health assessment criteria. Consider use of EIC published GACs for screening of VOCs and SVOCs. No reference made to substances with reported concentrations above LoD but no GAC screen and potential risks presented by these substances to human health.
  - iii. No apparent assessment of additive effects of TPH has been undertaken.
  - iv. Asbestos analysis assessment does not refer to the differences in approaches utilised for the combined dataset / results. The method for both screen and quantification is likely to have changed significantly overtime with accuracy implications for both screen and quantification, with uncertainty for any screening of asbestos undertaken during the earlier investigations. The method of quantification e.g. gravimetric and / or PCOM should also be referenced.
  - v. No consideration of vapour risks from groundwater.
  - vi. Ground gas risk assessment relies on ground gas measurements, despite a recognition that a considerable change in ground conditions as a result of the construction works means that monitoring results are not a reliable indication of the ground gas regime post development.
  - vii. Further justification is required to confirm the assumption that “*the vast majority of the ground conditions recorded across the site suggests that the ground gas generation potential would be low*”. Horizon should consider reference to TOC risk assessment approach – CL:AIRE RB17 / BS8485 as a further line of evidence.
  - viii. High risks to current site users have been identified from asbestos. This does not appear to consider the results obtained which identify cement bound ACM closer to surface with fibres reported at deeper depths. It also does not appear to consider the ground surface conditions which will mitigate potential fibre release.

7.4.5 The remediation strategy identifies that there are further measures and plans that are required for its delivery, in particular those to address unexpected contamination, implementation of the remediation and verification.

7.4.6 The Wylfa Newydd Code of Construction Practice<sup>65</sup> and sub-CoCP<sup>66</sup> also cover land contamination management and state that “*Horizon will assess and manage land contamination in accordance with guidance within the Model Procedures for the Management of Land Contamination*”<sup>67</sup>. Minimal detail on how land contamination is to be managed is provided.

7.4.7 The CoCPs require tightening to include the items identified within the remediation strategy, i.e:

- a) Detailed methodology for the design, preparation, implementation verification, and monitoring and maintenance of the remediation. To include rationale for further sampling and analysis to allow design and verification.
- b) Details of the processes and procedures for the management of unexpected contamination, including rationale for further sampling, specific methodologies for safely managing unexpected contamination and minimising potential environmental impacts from unexpected contamination.

## 7.5 DCO Obligations and Requirements

7.5.1 IACC would wish to see an updated CoCP and sub-CoCP submitted during the examination. The revised documents should set out the information listed above. In the event that this information is not provided then IACC will require that DCO Requirement WN1 to be redrafted such that a detailed Sub- CoCP is to be submitted to and approved by IACC prior to commencement of development at the main site. This document should include for the provision of ‘hold points’ that require acceptance by the IACC prior to moving to the next step as would typically be provided as ‘conditions’ by a local authority under Town and Country Planning Applications. Hold points should include for the provision of the information requested above under ‘Gaps in Information’.

## 7.6 Summary

7.6.1 Land upon which Wylfa Newydd would be constructed includes land which has been contaminated by past activities. Horizon has undertaken an assessment of the effect arising from the mobilisation of this contamination upon receptors. IACC considers that the scope of assessment has been drawn too tightly and that the potentially negative effects which could arise from the remediation activities themselves have not been considered. Furthermore, there are additional receptors, such as ecological and future users of the land which have been ignored. A detailed review of the Land Contamination Risk Assessment and Remediation Strategy has identified a number of additional gaps in information as detailed.

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<sup>65</sup> Examination Library reference APP-414

<sup>66</sup> Examination Library reference APP-415

<sup>67</sup> Environment Agency (2004), Model Procedures for the Management of Land Contamination. Contaminated Land Report 11. ([Link](#))

## **8.0 Soils and Geology**

### **8.1 Context**

- 8.1.1 Horizon is proposing to construct and operate a new nuclear power station on land adjacent to the former Magnox nuclear power station on the north coast of Anglesey. The majority of the main site is currently used for grazing by sheep and cattle and the soils are predominantly loamy, with peaty soils present in some locations. The areas adjacent to the former power station were used as construction laydown areas during the development of the former Magnox power station.
- 8.1.2 Anglesey has been awarded UNESCO Global Geopark status, a recognition of Anglesey as a world class visitor attraction in terms of its geodiversity and geology. The Island boasts some of the most diverse and spectacular geology in the world, including important geological sites like South Stack, Holyhead's Breakwater Country Park, Cemaes, Parys Mountain, Newborough and Llanddwyn. These rocks span 4 eras and 12 geological periods and are often the reason behind the extraordinary range of plants and animals that also call the island their home
- 8.1.3 The geological heritage of Anglesey forms an important element of Anglesey's rich tourism product.
- 8.1.4 There are several regionally important geological and geomorphological sites (RIGS) near the power station.
- 8.1.5 Most of the effects on soil and geology receptors are likely to be associated with the disturbance of ground conditions during site preparation & clearance works and construction. Construction will include soil stripping, bulk earthworks, deep excavations for foundations and installation of a new surface water discharge point within Cemaes Bay.

### **8.2 Impacts and Evidence Base**

- 8.2.1 The IACC has undertaken a review of the documentation contained within the DCO application.
- 8.2.2 This includes 6.4.24 ES Volume D - WNDA Development App D7-1 - Soils and Geology Baseline Conditions Report<sup>68</sup> which includes details of:
- a) Soil types present (East Keswick 1 and Brickfield 2 and some peaty soils)
  - b) Agricultural land classification (ALC) surveys
  - c) Sites of geological importance
- 8.2.3 IACC's review has concluded that the assessments reflect the level of effect that would be generated at each stage in the main site lifecycle subject to appropriate control being exerted during the construction phase.

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<sup>68</sup> Examination Library reference APP-143

- 8.2.4 Note that the impacts associated with the remediation of contaminated soils are considered in the Main Site Existing Land Contamination Local Impact Report Chapter.
- 8.2.5 Horizon's residual effects schedule (Table D7-11 Summary of Residual Effects, Chapter D7)<sup>69</sup> concludes that there will be no major or moderate significant effects in relation to soils or geology.
- 8.2.6 Horizon has identified several minor adverse effects on soil and geology receptors that would be less than significant:
- a) Adverse effect on soil quality (ALC Grades/Subgrades 2, 3a, 3b and 5) due to vehicle trafficking over soil during site clearance works.
  - b) Degradation of soil quality of ALC Grades/Subgrades 2, 3a, 3b and 5 due to stripping, handling and storage during construction.
  - c) Potential degradation of soil quality (ALC Grades/Subgrades 2, 3a, 3b and 5) due to increased soil erosion.
  - d) Reduced accessibility and value of the Porth Wnal Dolerite RIGS as an educational resource due to the presence of the cooling water outfall.
- 8.2.7 IACC considers the assessment of neutral impacts to be reasonable.
- 8.2.8 Horizon has identified one significant adverse effect in relation to geology during the construction and operation periods:
- a) Damage to the Porth Wnal Dolerite RIGS due to the excavation of the cooling water outfall and associated cofferdam required for construction.
- 8.2.9 Mitigation proposals have been identified although confirmed that these proposals do not reduce the residual effects to less than significant. The mitigation proposals include for the provision of information boards and undertaking a LiDAR survey of the feature. Pre-arranged public access will also be permitted. An outline of the mitigation measures is provided within the main Site Sub CoCP (Volume 8.7)<sup>70</sup>.
- 8.2.10 The IACC agrees with the assessment of negative impacts and the mitigation proposals.

### **8.3 Policy Position**

- 8.3.1 Criterion 1 of Policy PS 9 Wylfa Newydd and related development, which is the overarching Policy for the Wylfa Newydd Project, expects the proposal to be shaped by any relevant Policies in the Plan and any relevant supplementary planning guidance. Criterion 8 of Policy PS 9 is also relevant to the issues raised in relation to the RIGS, as it expects that the scheme's layout and design to avoid, minimise, mitigate or compensate for a range of impacts, which includes ecological and historic impacts. The following provides a schedule of other Policies that are relevant to issues raised above.

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<sup>69</sup> Examination Library reference APP-126

<sup>70</sup> Examination Library reference APP-415



8.3.2 Strategic Policy PS 5: Sustainable Development states that all development proposals should:

*“Protect and improve the quality of the natural environment, its landscape, and biodiversity assets, including understanding them and appreciating them for the social and economic contribution they make in accordance with Strategic Policy PS 19” (criterion 6)*

*“Reduce the effect on local resources, avoiding pollution and incorporating sustainable building principles in order to contribute to energy conservation and efficiency; using renewable energy; reducing / recycling waste; using materials from sustainable sources; and protecting soil quality;” (criterion 7).*

8.3.3 Policy AMG 6: Protecting sites of regional or local significance

*“Proposals that are likely to cause direct or indirect significant harm to Local Nature Reserves (LNR), Wildlife Sites (WS)<sup>1</sup> or regionally important geological / geomorphologic sites (RIGS) will be refused, unless it can be proven that there is an overriding social, environmental and/or economic need for the development, and that there is no other suitable site that would avoid having a detrimental impact on sites of local nature conservation value or local geological importance.*

*When a development is granted, it will be necessary to ensure that there are appropriate mitigation measures in place. It will be possible to use planning conditions and/or obligations in order to safeguard the site’s biodiversity and geological importance.”*

Supporting text to the policy states that *“in the case of a development that would affect a RIGS site, if it is deemed that the development is more important than the significance of the site and that it is not practical to include measures to reduce the effect on the site, the developer must make suitable arrangements for the recording of the site by an individual who is experienced in the field before commencing the work and as the work progresses. It will be possible to include planning conditions or obligations to ensure this.”*

8.3.4 Wylfa Newydd SPG 2018:

Advice on how to apply relevant Policies is provided in this SPG. The following provides a schedule of guiding principles (GP) set out in the SPG, which are of particular relevance to the issues raised in this section of this Chapter of the LIR:

8.3.5 GP 21 Conserving and Enhancing the Natural Environment:

*“The Wylfa Newydd project promoter should seek to ensure that the Island’s unique and distinctive natural environment is conserved and, wherever possible, enhanced. In particular, the County Council requires the project promoter to demonstrate that the Wylfa Project, either alone or in combination with other proposals such as electricity transmission infrastructure, would not have unacceptable adverse impacts on:”*

*“vi. Regionally Important Geological and Geomorphological Sites and the Geopark status of parts of Anglesey;”*

*“Where adverse impacts cannot be avoided, appropriate mitigation and/or compensation measures will require to be implemented.”*

*“Soils and land use: The protection of soil quality during the construction phase will require an appropriate mitigation strategy.”*

## **8.4 Gaps in Information**

8.4.1 The IACC considers that there are gaps in the assessment which forms part of the DCO application including;

- a) Identification of the location of the areas to be stripped of topsoil and sub-soil and stockpiles.
- b) The soil management strategy and soil management plan requirements are to be covered by the Wylfa Newydd Code of construction practice and sub-CoCP. The codes of construction practice reference ‘general controls’ for the management of soils and do not require the production of soil management plans. The CoCPs need to confirm that the following information will be presented for approval as part of the process of approving the detailed Wylfa Newydd Code of Construction Practice and sub CoCPs:
  - i. Definition of the suitably qualified and experienced personnel that are to be employed to supervise the management of soil resources.
  - ii. Specifications for the soil resource surveys to be undertaken prior to earthworks commencing.
  - iii. The requirement to produce soil management plans that link to the developments materials management plan and waste management plan.
  - iv. The proposed contents of the soil management plans.
  - v. Principles to be used to characterise the soil moisture limits which will define when works cease.
  - vi. Principles of traffic management and soil stripping and placement.
  - vii. Proposed storage time limit for stripped soil.

## **8.5 DCO Obligations and Requirements**

8.5.1 IACC would wish to see an updated CoCP and sub CoCP submitted during the examination. The revised document should set out the information listed above. In the event that this information is not produced, the IACC will require that DCO requirement WN1 to be redrafted such that a detailed Sub- CoCP is to be submitted to and approved by IACC prior to commencement of development at the main site. This document should include for the provision of additional information in the form of soil management plans which will require approval by the IACC prior to commencement of development.

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