

**HORIZON**

NUCLEAR POWER



# Wylfa Newydd Project

## 6.9.5 ES Volume I - Cumulative effects I5 - Inter-project cumulative effects

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## 5 Inter-project cumulative effects

### 5.1 Introduction

- 5.1.1 This chapter lists the significant inter-project cumulative effects (i.e. effects of moderate or major significance) that are predicted to result from the Wylfa Newydd Project (including intra-project cumulative effects, where applicable) in combination with identified Reasonably Foreseeable Future Projects (RFFPs), taking into account all the embedded good practice and additional mitigation identified in the topic chapters across all volumes of the Environmental Statement. All significant inter-project cumulative effects are set out in table I5-1, with the text in section 5.2 describing the key effects.
- 5.1.2 Chapter I2 (scope) (Application Reference Number: 6.9.2) includes a list of all the short-listed RFFPs, with their reference numbers. Appendix I2-2 (matrix of receptors affected by Wylfa Newydd Project and which short-listed projects could affect them) (Application Reference Number: 6.9.7) shows which RFFPs share receptors with the Wylfa Newydd Project, set out topic-by-topic.
- 5.1.3 A full list of inter-project cumulative effects, including those of minor significance, is provided in appendix I5-1 (inter-project cumulative effects) (Application Reference Number: 6.9.12).

### 5.2 Assessment findings

#### *Socio-economics*

#### **Description of inter-project cumulative effects**

- 5.2.1 The main cumulative inter-project effects are on the labour market and local economy. During the construction phases of the Wylfa Newydd Project there would be increased demand for labour; this presents opportunities for the unemployed. Given the size of the Wylfa Newydd Project, workers would be attracted to the area for employment. The other short-listed projects would also create this attraction.
- 5.2.2 While the construction of the North Wales Connection Project would overlap temporally with the Wylfa Newydd Project, it is understood that due to the skills required the majority of the workforce required for that project would come from outside the area. Therefore, no significant cumulative pressure on the local labour market has been identified.
- 5.2.3 The construction phase of the Wylfa Newydd Project may temporally overlap with other short-listed projects that would require a non-home-based workforce, such as the North Wales Connection Project and Holyhead Port Expansion. This presents a possible situation where workers from multiple projects compete for accommodation. However, due to the lower worker numbers expected for the RFFPs, this effect has been assessed not to be significant.
- 5.2.4 Investment from the Wylfa Newydd Project would benefit the local economies of north Wales and Anglesey through business and supply chain effects, with local businesses providing contractors and materials. This local economic

boost could combine with similar effects from the short-listed projects directly and indirectly as growth through the economy encourages wider local investment.

- 5.2.5 The construction of the Wylfa Newydd Project and the A5025 On-line Highway Improvements has the potential for adverse effects on local businesses (including tourism receptors and other commercial receptors) located within the local area of influence.

#### ***Mitigation of inter-project cumulative effects***

- 5.2.6 No further mitigation has been identified to address cumulative effects, but enhancement actions already outlined as part of the topic assessments in volumes C to H (Application Reference Number: 6.3 to 6.8) seek to maximise the level of local economy benefit from investment and spending. Good practice mitigation and additional mitigation would encourage involvement with local businesses and seek to improve access to employment opportunities for local people.

#### **Significance of residual inter-project cumulative effects**

- 5.2.7 There would be four moderate beneficial effects and one minor to moderate adverse effect.

#### ***Traffic and transport***

#### **Description of inter-project cumulative effects**

- 5.2.8 The assessment for traffic and transport concluded that no inter-project cumulative effects would occur during the construction and operational stages of the Wylfa Newydd Project. The paragraphs below summarise the Existing Power Station decommissioning and North Wales Connection Projects and explain the associated inter-project cumulative effects during the construction and operational stages of the Wylfa Newydd Project. This information has been included because it is recognised that readers of this document may be particularly interested in these two projects.
- 5.2.9 Decommissioning traffic associated with the Existing Power Station was included in baseline data collection. Therefore, the residual effects in chapter C2 (traffic and transport) (Application Reference Number: 6.3.2) include the inter-project cumulative effects associated with the decommissioning of the Existing Power Station.
- 5.2.10 For the North Wales Connection Project, a Cumulative Effects Assessment (CEA) was undertaken using information available at the time of writing from the National Grid Traffic and Transport Preliminary Environmental Information Report chapter (October 2016). The assessment used annual average daily traffic data from the Strategic Traffic Model for the A55 Britannia Bridge, A5114 Llangefni and A5025 north of Valley and identified whether additional National Grid traffic could have significant inter-project cumulative effects on traffic and transport receptors. National Grid traffic was calculated based on the construction programme from chapter 4 of the Wylfa to Pentir Preliminary Environmental Information Report and traffic information for heavy goods

vehicles in chapter 12 of the same document. There is currently insufficient light goods vehicle information available.

- 5.2.11 When National Grid traffic was added to the annual average daily traffic during 2020 at the A55 Britannia Bridge, on the A5025 or on the A5114 between A55 Junction 6 and Llangefni, compared with the 2020 baseline, the change in traffic flows (including heavy goods vehicles and heavy duty vehicles) did not exceed 30%, and is therefore not considered significant. Similarly, the change in traffic composition was not significant. Therefore, there would be no significant inter-project cumulative effects on traffic and transport receptors within the study area for the 2020 assessment year.
- 5.2.12 When National Grid traffic was added to the annual average daily traffic during the 2020 and 2023 Wylfa Newydd Project scenarios, at the A55 Britannia Bridge, or on the A5114 between A55 Junction 6 and Llangefni, the change in traffic flows did not exceed 30%. On the A5025, changes in traffic flows resulting from the Wylfa Newydd Project are significant (an increase of 30%). With the addition of National Grid traffic, the cumulative effect is a total increase of 31%. In 2023, this represents a significant effect on the A5025 only but is not materially different from the assessment in chapter C2 (moderate adverse) (Application Reference Number: 6.3.2).

### **Mitigation of inter-project cumulative effects**

- 5.2.13 No further additional mitigation has been identified specifically for these cumulative effects because the increases in traffic are not considered to be significant and because mitigation measures have already been identified for the Wylfa Newydd Project.

### **Significance of residual inter-project cumulative effects**

- 5.2.14 The significance of the residual cumulative effect would be moderate adverse. As the contribution made to this cumulative effect by the relevant RFFP would be negligible, this does not feature in Table 5-1.

### **Public access and recreation**

#### **Description of inter-project cumulative effects**

- 5.2.15 Users of Public Rights of Way (PRoWs) adjoining the A5025 between Valley and the Wylfa Newydd Development Area would experience a reduction in recreational amenity during construction of the A5025 On-line Highway Improvements as a result of noise, dust, visual intrusion and route diversions or closures, and also subsequently as a result of the construction of the A5025 Off-line Highway Improvements. Similarly, users of the Wales Coast Path (WCP) would experience a reduction in recreational amenity as a result of the noise, dust, visual intrusion and route diversion associated with the construction works within the Wylfa Newydd Development Area, and also during construction of the visitor centre. In addition, future development of the Parc Cybi Industrial Estate would increase traffic flows along the spine road above those associated with the construction and operation of the Logistics Centre, with a further reduction in recreational amenity for walkers and cyclists

using the Lôn Trefignath and the shared use footway/cycleway which runs along the spine road.

- 5.2.16 The Existing Power Station decommissioning is not predicted to generate any effects on public access and recreation receptors, according to the available information. Therefore, no cumulative effects are anticipated to occur in conjunction with the Wylfa Newydd Project.
- 5.2.17 Based on professional judgement and using information available on the North Wales Connection website about the nature and location of the project, it is not considered likely that it would generate significant effects on public access and recreation receptors affected by the Wylfa Newydd Project.

### **Mitigation of inter-project cumulative effects**

- 5.2.18 No further mitigation has been identified specifically for these cumulative effects because mitigation measures have already been identified for the Wylfa Newydd Project and the cumulative effect would not be significantly different to the effect of the Wylfa Newydd Project alone.

### **Significance of residual inter-project cumulative effects**

- 5.2.19 There would be one minor to moderate adverse effect, four moderate adverse effects and one major adverse effect.

## ***Air quality***

### **Description of inter-project cumulative effects**

- 5.2.20 After considering the spatial extent of the effects of the Wylfa Newydd Project developments, the external projects identified as having potential common receptors are the visitor centre, AN01 Existing Power Station decommissioning, AN07 North Wales Connection Project, AN20 Utilities Diversion and AN25 Wylfa Newydd Potable Water Supply. These are the only projects with a potential temporal overlap which could also affect human receptors within 350m of the Wylfa Newydd Development Area.
- 5.2.21 As a conservative approach it was considered that the dust risks associated with each of these projects could potentially represent medium or high risk with regard to human receptors. This is likely to overestimate the risks for some of these projects which are much smaller in scale than the WNDA Development construction works or are located some distance from nearby human receptors (e.g. Existing Power Station decommissioning). Significant combined dust effects are unlikely due to the distances between each of the developments/projects.
- 5.2.22 It is assumed that the construction and demolition works for all these projects (Visitor and Media Reception Centre, Existing Power Station decommissioning, North Wales Connection Project, Utilities Diversion and Wylfa Newydd Potable Water Supply) would be undertaken in accordance with their own suite of good practice dust control and mitigation measures, similar to the good practice mitigation measures set out in the Wylfa Newydd Code of Construction Practice (CoCP) (Application Reference Number: 8.6), to reduce the individual effects from the external projects to not significant.



These mitigation measures would prevent the potential for significant cumulative effects to occur and no additional mitigation measures are required.

- 5.2.23 In line with the air quality management strategy set out in the Wylfa Newydd CoCP (Application Reference Number: 8.6), the Wylfa Newydd Development Consent Order Project contractor would hold regular liaison meetings with other large construction projects within 500m of the Wylfa Newydd Development Area. This would ensure that the air quality management strategies are co-ordinated.
- 5.2.24 The air pollutant emissions from the above projects would not materially alter the outcomes of the assessments presented in chapter D5 (air quality) (Application Reference Number: 6.4.5) and appendix I4-2 (project-wide and WNDA Development intra-project air quality assessment) (Application Reference Number: 6.9.10). The scale of works, duration and number and type of construction plant and machinery would be considerably smaller than the WNDA Development construction works and emissions would be unlikely to need to be assessed quantitatively for each development.
- 5.2.25 In addition, AN07 North Wales Connection Project, AN20 Utilities Diversion, AN23 Llanbadrig Solar Farm, and AN25 Wylfa Newydd Potable Water Supply are the only external projects with a potential temporal overlap that are not already included in the traffic model and which could also affect human receptors within 200m of the A5025 within 2km of the Wylfa Newydd Development Area. The traffic and transport cumulative assessment concluded that traffic generation for AN20 Utilities Diversion and AN25 Wylfa Newydd Potable Water Supply is expected to be negligible and the construction route for AN10 Amlwch LNG (Liquefied Natural Gas) would be via the A5025 between A55 J8 and Amlwch, and would not pass the Wylfa Newydd Development Area. The number of vehicles associated with the remaining external projects, AN07 North Wales Connection Project and AN23 Llanbadrig Solar Farm, are likely to be much smaller than those associated with the WNDA Development construction works. Emissions would be unlikely to need to be assessed quantitatively for each development and the effect descriptors would be negligible due to road traffic emissions (i.e. similar to the negligible effects described for the Wylfa Newydd Project due to road traffic emissions in the vicinity of the Wylfa Newydd Development Area). Inclusion of the road traffic emissions from these two developments would not materially alter the outcomes of the assessments presented in appendix I4-2 (Application Reference Number: 6.9.10).
- 5.2.26 In relation to emissions from road traffic, increases in pollutant concentrations at receptors within 200m of the affected road network as a result of the Wylfa Newydd Project were identified as being negligible or small adverse effects. The total concentrations remain well below the relevant air quality objectives. Therefore, as described in chapter I3 (Application Reference Number: 6.9.3), these effects are not required to be included within this cumulative assessment. However, as discussed in chapter C4 (Application Reference Number: 6.3.4) there is the potential for the one-hour mean nitrogen dioxide concentration at a layby on the A55 to exceed the Air Quality Objective (however it is noted that this is based on limited measurement data). The

Wylfa Newydd Project and other external projects including AN07 North Wales Connection Project would increase traffic flows at the layby location. Therefore, the potential exists for a cumulative effect with regard to short term exposure to nitrogen dioxide at the layby and potentially other short term exposure locations close to the A55. As set out in chapter C4 (Application Reference Number: 6.3.4), a further consultation meeting with Gwynedd Council is planned to review the full monitoring dataset, once 12 months of data have been recorded. Further monitoring and assessment work is anticipated following this meeting, in order to identify the significance of air quality effects, including cumulative effects with other external projects.

- 5.2.27 Therefore, emissions of pollutants to air from plant and machinery and from road traffic associated with these developments would be negligible and were scoped out of the assessment of inter-project effects (see appendix I2-2, Application Reference Number: 6.9.7). The significance of the cumulative effects due to air pollutant emissions would remain as not significant at human receptors within 2km of the Wylfa Newydd Development Area. The emissions from plant and machinery associated with the Existing Power Station decommissioning were included within the modelling presented in chapter D5 (Application Reference Number: 6.4.5) and appendix I4-2 (Application Reference Number: 6.9.10) and therefore not required to be considered in this cumulative assessment.

### **Mitigation of inter-project cumulative effects**

- 5.2.28 No further additional mitigation has been identified specifically for these cumulative effects as no significant cumulative effects have been predicted.

### **Significance of residual inter-project cumulative effects**

- 5.2.29 There would be no significant combined dust effects due to the distances between each of the developments/projects and use of good practice mitigation.

### **Noise and vibration**

#### **Description of inter-project cumulative effects**

- 5.2.30 For receptors at Tregele, there is potential for inter-project noise effects due to construction of AN07 North Wales Connection Project and AN20 Utilities Diversions, however, this cannot be quantified at this stage.
- 5.2.31 At an outlying property south of the Wylfa Newydd Development Area, there is the potential for inter-project noise effects due to construction of AN20 Utilities Diversions. However, most of the construction is scheduled to be completed before the construction of the Wylfa Newydd Project, so any effects would be limited in duration to less than a year.
- 5.2.32 At receptors outlying to the north of Cefn Coch, there is potential for noise effects due to construction of AN07 North Wales Connection Project and AN20 Utilities Diversions; however, this cannot be quantified at this stage.
- 5.2.33 For receptors in Holyhead, negligible to minor noise effects are expected during construction of AN04 Penrhos Coastal Park (committed development)

as a standalone development, but there is a potential for more significant cumulative effects at the receptor group due to the interaction between AN04 construction and project-wide traffic. There is potential for a moderate adverse effect at this receptor group.

### **Mitigation of inter-project cumulative effects**

- 5.2.34 Mitigation outlined in this Environmental Statement, and the standards and measures set out in the Wylfa Newydd CoCP (Application Reference Number: 8.6) and sub-CoCPs (Application Reference Numbers: 8.7 to 8.12), have been proposed in order to minimise noise effects of the Wylfa Newydd Project on receptors. This includes both physical mitigation measures and monitoring, along with a commitment to undertake relevant actions if thresholds are exceeded.
- 5.2.35 At Tregel, bearing in mind the mitigation already proposed for the Wylfa Newydd Project and given that the noise effects from external projects cannot be quantified, the need for further mitigation is not considered reasonably practicable at this stage.
- 5.2.36 At the outlying property south of the Wylfa Newydd Development Area, the cumulative noise effect cannot be reasonably quantified and so no additional mitigation has been identified at this stage.
- 5.2.37 At Cefn Coch, project-wide traffic would be mitigated by the application of low road noise surfaces and no additional mitigation has been proposed.

For receptors at Holyhead, it is noted that project-wide traffic is not considered dominant and has also been mitigated by the application of low road-noise surfaces, and the application of extensive noise barriers is not reasonably practicable. On this basis, no requirement for additional mitigation has been identified.

### **Significance of residual inter-project cumulative effects**

- 5.2.38 In three locations, the potential for cumulative effects has been identified but not quantified. At Holyhead, there is the potential for a moderate adverse cumulative noise effect.

## ***Conventional waste and materials management***

### **Description of inter-project cumulative effects**

- 5.2.39 Residual effects that were assessed as being of minor, moderate or major significance in chapter C6 (waste and materials management) (Application Reference Number: 6.3.6) have been reviewed for their potential to contribute to inter-project cumulative effects.
- 5.2.40 There is the potential that most of the short-listed RFFPs could have an adverse impact on the capacity of receiving waste management facilities within the study area. It is anticipated that the RFFPs would all generate waste and materials during any enabling works, construction and operation, and that such waste would require treatment and/or disposal at third party waste management facilities. The waste and materials anticipated to be generated by these short-listed projects or the timescales over which waste and materials

would be generated are not known at this time. Thus, it has not been possible to assess the inter-project effects due to the lack of waste and materials arisings information. However, it is recognised that the inter-project cumulative effects are likely to be greater than the individual effects, although good practice would seek to reuse material on the development sites where possible to reduce waste arisings as far as practicable.

- 5.2.41 In 2016, there were 122,997 tonnes per annum of composting capacity in north Wales. Due to the lack of available information about waste that would be generated by the RFFPs, the significance of the residual inter-project cumulative effect on the capacity of composting facilities within north Wales is assessed to be minor adverse or higher.
- 5.2.42 In 2016, there were 374,999 tonnes per annum of recycling capacity in north Wales. Due to the lack of available information about waste that would be generated by the RFFPs, the significance of the residual inter-project cumulative effect on the capacity of recycling facilities within north Wales is assessed to be minor adverse or higher.
- 5.2.43 In 2016, there were 1,541,491 tonnes per annum of capacity at land reclamation and/or construction sites in north Wales. Due to the lack of available information about waste that would be generated by the RFFPs, the significance of the residual inter-project cumulative effect on the capacity of land reclamation and/or construction sites within north Wales is assessed to be minor adverse or higher.
- 5.2.44 In 2016, there were 39,335,000m<sup>3</sup> of non-hazardous landfill capacity in northwest England. Due to the lack of available information about waste that would be generated by the RFFPs, the significance of the residual inter-project cumulative effect on the capacity of non-hazardous waste disposal facilities within northwest England is assessed to be minor adverse or higher.
- 5.2.45 In 2015, there were 6,481,000m<sup>3</sup> of hazardous landfill capacity in northwest England. Due to the lack of available information about waste that would be generated by the RFFPs, the significance of the residual inter-project cumulative effect on the capacity of hazardous landfills within northwest England is assessed to be minor adverse or higher.

### **Mitigation of inter-project cumulative effects**

- 5.2.46 No further mitigation has been identified specifically for these cumulative effects.

### **Significance of residual inter-project cumulative effects**

- 5.2.47 The significance of the residual cumulative effects would be at least minor adverse.

## ***Soils and geology***

### **Description of inter-project cumulative effects**

- 5.2.48 A potential moderate adverse cumulative effect has also been identified for sites of geological importance within the GeoMôn Geopark. It is currently uncertain whether the RFFPs would affect sites of geological importance, but

potential effects have been identified based on their proximity to the Penrhos Drumlin and Holyhead Breakwater Park Regionally Important Geodiversity Sites (RIGS). If these RFFPs were to affect these RIGS, the cumulative effect on the GeoMôn Geopark would be greater than the moderate adverse effect identified on the Porth Wnal Dolerite RIGS taken in isolation.

### **Mitigation of inter-project cumulative effects**

- 5.2.49 No further measures have been identified to reduce the potential cumulative effect on sites of geological importance. However, it is expected that the RFFPs in question would seek to mitigate any potential effects, should they be identified, thus potentially reducing the cumulative effect.

### **Significance of residual inter-project cumulative effects**

- 5.2.50 The residual cumulative effect would be of moderate adverse significance.

### ***Surface water and groundwater***

#### **Description of inter-project cumulative effects**

- 5.2.51 For inter-project effects, cumulative effects have the potential to occur in cases where developments would be undertaken at the same time and in the same groundwater and surface water catchments as the Wylfa Newydd Project. On this basis, the principal inter-project cumulative effects would be contributed to by the construction and operation of the Power Station and associated landscape mounding within the Wylfa Newydd Development Area, rather than with the Associated Development or Off-Site Power Station Facilities. The key inter-project cumulative effects are described below.
- 5.2.52 RFFPs AN01 (Magnox decommissioning) and AN25 (Wylfa Newydd Potable Water Supply) could potentially have minor effects on the water flow and quality within Tre'r Gof Catchment and the Site of Special Scientific Interest (SSSI) if the spatial extents of their effects overlap with the Tre'r Gof Catchment and the SSSI (full details of the routes are currently not known). Any effects of AN01 on the SSSI are likely to be minimal as the Existing Power Station is not upgradient of the SSSI, and Magnox would employ mitigation strategies that would be sufficient to ensure that significant effects associated with surface water quality and groundwater quality and flows do not arise as a result of AN01. AN01 and AN25 are expected to result in minor effects on surface water and groundwater quality, therefore cumulative effects related to these projects and the Wylfa Newydd Project could be expected. However, given the proposed mitigation for AN01, and likely mitigation for AN25, the cumulative inter-project effect is considered to be moderate adverse.
- 5.2.53 A reduction in groundwater levels during construction of the WNDA Development could result in subsidence of the Existing Power Station ancillary buildings This could then be further exacerbated if this were to take place at the same time as AN01 (Existing Power Station decommissioning). This could result in a moderate adverse cumulative effect.

### **Mitigation of inter-project cumulative effects**

5.2.54 No additional mitigation has been identified for the inter-project cumulative effects in relation to the Tre'r Gof Catchment nor ancillary buildings and services at the Existing Power Station, as mitigation has already been identified for the Wylfa Newydd Project and is expected for the relevant RFFPs.

### **Significance of residual inter-project cumulative effects**

5.2.55 Due to the uncertainty associated with the hydrological complexity of the SSSI and the degree of effectiveness of the proposed mitigation already proposed, the residual cumulative effect has been assessed as being of moderate adverse significance.

### ***Terrestrial and freshwater ecology***

#### **Description of inter-project cumulative effects**

5.2.56 The only Wylfa Newydd Project development where significant effects were identified was the WNDA Development. There are also no minor adverse effects from any Wylfa Newydd Project development considered likely to combine with effects from other reasonably foreseeable future projects to form a significant effect.

5.2.57 Three RFFPs were identified that had spatial and temporal overlaps with the study area for the WNDA Development: AN01 Existing Power Station decommissioning; AN07 North Wales Connection Project (construction and decommissioning); and AN20 Utilities Diversions (construction). As noted in the surface water and groundwater section above, AN25 Wylfa Newydd Potable Water Supply could, potentially, also have a spatial and temporal overlap.

5.2.58 Based on the published information relating to the above RFFPs and the outcome of the impact assessment described in chapter D9 (terrestrial and freshwater ecology) (Application Reference Number: 6.4.9), the following receptors were identified that could be potentially vulnerable to cumulative effects:

- Tre'r Gof SSSI (see also the section above for surface water and groundwater cumulative effects on this receptor);
- Cae Gwyn SSSI;
- Arfordir Mynydd y Wylfa - Trwyn Penrhyn Wildlife Site;
- ancient woodland;
- terrestrial habitats;
- lichen;
- fungi
- terrestrial invertebrates;
- chough;
- breeding birds;



- over-wintering and passage birds;
  - bats;
  - red squirrel; and
  - freshwater fish.
- 5.2.59 It is assumed that the respective RFFP developers would design, construct and operate their projects in accordance with relevant good practice guidelines and legislation. It is also assumed that appropriate good practice mitigation would be implemented by the respective developer to avoid or reduce the magnitude of any effects arising from the RFFP alone.
- 5.2.60 Based on the published scope of works, the application of good practice design and mitigation, and professional judgement, the RFFPs AN01, AN07 and AN20 are predicted to result in negligible effects to the receptors described above (with the exception of red squirrel) and so inter-project cumulative effects with the Wylfa Newydd Project are not expected.
- 5.2.61 The surface water and groundwater section above identified a moderate adverse effect on Tre'r Gof SSSI. The assessment of cumulative effects on the ecology of the SSSI has taken this into account, and no cumulative effects have been identified.
- 5.2.62 Potential inter-project cumulative effects to red squirrel arising from noise disturbance with AN01 Existing Power Station decommissioning and habitat loss/fragmentation with AN07 North Wales Connection Project were identified. However, the application of good practice mitigation for all projects is predicted to reduce any cumulative effects to minor adverse, with these being temporary and reversible. See appendix I5-1 (Application Reference Number: 6.9.12) for further information.
- 5.2.63 In conclusion, significant inter-project cumulative effects are not predicted and so no additional mitigation is proposed.

### ***Landscape and visual***

#### **Description of inter-project cumulative effects**

- 5.2.64 Simultaneous cumulative effects would be potentially perceived where there would be inter-visibility between RFFPs and the Wylfa Newydd Project developments, as identified in table I5-1.
- 5.2.65 There is also the potential for cumulative visual effects on receptors in different geographical locations where a receptor (viewer) is mobile, because they would pass close to more than one project during their journey, experiencing intermittent adverse effects in sequence. Potentially affected receptors are users of long distance road, rail and cycle routes, for example, National Cycle Network Route 566/Copper Trail, who would experience a moderate adverse cumulative effect as a result of the construction and operation of the Wylfa Newydd Project together with the construction, operation and decommissioning of the AN07 North Wales Connection Project, AN08 Rhyd-y-Groes Repower and AN23 Llanbadrig Solar Farm, and the construction and decommissioning of AN25 Wylfa Newydd Potable Water Supply.

- 5.2.66 There would be significant cumulative landscape effects on local landscape character, in particular where construction and operation effects of the Power Station would be perceived in conjunction with the Existing Power Station decommissioning and North Wales Connection Project. The Existing Power Station decommissioning, in conjunction with construction and operation of the Power Station, would also result in significant cumulative effects on local seascape character. This and the effects of Rhyd-y-Groes Repower and Amlwch Natural Gas would also lead to significant cumulative effects on the North Anglesey Heritage Coast.
- 5.2.67 The most significant cumulative visual effects, experienced simultaneously by communities would be those from Cemaes and Treglele, as well as for residential receptors within 1km of the A5025 Off-line Highway Improvements. These would all experience major adverse cumulative effects, with the most significant contribution to those effects coming from the construction of the Wylfa Newydd Project. The other projects contributing to these effects would be AN01 Existing Power Station decommissioning, AN07 North Wales Connection Project, AN08 Rhyd-y-Groes Repower, and AN25 Wylfa Newydd Potable Water Supply.
- 5.2.68 The most significant cumulative visual effects along routes would occur for users of the WCP, local PRowS, A5025 and local road network users. Significant sequential cumulative effects would also be experienced by recreational off-shore viewers. These effects would be experienced principally during construction but also during operation.
- 5.2.69 The cause of the most significant cumulative effects would be construction and operation of the Power Station in conjunction with the Existing Power Station decommissioning and North Wales Connection Project, which would tend to feature in many of the same views, in particular within the local area, affecting the character of the local landscape and the visual amenity of the community of Treglele.

### **Mitigation of inter-project cumulative effects**

- 5.2.70 No further mitigation has been identified specifically for these cumulative effects. The most significant contribution to the cumulative effects would come from the Wylfa Newydd Project, for which mitigation measures have already been proposed. It would not be possible to reduce these effects further due to the scale of the construction works.

### **Significance of residual inter-project cumulative effects**

- 5.2.71 There would be 13 major adverse and 12 moderate adverse effects during construction, and then three major adverse and 11 moderate adverse effects during operation.

### ***Cultural heritage***

### **Description of inter-project cumulative effects**

- 5.2.72 The Wylfa Newydd Project would have a physical impact on Cestyll Garden (Historic Landscape Type (HLT) 2) and result in intrusion on its setting. This effect would be major adverse during construction and operation. AN01



Existing Power Station decommissioning, AN07 North Wales Connection Project, AN20 Utilities Diversions and AN25 Wylfa Newydd Potable Water Supply would also affect the setting of Cestyll Garden (HLT 2).

- While AN01 would not physically affect this cultural heritage receptor, the Existing Power Station decommissioning would potentially result in visual intrusion on the setting of this receptor. The significance of effect was assessed in the Environmental Statement for AN01 to be slight adverse.
- The AN07 North Wales Connection Project would potentially cause visual intrusion on the setting of this receptor during construction of Section A. However, the new overhead lines would broadly follow the same alignment as the existing overhead connection and would therefore be seen in the context of existing infrastructure during operation. The significance of this effect has been predicted to be minor adverse.
- The removal and replacement of services within the Wylfa Newydd Development Area as part of the AN20 Utilities Diversions would potentially cause intrusion on the setting of this receptor, including visual and aural intrusion, depending on the proximity and nature of the works. The significance of this effect has been predicted to be minor adverse.
- The construction of the new pipeline as part of the AN25 Wylfa Newydd Potable Water Supply project may overlap with the start of construction works for the Power Station and would potentially cause intrusion on the setting of this receptor due to its proximity. The significance of this effect has been predicted to be minor adverse.

5.2.73 In combination, these effects would interact with the Wylfa Newydd Project resulting in further effects to the key characteristics of the setting of Cestyll Garden (HLT 2) causing an inter-project cumulative effect. The significance of this inter-project cumulative effect has been assessed to be major adverse.

5.2.74 The removal of the landscape elements that comprise Wylfa (HLT 8) as part of the AN01 Existing Power Station decommissioning project would completely change the character of this landscape. The significance of effect was assessed in the Environmental Statement for AN01 to be major adverse. This would combine with the removal of historic landscape elements due to the construction of the Wylfa Newydd Power Station (assessed as having a minor adverse effect on this receptor) resulting in an inter-project cumulative effect. The significance of this inter-project cumulative effect has been assessed to be major adverse.

5.2.75 Construction infrastructure, increased light and increased noise associated with AN08 Rhyd-y-Groes Repower would result in visual and aural intrusion on the setting of St Padrig's Church, Cemaes Bay (Asset 174). The significance of effect was assessed in the Environmental Statement for AN08 to be minor adverse. While this intrusion would not be dominant and would be seen in the context of the existing development, it would combine with the construction of the Power Station (which would have a minor adverse effect on this receptor) and result in an inter-project cumulative effect. The significance of this inter-project cumulative effect has been assessed to be moderate adverse.

- 5.2.76 Construction activities associated with Section 7 (Cefn Coch) of the A5025 Off-line Highway Improvements and the A5025 On-line Highway Improvements, including the establishment of the temporary construction compound, would result in noise and visual intrusion on the setting of the Two Small Orthostatic Stones on Slight Mound, South of Tyn Felin (Asset 241), detracting from this receptor's rural character. This effect has been assessed as being of moderate adverse significance. The significance of effect was assessed in the Environmental Report for the A5025 On-line Highway Improvements to be slight adverse. In combination, these effects would interact resulting in an inter-project cumulative effect. The significance of this inter-project cumulative effect has been assessed to be moderate adverse.
- 5.2.77 Inter-project cumulative effects on 24 cultural heritage receptors have been assessed to be of minor adverse significance. These effects are not discussed here but are presented in appendix I5-1 (Application Reference Number: 6.9.12).

### **Mitigation of inter-project cumulative effects**

- 5.2.78 Mitigation outlined in this Environmental Statement, and the standards and measures set out in the Wylfa Newydd CoCP (Application Reference Number: 8.6) and sub-CoCPs (Application Reference Numbers: 8.7 to 8.12), have been proposed in order to minimise the effects of the Wylfa Newydd Project on cultural heritage assets. These, combined with good practice mitigation that it is assumed will be adopted by third parties to manage the effects of their projects, is considered adequate to manage cumulative effects. No further mitigation measures have been confirmed, although communication will be maintained with the developers of RFFPs.

### **Significance of residual inter-project cumulative effects**

- 5.2.79 There would be two moderate and two major adverse cumulative effects, as described above.

## ***Coastal processes and coastal geomorphology***

### **Description of inter-project cumulative effects**

- 5.2.80 The key findings of the assessment of potential inter-project effects relate to the offshore disposal site, Holyhead North, which lies adjacent to an existing licensed disposal site, Holyhead Deep. Here the additional cumulative effects of the combined disposal activities of each site, during both construction and operation of the Power Station, have been identified as having a negligible magnitude of effect upon coastal processes and geomorphology receptors.
- 5.2.81 For both construction and operational stages, disposal activities associated with the Wylfa Newydd Project would be significantly smaller in volume and frequency when compared to other licensed disposal activities at the Holyhead Deep site.
- 5.2.82 The assessment and conclusions are detailed in appendix D13-8 (Marine Hydrodynamic Modelling Report – Wylfa Newydd Development Area) (Application Reference Number: 6.4.90). Because that assessment has

already taken into account the disposal of materials from other projects at Holyhead Deep, no further assessment for cumulative effects is required.

### ***Marine environment***

#### **Description of inter-project cumulative effects**

- 5.2.83 No significant inter-project cumulative effects are predicted for the marine environment. Some minor adverse inter-project cumulative effects have been identified and are included in appendix I5-1 (Application Reference Number: 6.9.12).

### ***Radiological effects***

#### **Description of inter-project cumulative effects**

- 5.2.84 No minor, moderate or major radiological effects were assessed for the Wylfa Newydd Project and so no cumulative effects are identified. Chapter D14 (radiological effects) (Application Reference Number: 6.4.14) contains a summary of the combined radiological effects from the Power Station and the Existing Power Station decommissioning, but as these are not significant, they are not reported in this chapter.

### ***Shipping and navigation***

#### **Description of inter-project cumulative effects**

- 5.2.85 The majority of cumulative effects for shipping and navigation are not significant; however, two have been identified as moderate adverse, as described below.
- 5.2.86 The Holyhead Waterfront Development includes the development of a 500-berth marina. This increase in capacity is likely to increase vessel transits near to the Wylfa Newydd Development Area, increasing the likelihood of a vessel collision with a vessel transiting to or from the Wylfa Newydd Development Area.
- 5.2.87 This increase in recreational vessels associated with the Holyhead Waterfront Development could lead to an increased likelihood of vessels stranding on a breakwater. The breakwaters would be in place on a permanent basis and so this cumulative effect would be long-term.

#### **Mitigation of inter-project cumulative effects**

- 5.2.88 No additional mitigation has been identified over and above that described in chapter D15 (shipping and navigation) (Application Reference Number: 6.4.15), which is considered to be comprehensive with respect to maritime safety.

#### **Significance of residual inter-project cumulative effects**

- 5.2.89 The two residual cumulative effects would be of moderate adverse significance.

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**Table IG–1 Inter-project cumulative effects (not including those effects with minor significance)**

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
<b>Socio-economics</b>					
Labour market in the Daily Construction Commuting Zone	Major beneficial effect due to changes to employment in the construction sector in the Daily Construction Commuting Zone. Approximately 2,000 home-based workers would be employed during the peak period of construction.	A5025 On-line Highway Improvements, visitor centre, Existing Power Station decommissioning, Anglesey Eco Park, Penrhos Coastal Park, Holyhead Waterfront Redevelopment, Parc Cybi Stage 2, North Wales Connection Project, Rhyd-y-Groes Repower, Menai Science Park, Amlwch Natural Gas, Holyhead Deep, Holyhead Primary School, Llanfaethlu Primary School, Llangefni Link Road, Utilities Diversions, Llanbadrig Solar Farm, Coleg Menai, Wylfa Newydd Potable Water Supply, Holyhead Port Expansion, Glyn Rhonwy Pumped Storage, and A487 Caernarfon to Bontnewydd Bypass are all projects that could increase the demand for more home-based workers within the Daily Construction Commuting Zone.	Demand on the existing construction sector locally could increase significantly. This would create opportunities for the existing local construction workforce and it may also provide opportunities to reduce the number of unemployed workers within the sector. Cumulatively, this increased demand may result in workers relocating to the area to avail themselves of the opportunities these projects collectively present.	None required	Major beneficial
Labour market on the Isle of Anglesey	Moderate beneficial effect due to changes to employment in the construction sector on Anglesey. An estimated 1,256 home-based workers would be employed during the peak period of construction.	A5025 On-line Highway Improvements, visitor centre, Existing Power Station decommissioning, Anglesey Eco Park, Penrhos Coastal Park, Holyhead Waterfront Redevelopment, Parc Cybi Stage 2, North Wales Connection Project, Rhyd-y-Groes Repower, Menai Science Park, Amlwch Natural Gas, Holyhead Deep, Holyhead Primary School, Llanfaethlu Primary School, Llangefni Link Road, Utilities Diversions, Llanbadrig Solar Farm, Coleg Menai, Wylfa Newydd Potable Water Supply, Holyhead Port Expansion, and A487 Caernarfon to Bontnewydd Bypass are all projects that could increase the demand for more home-based workers on Anglesey.	Demand on the existing construction sector locally could increase significantly. This would create opportunities for the existing local construction workforce and it may also provide opportunities to reduce the number of unemployed workers within the sector. Cumulatively, this increased demand may result in workers relocating to the area to avail themselves of the opportunities these projects collectively present.	None required	Moderate beneficial
Local economy in north Wales	Moderate beneficial effect on investment made within the local economy (north Wales). It is estimated that	Existing Power Station decommissioning, Anglesey Eco Park, Penrhos Coastal Park, Holyhead Waterfront Redevelopment, North Wales Connection Project, Rhyd-y-Groes Repower, Menai	Investment in the north Wales economy (business and supply chain) would increase due to the	None required	Moderate beneficial

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
	up to 4% of the total £10 billion construction value of the Wylfa Newydd Project could be spent within north Wales.	Science Park, Amlwch Natural Gas, Holyhead Deep, Llangefni Link Road, Utilities Diversions, Llanbadrig Solar Farm, Coleg Menai, Holyhead Port Expansion, and A487 Caernarfon to Bontnewydd Bypass are all significant projects that would contribute to the economy in north Wales.	investment that would occur as part of the Wylfa Newydd Project and the short-listed projects.		
Local economy on the Isle of Anglesey	Moderate beneficial effect on the annual average direct, indirect and induced increase in income of around £20 million on Anglesey from staff costs at the Wylfa Newydd Power Station, equivalent to an increase of 2.1% over baseline levels.	Existing Power Station decommissioning, Anglesey Eco Park, Penrhos Coastal Park, Holyhead Waterfront Redevelopment, North Wales Connection Project, Rhyd-y-Groes Repower, Menai Science Park, Amlwch Natural Gas, Holyhead Deep, Holyhead Primary School, Utilities Diversions, Llanbadrig Solar Farm, Coleg Menai, Wylfa Newydd Potable Water Supply, Holyhead Port Expansion, A487 Caernarfon to Bontnewydd Bypass are all substantial projects that would contribute to the economy locally, on Anglesey.	Investment in the Isle of Anglesey economy (business and supply chain) would increase due to the investment that would occur as part of the Wylfa Newydd Project and the short-listed projects.	None required	Moderate beneficial
Businesses, including tourism receptors (Cemaes/Tregele)	Potential minor to moderate adverse environmental effects and traffic of construction works on local businesses (including tourism receptors and other commercial receptors) located within the Local Area of Influence.	The construction of the A5025 On-line Highway Improvements works also have potential for adverse environmental and traffic effects from construction works on local businesses (including tourism receptors and other commercial receptors) located within the Local Area of Influence.	The Wylfa Newydd Project and the A5025 On-line Highway Improvements could both contribute to adverse environmental and traffic effects, at the same time.	None identified	Minor to moderate adverse
<b>Traffic and transport</b> – Projects considered to have a cumulative effect have been included in the traffic model and therefore form part of the assessment of effects that is presented in volume C.					
<b>Public access and recreation</b>					
PRoW 18/018/1	Moderate adverse effect as a result of the closure of this PRoW as part of the A5025 Off-line Highway Improvements	Minor adverse effect as a result of short-term PRoW closures or diversions during construction of the A5025 On-line Highway Improvements Minor adverse effect as a result in the reduction in recreational amenity of these routes as a result of the air, noise and visual intrusion caused by the construction of the A5025 On-line Highway Improvements.	Permanent closure of the PRoW previously subject to temporary diversions.	No additional mitigation required. An alternative route has been included in the design of the Cefn Coch bypass which would be used once the A5025 Off-line Highway Improvements became operational.	Moderate adverse
PRoW 27/020/1	Minor adverse effect as a result of short-term PRoW closures or diversions as a result of the construction of the A5025 Off-line Highway Improvements.	Minor adverse effect as a result of short-term PRoW closures or diversions during construction of the A5025 On-line Highway Improvements. Minor adverse effect from the reduction in recreational amenity of these routes as a result of the air, noise and visual intrusion caused by the	The cumulative effect would result in a greater length of time that these PRoWs would be closed or diverted than would occur from one project alone. Where construction	No additional mitigation identified. Embedded and additional mitigation designed to reduce the effects on PRoW are detailed in chapter G4 (public access and	Moderate adverse



Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
	Minor adverse effect on recreational amenity of this PRow during construction and operation of the A5025 Off-line Highway Improvements. Moderate adverse effect as a result of the permanent diversion of this PRow.	construction of the A5025 On-line Highway Improvements.	programmes do overlap, the recreational amenity of these PRows would be reduced as a result of the noise, dust and visual intrusion caused by construction activities from both projects.	recreation) (Application Reference Number: 6.7.4) of this Environmental Statement and chapter G5 of the Environmental Assessment Report for the A5025 On-line Highway Improvements (Application Reference Number: 6.7.5).	
PRows 20/010/1, 20/010/2 and 20/032/1	There would be a minor to moderate adverse effect on these PRows as a result of the noise and/ or visual impact, which would result in a reduction of the recreational amenity of these routes during construction of the Power Station.	There would be a minor adverse effect on these PRows as a result of the activities undertaken by National Grid to install the new 400kV overhead line. This effect would include management of the PRows during construction work and the visual impact of the new lines being installed.	The cumulative effect would result in these PRows being affected by noise and visual intrusion from two concurrent construction activities, which would increase the effect experienced by recreational walkers.	No additional mitigation identified. Embedded and additional mitigation designed to reduce the effects on PRows are detailed in chapter D4 (public access and recreation) (Application Reference Number: 6.4.4) of this Environmental Statement.	Minor to moderate adverse effect
WCP between Cemlyn Bay (east) and Cemaes/Wylfa Head	Major adverse effect as a result of the diversion of the WCP during construction and operation of the Power Station. Major adverse effect as a result of the reduction in recreational amenity as a result of the noise, dust and visual intrusion as a result of the construction of the Power Station.	Minor adverse effect as a result of the noise, dust and visual intrusion associated with the construction of the visitor centre. Moderate beneficial effect as a result of the operation of the proposed visitor centre as it would provide a recreational resource for users of the WCP in terms of parking and café facilities. Minor adverse effect as a result of temporary diversions to the re-aligned WCP in order to construct the new over-head power line near Cemaes.	If the visitor centre was constructed at the same time as the construction of the Power Station the additional effect on this construction site would be minimal. Should it occur once construction of the Power Station was complete, it would increase the length of time that users of the WCP were affected. In the longer-term, the cumulative effect of the diversion of the WCP and the construction of the visitor centre would provide a resource for visitors to the WCP. There would be a short period of time where walkers on the diverted WCP would be subject to	No additional mitigation required. Embedded and additional mitigation to reduce the effects of the Wylfa Newydd Project on the WCP is detailed in chapter D4 (Application Reference Number: 6.4.4) of this Environmental Statement; however, the significance of the effect remains major adverse.	Major adverse

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
			an additional minor diversion where the amended route goes under the proposed route of the National Grid 400kV overhead line.		
Recreational and active travel users of the Lôn Trefignath	Moderate adverse effect as a result of the construction of the new site entrance to the Logistics Centre and minor adverse effect on recreational amenity during the construction of the Logistics Centre.  Minor adverse effect during the construction of the Power Station as a result of increased traffic flows across the Lôn Trefignath associated with the operation of the Logistics Centre.	The building out of the Parc Cybi Business Park could result in additional crossing points across the Lôn Trefignath.	Parc Cybi Business Park together with the Wylfa Newydd Project would increase the effects of traffic flows across the Lôn Trefignath. While this would be an additive effect the number of vehicles is unlikely to present a substantial due to the high number of vehicles associated with Horizon.	No additional mitigation required. Traffic flows along the spine road following development of the Parc Cybi Business Park would not substantially increase above the level associated with the Wylfa Newydd Project.	Moderate adverse
Active travel users on the dual use cycleway/footway on Parc Cybi spine road	Moderate adverse effect as a result of the construction of the new site entrance to the Logistics Centre and minor adverse effect on recreational amenity during the construction of the Logistics Centre.  Minor adverse effect during the construction of the Power Station as a result of increased traffic flows across the dual use cycleway/footway associated with the operation of the Logistics Centre.	The building out of the Parc Cybi Business Park could result in additional crossing points across the cycleway/footway.	Parc Cybi Business Park together with the Wylfa Newydd Project would increase the effects of traffic flows across the cycleway/footway. While this would be an additive effect the number of vehicles is unlikely to represent a substantial increase due to the high number of vehicles associated with Horizon.	No additional mitigation required. Traffic flows along the spine road following development of the Parc Cybi Business Park would not substantially increase above the level associated with the Wylfa Newydd Project.	Moderate adverse
<b>Air Quality – no significant inter-project effects identified.</b>					
<b>Noise and vibration</b>					
Outlying Property south of the Wylfa Newydd	Minor adverse effect at one property due to increased	There is potential for noise effects due to construction of AN20 Utilities Diversions	Potential for a more significant effect or new	None identified as effect from AN20 Utilities	Potential for moderate or major significant effects



Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
Development Area (linked to development)	noise levels from the effects of traffic on the A5025 with off-line improvements completed and operational.  Moderate adverse effect due to the construction of WYDA Development.		significant effects at receptor group due to AN20 Utilities Diversion interacting with project-wide traffic.	Diversion cannot be quantified at this stage.	
Receptors outlying north of Valley	Moderate adverse effect - project-wide traffic. Increased noise levels from the effects of traffic on the A5025 with the A5025 Off-line Highway Improvements completed and operational.	No significant noise and vibration effects during construction or operation of the A5025 On-line Highway Improvements. Construction noise levels >65 dB LAeq for two to three days.	Potential for major significant effect at receptor group due to Horizon Town and Country Planning Act 1990: A5025 On-line Highway Improvements interacting with project-wide traffic.	None identified as any effects are considered short term and effects at individual receptors cannot be reasonably quantified at this stage.	Potential for major adverse effect
Receptors Holyhead	Minor adverse effect - project-wide traffic. Increased noise levels from the effects of traffic on the A5025 with the A5025 Off-line Highway Improvements completed and operational.	Potential for noise effects during construction of AN04 Penrhos Coastal Park (committed development). Negligible to minor significant effects expected.	Potential for a more significant effect or new significant effects at receptor group due to AN04 construction interacting with project-wide traffic	None identified as the Wylfa Newydd Project is not considered the dominant development.	Potential for moderate adverse effect
Conventional waste and materials					
Composting facilities	Minor adverse effect on composting facilities within north Wales during construction.	There is the potential that the external projects could have an adverse impact on the capacity of composting facilities within north Wales. All the short-listed projects have the potential to affect the capacities of the receiving composting facilities in north Wales. It is anticipated that the short-listed projects would all generate organic waste during any enabling works, construction and operation that would require treatment and/or disposal at third party waste management facilities. The waste and materials arisings anticipated to be generated by these short-listed projects or the timescales over which waste and materials would be generated are not known at this time. Thus, it has not been possible to assess the inter-project effects due to the lack of waste and materials arisings information. In 2016, there were 122,997 tonnes per annum of composting capacity in north Wales. Due to the limited composting capacity in north Wales, it is	Adverse impact on the capacity of composting facilities within north Wales.	No additional mitigation is proposed due to the lack of access to commercially confidential information and limited opportunity for collaboration.	Minor adverse or higher

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
		recognised that the inter-project effects are likely to increase. Good practice would seek to reuse material on the development sites where possible to reduce waste arisings as far as practicable.			
Recycling facilities	Minor adverse effect on recycling facilities within north Wales during construction and the decommissioning of Site Campus, Park and Ride and Logistic Centre.	There is the potential that the external projects could have an adverse impact on the capacity of recycling facilities in north Wales. All the short-listed projects have the potential to affect the capacities of the receiving recycling facilities in north Wales. It is anticipated that the short-listed projects would all generate waste during any enabling works, construction and operation that would require treatment and/or disposal at third party waste management facilities. The waste and materials arisings anticipated to be generated by these short-listed projects or the timescales over which waste and materials would be generated are not known at this time. Thus, it has not been possible to assess the inter-project effects due to the lack of waste and materials arisings information. In 2016, there were 374,999 tonnes per annum of recycling capacity in north Wales indicating that there is a large capacity for possible use. However, it is recognised that the inter-project effects are likely to increase, but good practice would seek to reuse material on the development sites where possible to reduce waste arisings as far as practicable.	Adverse impact on the capacity of recycling facilities within north Wales.	No additional mitigation is proposed due to the lack of access to commercially confidential information and limited opportunity for collaboration.	Minor adverse or higher
Land reclamation and/or construction sites	Minor adverse effect on land reclamation and/or construction sites within north Wales during the decommissioning of Site Campus, Park and Ride and Logistics Centre	There is the potential that the external projects could have an adverse impact on the capacity of land reclamation and/or construction sites in north Wales. All the short-listed projects have the potential to affect the capacities of the receiving land reclamation and/or construction sites in north Wales. It is anticipated that the short-listed projects would all generate waste during any enabling works, construction and operation that would require treatment and/or disposal at third party waste management facilities. The waste and materials arisings anticipated to be generated by these short-listed projects or the timescales over which waste and materials would be generated are not known at this time. Thus, it has not been possible to assess the inter-project effects due to the lack of waste and materials arisings information. In 2016, there were 1,541,491 tonnes per annum of capacity at land	Adverse impact on the capacity of land reclamation and/or construction sites within north Wales.	No additional mitigation is proposed due to the lack of access to commercially confidential information and limited opportunity for collaboration.	Minor adverse or higher

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
		reclamation and/or construction sites in north Wales indicating that there is a large capacity for possible use. However, it is recognised that the inter-project effects are likely to increase, but good practice would seek to reuse material on the development sites where possible to reduce waste arisings as far as practicable.			
Non-hazardous waste disposal facilities	Minor adverse effect on non-hazardous waste disposal facilities within northwest England	There is the potential that the external projects could have an adverse impact on the capacity of non-hazardous waste disposal facilities in northwest England. All the short-listed projects have the potential to affect the capacities of the receiving non-hazardous waste disposal facilities in north Wales. It is anticipated that the short-listed projects would all generate waste during any enabling works, construction and operation that would require treatment and/or disposal at third party waste management facilities. The non-hazardous waste and materials arisings anticipated to be generated by these short-listed projects or the timescales over which waste and materials would be generated are not known at this time. Thus, it has not been possible to assess the inter-project effects due to the lack of waste and materials arisings information. In 2016, there were 39,335,000m <sup>3</sup> of non-hazardous landfill capacity in northwest England indicating that there is a large capacity for possible use. However, it is recognised that the inter-project effects are likely to increase, but good practice would seek to reuse material on the development sites where possible to reduce waste arisings as far as practicable.	Adverse impact on the capacity of non-hazardous waste disposal facilities within northwest England.	No additional mitigation is proposed due to the lack of access to commercially confidential information and limited opportunity for collaboration.	Minor adverse or higher
Hazardous waste disposal facilities	Minor adverse effect on hazardous waste disposal sites within northwest England	There is the potential that the external projects could have an adverse impact on the capacity of hazardous waste disposal facilities in northwest England. All the short-listed projects have the potential to affect the capacities of the receiving hazardous waste disposal facilities in northwest England region. It is assumed that hazardous waste would be handled in northwest England as there are no suitable hazardous waste sites in north Wales. It is anticipated that the short-listed projects would all generate waste during any enabling works, construction and operation that would require treatment and/or disposal at third party waste management facilities. The hazardous waste and	Adverse impact on the capacity of hazardous waste disposal facilities within northwest England.	No additional mitigation is proposed due to the lack of access to commercially confidential information and limited opportunity for collaboration.	Minor adverse or higher

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
		materials arisings anticipated to be generated by these short-listed projects or the timescales over which waste and materials would be generated are not known at this time. Thus, it has not been possible to assess the inter-project effects due to the lack of waste and materials arisings information. In 2015, there were 6,481,000m <sup>3</sup> of hazardous landfill capacity in northwest England indicating that there is a large capacity for possible use. However, it is recognised that the inter-project effects are likely to increase.			
<b>Soils and Geology</b>					
Sites of geological importance within GeoMôn Geopark	Moderate and minor adverse effects on Porth Wnal Dolerite RIGS at the Wylfa Newydd Development Area	Potential minor adverse effects due to the loss of access to or damage of sites of geological importance comprising the GeoMôn Geopark during the construction and operation of the following projects: <ul style="list-style-type: none"> <li>AN04 Penrhos Coastal Park; and</li> <li>AN05 Holyhead Waterfront Redevelopment.</li> </ul>	Cumulative effect due to increased loss of access or damage to sites of geological importance. It is currently uncertain whether these RFFPs would affect sites of geological importance, but potential effects have been identified based on their proximity to the Penrhos Drumlin and Holyhead Breakwater Park RIGS. If these RFFPs were to affect these RIGS, the cumulative effect would be greater than the moderate adverse effect identified on the Porth Wnal Dolerite RIGS taken in isolation.	None identified	Moderate adverse
<b>Surface Water and Groundwater</b>					
Tre'r Gof Catchment and water within the Tre'r Gof SSSI including the Tre'r Gof SSSI drains	Moderate adverse effect on surface water and groundwater quality associated with construction and operation of landscape mounds and drainage systems.	The following projects are located within or adjacent to the Wylfa Newydd Development Area and are considered to have minor effects on the Tre'r Gof Catchment and the SSSI if their zones of influence overlap with the Tre'r Gof Catchment and the SSSI: <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning; and</li> </ul>	AN01 and AN25 are expected to result in minor effects on surface water and groundwater quality, therefore cumulative effects related to these projects could be expected. However, given the proposed mitigation for	No additional mitigation has been identified for the inter-project cumulative effects in relation to the Tre'r Gof receptor. The significance of the potential effects is a reflection of the uncertainty due to the hydrological complexity of the SSSI and	Moderate adverse



Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
		<ul style="list-style-type: none"> <li>AN25 Wylfa Newydd Potable Water Supply (construction, operation and decommissioning). The mitigation strategies to be employed by Magnox Ltd. would be sufficient to ensure that significant effects associated with surface water quality and groundwater quality and flows do not arise as a result of AN01.</li> </ul>	AN01 and likely mitigation for AN25, the cumulative effects are unlikely to be significantly greater than those brought about by the landscaping mounds and associated drainage for the Wylfa Newydd Project which would have the dominant effect on the receptor.	the degree of effectiveness of the proposed mitigation.	
Existing Power Station ancillary buildings and services	Minor adverse effect due to reduction in groundwater levels during construction which could result in subsidence of the Existing Power Station ancillary buildings.	<ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning. The decommissioning of the Existing Power Station could have a negligible or minor effect on buildings and services at the Existing Power Station depending upon the timing, nature and extent of decommissioning operations.</li> </ul>	Possible adverse cumulative effect on stability or integrity of buildings and services not scheduled for decommissioning at the Existing Power Station.	None over and above that already identified for the effects of the Wylfa Newydd Project	Moderate adverse
<p><b>Terrestrial and freshwater ecology</b> – The only significant effects on terrestrial and freshwater receptors were reported in volume D (chapter D9, Application Reference Number: 6.4.9) and concerned the WYDA Development. None of these effects are considered likely to combine with effects arising from other reasonably foreseeable future projects to become more significant. There are also no minor adverse effects from any Wylfa Newydd Project development considered likely to combine with effects from other reasonably foreseeable future projects to form a significant effect. There are therefore no inter-project cumulative effects to report for this topic and no additional mitigation is proposed.</p>					
<b>Landscape and visual</b>					
Local Landscape Character Area	<p><b>Construction:</b> Major adverse effect, arising from simultaneous effects of the Power Station with the A5025 Off-line Highway Improvements and Off-Site Power Station Facilities with the A5025 Off-line Highway Improvements.</p> <p><b>Operation:</b> Moderate adverse effect, arising from simultaneous effects of the Power Station with the A5025 Off-line Highway Improvements.</p>	<p>Local Landscape Character would potentially experience changes to defining features and key characteristics as a result of:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning. In addition to the construction, operation and any decommissioning of:</li> <li>AN02 Anglesey Eco Park;</li> <li>AN04 Penrhos Coastal Park neutral;</li> <li>AN05 Holyhead Primary School;</li> <li>AN06 Parc Cybi Stage 2;</li> <li>AN07 North Wales Connection Project;</li> <li>AN08 Rhyd-y-Groes Repower;</li> <li>AN09 Menai Science Park;</li> <li>AN10 Amlwch Natural Gas moderate/low adverse;</li> <li>AN014 Llanfaethlu Primary School;</li> <li>AN15 Llangefni Link Road Scheme;</li> <li>AN23 Llanbadrig Solar Farm; and</li> </ul>	<p>Cumulative effects would largely result from the construction and operation of the Wylfa Newydd Project in combination with the RFFPs identified in the preceding column.</p> <p>The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phases of the individual developments which form part of the Wylfa Newydd Development, reducing as landscape mitigation measures establish.</p>	None identified	<p><b>Construction:</b> Major adverse</p> <p><b>Operation:</b> Moderate adverse</p>

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
		<ul style="list-style-type: none"> <li>the construction and decommissioning of AN25 Wylfa Newydd Potable Water Supply.</li> </ul> <p>The effects on the defining features and key characteristics of the Local Landscape Character would be of short to medium duration.</p>			
North Anglesey Heritage Coast	<p>Construction: Moderate adverse overall effect on the North Anglesey Heritage Coast, arising from the effects of the Power Station.</p> <p>Operation: Moderate adverse effect overall on the North Anglesey Heritage Coast, arising from the effects of the Power Station.</p>	<p>The North Anglesey Heritage Coast would potentially experience change to its defining features and key characteristics resulting from:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning;</li> <li>AN08 Rhyd-y-Groes Repower moderate/minor adverse; and</li> <li>AN10 Amlwch Natural Gas - construction, operation and decommissioning.</li> </ul> <p>The effects on the defining features and key characteristics of the Heritage Coast would be of short to medium duration.</p>	<p>Cumulative effects would largely result from the Power Station in combination with AN10.</p> <p>The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station.</p>	None identified	<p>Construction: Moderate adverse.</p> <p>Operation: Moderate adverse</p>
Local Seascape Character Area	<p>Construction: Moderate to major adverse effect during construction in the vicinity of the Power Station leading to the erosion of seascape character.</p> <p>Operation: Minor to major adverse effect during operation as a result of the ongoing influence of the Power Station on the prevailing seascape character primarily related to the Marine Off-Loading Facility.</p>	<p>Local Seascape Character Areas would potentially experience change in their defining features and key characteristics resulting from:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning.</li> </ul> <p>In addition to the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN08 Rhyd-y-Groes Repower moderate adverse; and</li> <li>AN10 Amlwch Natural Gas.</li> </ul> <p>For Local Seascape Character Areas, the effects on their defining features and key characteristics would be of short to medium duration.</p>	<p>Cumulative effects would largely result from the Power Station in combination with AN10.</p> <p>The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station.</p>	None identified	<p>Construction: Major adverse</p> <p>Operation: Major adverse</p>
WCP walkers	<p>Construction: Major adverse, arising from the simultaneous or sequential effects of the Power Station and A5025 Off-line Highway Improvements.</p> <p>Operation:</p>	<p>Users of the WCP would potentially experience changes in visual amenity resulting from visibility of:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning.</li> <li>AN04 Penrhos Coastal Park moderate (construction and operation);</li> <li>AN05 Holyhead Waterfront Redevelopment. significant;</li> </ul>	<p>Users of the WCP would potentially experience intermittent simultaneous or sequential views of construction and operation of the Wylfa Newydd Project in combination with the RFFPs identified in the preceding column.</p>	None identified	<p>Construction: Major adverse</p> <p>Operation: Major adverse</p>

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
	Major adverse, arising from the simultaneous effects of the Power Station and A5025 Off-line Highway Improvements.	<ul style="list-style-type: none"> <li>AN07 North Wales Connection Project;</li> <li>AN08 Rhyd-y-Groes Repower major/ moderate adverse;</li> <li>AN010 Amlwch Natural Gas moderate adverse;</li> <li>AN23 Llanbadrig Solar Farm; and</li> <li>the construction and decommissioning of AN25 the Wylfa Newydd Potable Water Supply.</li> </ul> <p>For users of the WCP, the effects on visual amenity would be likely to be experienced intermittently and for relatively short duration as they travel the WCP.</p>	The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes (where relevant).		
Users of local PRowS and open access land	<p>Construction: Major adverse, arising from simultaneous effects of the Power Station, Off-Site Power Station Facilities, A5025 Off-line Highway Improvements and Logistics Centre.</p> <p>Operation: Major adverse, arising from simultaneous effects of the Power Station, Off-Site Power Station Facilities and A5025 Off-line Highway Improvements.</p>	<p>Users of local PRowS and open access land would potentially experience changes in visual amenity resulting from visibility of:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning adverse.</li> </ul> <p>In addition to the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN02 Anglesey Eco Park;</li> <li>AN04 Penrhos Coastal Park neutral;</li> <li>AN05 Holyhead Waterfront Redevelopment;</li> <li>AN06 Parc Cybi Stage 2;</li> <li>AN07 North Wales Connection Project;</li> <li>AN08 Rhyd-y-Groes Repower moderate adverse;</li> <li>the operation of AN014 Llanfaethlu Primary School;</li> <li>AN23 Llanbadrig Solar Farm moderate adverse (construction and operation); and</li> <li>the construction of AN25 the Wylfa Newydd Potable Water Supply.</li> </ul>	<p>Cumulative effects would arise from construction and operation of the Wylfa Newydd Project in combination with views of AN01, AN07, AN08, AN14, and AN023. During construction, users of PRowS and open access land would potentially experience sequential, simultaneous views of the Logistics Centre in combination with AN02, AN04 and AN06.</p> <p>The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes (where relevant).</p>	None identified	<p>Construction: Major adverse</p> <p>Operation: Major adverse</p>
Copper Trail/National Cycle Network Route 566 users	<p>Construction: Moderate adverse arising from effects of the Power Station.</p> <p>Operation:</p>	<p>Users of the Copper Trail/National Cycle Network Route 566 would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN07 North Wales Connection Project;</li> </ul>	Cumulative effects would arise from construction and operation of the Power Station in combination with AN07, AN08, AN23 and AN25.	None identified	<p>Construction: Moderate adverse</p> <p>Operation: Moderate adverse</p>



Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
	Moderate arising from effects of the Power Station.	<ul style="list-style-type: none"> <li>AN08 Rhyd-y-Groes Repower major/moderate adverse;</li> <li>AN23 Llanbadrig Solar Farm; and</li> <li>the construction and decommissioning of AN25 Wylfa Newydd Potable Water Supply.</li> </ul> <p>For users of the Copper Trail/National Cycle Network Route 566, the effects on visual amenity would be likely to be experienced intermittently and for short duration as they travel the route.</p>	The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes.		
A5025 users	<p><b>Construction:</b> Major adverse, arising from simultaneous effects of the Power Station with the A5025 Off-line Highway Improvements and Off-Site Power Station Facilities with the A5025 Off-line Highway Improvements.</p> <p><b>Operation:</b> Moderate adverse, arising from simultaneous effects of the Power Station with the A5025 Off-line Highway Improvements.</p>	<p>Users of the A5025 would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN07 North Wales Connection Project;</li> <li>AN08 Rhyd-y-Groes Repower major/moderate adverse;</li> <li>AN23 Llanbadrig Solar Farm; and</li> <li>the construction and decommissioning of AN25 Wylfa Newydd Potable Water Supply.</li> </ul> <p>For users of the A5025, the effects on visual amenity would be likely to be experienced intermittently and be of short duration travelling the route.</p>	<p>Cumulative effects would arise from construction and operation of the Wylfa Newydd Project in combination with AN07, AN08, AN23 and AN25.</p> <p>The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes (where relevant).</p>	None identified	<p><b>Construction:</b> Major adverse</p> <p><b>Operation:</b> Major adverse</p>
Local road network users	<p><b>Construction:</b> Major adverse, arising from simultaneous effects of the Power Station with the A5025 Off-line Highway Improvements and Off-Site Power Station Facilities with the A5025 Off-line Highway Improvements.</p> <p><b>Operation:</b> Moderate adverse, arising from simultaneous effects of the Power Station with the A5025 Off-line Highway Improvements.</p>	<p>Users of the local road network in the vicinity of the developments associated with the Wylfa Newydd Project would potentially experience changes in visual amenity resulting from visibility of:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning.</li> </ul> <p>In addition to the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN02 Anglesey Eco Park;</li> <li>AN04 Penrhos Coastal Park;</li> <li>AN05 Holyhead Waterfront Redevelopment;</li> <li>AN06 Parc Cybi Stage 2;</li> <li>AN07 North Wales Connection Project;</li> <li>AN08 Rhyd-y-Groes Repower major/moderate adverse;</li> <li>AN014 Llanfaethlu Primary School;</li> </ul>	<p>Cumulative effects would arise from construction and operation of the Wylfa Newydd Project in combination with views of AN01, AN07, AN08 AN14, and AN023. Furthermore, users of the local road network would potentially experience sequential, simultaneous and/or consecutive visibility of the Logistics Centre in combination with AN02, AN04 and AN06.</p> <p>The resulting cumulative effects would be long-term, and likely to be of</p>	None identified	<p><b>Construction:</b> Major adverse</p> <p><b>Operation:</b> Moderate adverse</p>



Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
		<ul style="list-style-type: none"> <li>AN23 Llanbadrig Solar Farm minor adverse (construction and operation); and</li> <li>the construction and decommissioning of AN25, the Wylfa Newydd Potable Water Supply.</li> </ul>	greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes (where relevant).		
Community of Cemaes	<p>Construction: Moderate to major adverse visual effect resulting from partial views of the construction works and cranes associated with the Power Station.</p> <p>Operation: Minor adverse effects arising from the Power Station.</p>	<p>The community of Cemaes would potentially experience changes to their visual amenity resulting from:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning.</li> </ul> <p>In addition to the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN07 North Wales Connection Project;</li> <li>AN08 Rhyd-y-Groes Repower major/moderate adverse; and</li> <li>AN25 Wylfa Newydd Potable Water Supply.</li> </ul> <p>For the community of Cemaes, the duration of effects on visual amenity would be likely to be medium to long-term.</p>	<p>Cumulative effects would arise from construction and operation of the Wylfa Newydd Project in combination with AN01, AN07, AN08 and AN25.</p> <p>The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes (where applied to each development).</p>	None identified	<p>Construction: Major adverse</p> <p>Operation: Moderate adverse</p>
Community of Tregale	<p>Construction: Major adverse, arising from simultaneous effects of the Power Station and A5025 Off-line Highway Improvements.</p> <p>Operation: Moderate adverse, arising from simultaneous effects of the Power Station and A5025 Off-line Highway Improvements.</p>	<p>The residents within the community of Tregale would potentially experience changes to their visual amenity resulting from:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning.</li> </ul> <p>In addition to the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN07 North Wales Connection Project;</li> <li>AN08 Rhyd-y-Groes Repower; and</li> <li>the construction and decommissioning of AN25 Wylfa Newydd Potable Water Supply.</li> </ul> <p>For residents, the duration of effects on visual amenity would be likely to be medium to long-term.</p>	<p>Cumulative effects would arise from construction and operation of the Wylfa Newydd Project in combination with AN07, and AN25.</p> <p>The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes (where applied to each development).</p>	None identified	<p>Construction: Major adverse</p> <p>Operation: Moderate adverse</p>
Community of Llanfechell	<p>Construction: Moderate adverse arising from effects of the Power Station.</p>	<p>The residents within the community of Llanfechell would potentially experience changes to their visual amenity resulting from the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN07 North Wales Connection Project; and</li> </ul>	<p>Cumulative effects would arise from construction and operation of the Power Station in</p>	None identified	<p>Construction: Moderate adverse</p> <p>Operation:</p>

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
	Operation: Moderate arising from effects of the Power Station.	<ul style="list-style-type: none"> <li>AN25 Wylfa Newydd Potable Water Supply.</li> </ul> For residents, the duration of effects on visual amenity would be likely to be medium to long-term.	combination with AN07, and AN25. The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes.		Moderate adverse
Community of Llanfairynghornwy	Construction: Moderate adverse arising from effects of the Power Station.  Operation: Minor arising from effects of the Power Station.	The residents within the community of Llanfairynghornwy would potentially experience changes to their visual amenity resulting from the construction, operation and any decommissioning of: <ul style="list-style-type: none"> <li>AN07 North Wales Connection Project;</li> <li>AN08 Rhyd-y-Groes Repower not significant; and</li> <li>AN25 Wylfa Newydd Potable Water Supply.</li> </ul> For residents, the duration of effects on visual amenity would be likely to be medium to long-term.	Cumulative effects would arise from construction and operation of the Power Station in combination with AN07, AN08 and AN25. The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes (where applied to each development).	None identified	Construction: Moderate adverse
Community of Llanfaethlu	Construction: Moderate adverse, arising from simultaneous effects of the Off-Site Power Station Facilities and A5025 Off-line Highway Improvements.  Operation: Minor adverse, arising from simultaneous effects of the A5025 Off-line Highway Improvements.	The residents within the community of Llanfaethlu would potentially experience changes to their visual amenity resulting from the operation of AN14 Llanfaethlu Primary School (it is noted that the school has now been constructed). For residents, the duration of effects on visual amenity would be likely to be medium to long-term.	Cumulative effects would arise from construction and operation of the Wylfa Newydd Project in combination with AN14. The resulting cumulative effects would be long-term, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes (where applied to each development).	None identified	Construction: Moderate adverse

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
Visitors to William Thomas Monument at Mynydd y Garn	<p>Construction: Moderate adverse arising from effects of the Power Station.</p> <p>Operation: Minor adverse arising from effects of the Power Station.</p>	<p>Visitors to the William Thomas Monument at Mynydd y Garn would potentially experience changes to their visual amenity resulting from:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning.</li> </ul> <p>In addition to the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN07 North Wales Connection Project;</li> <li>AN08 Rhyd-y-Groes Repower minor adverse; and</li> <li>the construction and decommissioning of AN25 Wylfa Newydd Potable Water Supply.</li> </ul> <p>For visitors to the monument, the duration of effects on visual amenity would be relative to the length of stay at the monument but would be likely to be experienced from the monument for the medium to long-term.</p>	<p>Cumulative effects would arise from construction and operation of the Power Station in combination with AN01, AN07, AN08 and AN25. The impacts on visual amenity would be likely to occur during the majority of the development lifecycles and during the construction, operation and decommissioning of the Wylfa Newydd Project. The resulting cumulative effects would be long-term to permanent, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes (where applied to each development).</p>	None identified	Construction: Moderate adverse
Visitors to the standing stones north of Llanfechell	<p>Construction: Major adverse arising from effects of the Power Station.</p> <p>Operation: Moderate adverse arising from effects of the Power Station.</p>	<p>Visitors to the standing stones north of Llanfechell would potentially experience changes to their visual amenity resulting from:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning.</li> </ul> <p>In addition to the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>AN07 North Wales Connection Project; and</li> <li>AN08 Rhyd-y-Groes Repower.</li> </ul> <p>For visitors to the monument, the duration of effects on visual amenity would be relative to the length of stay at the monument but would be likely to be experienced from the monument for the medium to long-term.</p>	<p>Cumulative effects would arise from construction and operation of the Power Station in combination with AN01, AN07, AN08 and AN25. The resulting cumulative effects would be long-term to permanent, and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes.</p>	None identified	Construction: Major adverse  Operation: Moderate adverse
Offshore viewers	<p>Construction: Major adverse arising from effects of the Power Station.</p>	<p>Offshore viewers would potentially experience changes to their visual amenity resulting from:</p> <ul style="list-style-type: none"> <li>AN01 Existing Power Station decommissioning.</li> </ul>	<p>Cumulative effects would arise from construction and operation of the Power Station in</p>	None identified	Construction: Major adverse

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
	Operation: Major adverse arising from effects of the Power Station.	In addition to the construction, operation and any decommissioning of: <ul style="list-style-type: none"> <li>AN10 Amlwch Natural Gas.</li> </ul> For offshore viewers, the duration of effects on visual amenity would be relative to the nature and speed of their passage but would be likely to be experienced for the medium to long-term. Effects resulting from AN10 would principally result from the presence of structures within the coastal waters.	combination with AN01 and AN10. The resulting cumulative effects would be long-term and likely to be of greatest impact during the construction phase of the Power Station, the residual effect reducing as mitigation planting establishes and the Magnox site restored.		Operation: Moderate adverse
A5 Holyhead Road	Construction: Moderate adverse, arising from simultaneous effects of the Park and Ride and A5025 Off-line Highway Improvements.  Operation: Minor adverse, arising from simultaneous effects of the Park and Ride and A5025 Off-line Highway Improvements.	Users of the A5 would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of: <ul style="list-style-type: none"> <li>AN02 Anglesey Eco Park;</li> <li>AN04 Penrhos Coastal Park; and</li> <li>AN07 North Wales Connection project.</li> </ul> For users of the A5, the effects on visual amenity would be likely to be experienced intermittently and be of short duration as they travel the road.	Cumulative effects would arise from construction and operation of the Wylfa Newydd Project in combination with AN02, AN04 and AN07. The resulting cumulative effects would be short-term, and likely to be of greatest impact during the construction phases of the A5025 Off-line Highway Improvement and the Park and Ride facility, the residual effect reducing as mitigation planting establishes (where relevant).	None identified	Construction: Moderate adverse
Cyclists on the shared cycleway/footway Parc Cybi access road	Construction: Major adverse, arising from the effects of the Logistics Centre.  Operation: Minor adverse, arising from the residual effects of the Logistics Centre after it is decommissioned.	Cyclists on the shared cycleway/footway Parc Cybi access road would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of: <ul style="list-style-type: none"> <li>AN04 Penrhos Coastal Park; and</li> <li>AN06 Parc Cybi Stage 2.</li> </ul> For cyclists, the duration of effects on visual amenity would be relative to the length of journey.	Cumulative effects would arise from the Logistics Centre during the construction and operation phase of the Wylfa Newydd Project in combination with AN04 and AN06. The resulting cumulative effects would be short-term, the residual effect reducing to minor adverse following establishment of the boundary hedge	None identified	Construction: Major adverse



Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
			planting to the Logistics Centre and its decommissioning.		
Cyclists on the Lon Trefignath cycle path	<p>Construction: Major adverse, arising from the effects of the Logistics Centre.</p> <p>Operation: Minor adverse, arising from the effects of the Logistics Centre.</p>	<p>Cyclists on the Lon Trefignath cycle path would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>• AN04 the Penrhos Coastal Path; and</li> <li>• AN06 the Parc Cybi Stage 2.</li> </ul> <p>For cyclists, the duration of effects on visual amenity would be relative to the length of journey.</p>	<p>Cumulative effects would arise from the Logistics Centre during the construction and operation phase of the Wylfa Newydd Project in combination with AN04 and AN06.</p>	None identified	<p>Construction: Major adverse</p>
Community of Kingsland	<p>Construction: Moderate adverse, arising from the effects of the Logistics Centre.</p> <p>Operation: Minor adverse, arising from the effects of the Logistics Centre.</p>	<p>The residents within the community of Kingsland would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>• AN04 the Penrhos Coastal Park moderate adverse (Construction and operation).</li> </ul>	<p>Cumulative effects would arise from the Logistics Centre during the construction and operation phase of the Wylfa Newydd Project in combination with AN04.</p>	None identified	<p>Construction: Moderate adverse</p> <p>Operation: Moderate adverse</p>
Visitors to Trefignath Burial Chamber	<p>Construction: Major adverse, arising from the effects of the Logistics Centre.</p> <p>Operation: Minor adverse, arising from the effects of the Logistics Centre.</p>	<p>Visitors to the Trefignath Burial Chamber would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>• AN04 the Penrhos Coastal Park minor adverse (construction and operation); and</li> <li>• AN06 the Parc Cybi Stage 2.</li> </ul> <p>For visitors to the burial chamber, the duration of effects on visual amenity would be relative to the length of stay at the monument.</p>	<p>Cumulative effects would arise from the Logistics Centre during the construction and operation phase of the Wylfa Newydd Project in combination with AN04 and AN06.</p>	None identified	<p>Construction: Major adverse</p>
Visitors to the Ty Mawr Standing Stone	<p>Construction: Major adverse, arising from the effects of the Logistics Centre.</p> <p>Operation: Minor adverse, arising from the effects of the Logistics Centre.</p>	<p>Visitors to the Ty Mawr Standing Stone would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>• AN04 the Penrhos Coastal Path; and</li> <li>• AN06 the Parc Cybi Stage 2.</li> </ul> <p>For visitors to the Stone, the duration of effects on visual amenity would be relative to the length of stay at the monument.</p>	<p>Cumulative effects would arise from the Logistics Centre during the construction and operation phase of the Wylfa Newydd Project in combination with AN04 and AN06.</p>	None identified	<p>Construction: Major adverse</p>

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
A55	<p>Construction: Minor adverse, arising from simultaneous effects of the A5025 Off-line Highway Improvements and Logistics Centre.</p>	<p>Users of the A55 would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>• AN02 the Anglesey Eco Park;</li> <li>• AN04 the Penrhos Coastal Park moderate adverse; and</li> <li>• AN06 the Parc Cybi Stage 2.</li> </ul> <p>For users of the A55, the effects on visual amenity would be likely to be experienced intermittently and be of short duration when travelling the route.</p>	<p>Cumulative effects would arise from construction and operation of the Wylfa Newydd Project in combination with AN02, AN04 and AN06.</p> <p>The resulting cumulative effects would be short-term, the residual effect reducing to negligible adverse following establishment of the boundary hedge planting to the Logistics Centre and its decommissioning.</p>	None identified	Construction: Moderate adverse
B4545	<p>Construction: Moderate adverse, arising from the effects of the Logistics Centre.</p> <p>Operation: Minor adverse, arising from the effects of the Logistics Centre.</p>	<p>Users of the B4545 would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>• AN04 the Penrhos Coastal Park; and</li> <li>• AN06 the Parc Cybi Stage 2.</li> </ul> <p>For users of the B4545, the effects on visual amenity would be likely to be experienced intermittently and be of short duration as they travel the road.</p>	<p>Cumulative effects would arise from the Logistics Centre during the construction and operation phase of the Wylfa Newydd Project in combination with AN04 and AN06.</p>	None identified	Construction: Moderate adverse
A5153	<p>Construction: Moderate adverse, arising from the effects of the Logistics Centre.</p>	<p>Users of the A5153 would potentially experience changes in visual amenity resulting from visibility of the construction, operation and any decommissioning of:</p> <ul style="list-style-type: none"> <li>• AN04 the Penrhos Coastal Park; and</li> <li>• AN06 the Parc Cybi Stage 2.</li> </ul> <p>For users of the A5153, the effects on visual amenity would be likely to be experienced intermittently and be of short duration as they travel the road.</p>	<p>Cumulative effects would arise from the Logistics Centre during the construction phase of the Wylfa Newydd Project in combination with AN04 and AN06. The impacts on visual amenity would be likely to occur during the construction of ANO4 and AN06 and during the construction and operation of the Wylfa Newydd Project.</p> <p>The resulting cumulative effects would be short-term with the residual effect reducing to</p>	None identified	Construction: Moderate adverse

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
			negligible adverse following establishment of the boundary hedge planting to the Logistics Centre and its decommissioning.		
<b>Cultural heritage</b>					
St Padrig's Church, Cemaes Bay (Asset 174)	Effects on the setting of this receptor resulting from noise and visual intrusion of activities associated with the construction of the Power Station.  The residual significance of this effect has been assessed to be minor adverse.	Effects are predicted on the setting of this receptor resulting from the presence of construction infrastructure, increased light and noise pollution associated with the construction of AN08 Rhyd-y-Groes Repower. The effect has been assessed in the environmental statement for AN08 to be moderate / minor adverse.	Intrusion on the setting of this asset by the Wylfa Newydd Project and AN08 would combine resulting in an inter-project effect.  No cumulative effects during operation and decommissioning have been identified.  No permanent cumulative effect.  While both developments are predicted to affect the setting of this receptor, given the distance between the developments this intrusion would not be dominant and would be seen in the context of the existing developments.	None identified.	Moderate adverse
Cestyll Garden (HLT 2)	During construction historic landscape elements, including the kitchen garden and part of the Essential Setting, would be removed. Construction activities would also cause visual intrusion into the setting of this receptor. The residual significance of this effect has been assessed to be major adverse.  Visual intrusion into the setting and Significant Views associated with this receptor would result from	Activities associated with AN01 Existing Power Station decommissioning may cause intrusion into the setting of this receptor. The effect has been assessed in the Environmental Statement for AN01 to be slight adverse.  Potential effects related to construction activities due to the presence of projects AN07 North Wales Connection Project, AN20 Utilities Diversions and AN25 Wylfa Newydd Potable Water Supply resulting from intrusion into the setting of this asset. Using professional judgement, the significance of this effect has been predicted to be minor adverse for these projects.	The Wylfa Newydd Project would have both a physical impact on Cestyll Garden (HLT 2) and intrude on its setting. Activities associated with AN01, AN07, AN20 and AN25 may result in further impacts on the key characteristics of the setting of Cestyll Garden (HLT 2), these effects would combine resulting in an inter-project cumulative effect during construction.	None identified.	Major adverse

Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
	<p>the operation of the Power Station. The residual significance of this effect has been assessed to be major adverse.</p> <p>The continued presence of the breakwater in a Significant View from the valley garden would continue. The residual significance of this effect has been assessed to be moderate adverse.</p>		<p>Activities associated with AN01 and AN20 may continue into the operation of the Power Station.</p> <p>No cumulative effects during decommissioning have been identified.</p> <p>No permanent cumulative effect.</p> <p>As the Wylfa Newydd Project is already significantly affecting the receptor, it has been assessed that the inter-project cumulative effect would not be more significant than this effect.</p>		
Wylfa (HLT 8)	<p>Construction would result in the removal of elements of the landscape.</p> <p>The residual significance of effect has been assessed to be minor adverse.</p>	<p>Permanent removal of this receptor would result from AN01 Existing Power Station decommissioning. The effect has been assessed in the Environmental Statement for AN01 to be major adverse.</p>	<p>In combination, the permanent removal of elements of this landscape by both AN01 and the Wylfa Newydd Project would result in an inter-project effect.</p> <p>No cumulative effects during operation and decommissioning have been identified.</p> <p>Permanent cumulative effect.</p> <p>As AN01 is significantly affecting the receptor, it has been assessed that the inter-project cumulative effect would not be more significant than this individual effect.</p>	None identified.	Major adverse
Two small orthostatic stones on Slight Mound, South of Tyn Felin (Asset 241)	<p>Construction of section 7 (Cefn Coch) to the west of the asset would result in noise and visual intrusion on its setting, detracting from its rural character.</p>	<p>Temporary impact on the setting of this receptor associated with construction and operation of the Temporary Construction Compound for the A5025 On-line Highway Improvements. The effect has been assessed in the Environmental Report for the</p>	<p>Intrusion on the setting of this asset by both the A5025 On-line Highway Improvements and A5025 Off-line Highway Improvements would</p>	None identified.	Moderate adverse



Receptor	Effect of Wylfa Newydd Project	Effects of short-listed projects	Inter-project cumulative effect		
			Description of cumulative effect	Additional mitigation	Significance of residual cumulative effect
	<p>The residual significance of effect has been assessed to be moderate adverse.</p> <p>The presence of section 7 (Cefn Coch) would result in noise and visual intrusion on the setting of the asset.</p> <p>The residual significance of effect has been assessed to be moderate adverse.</p>	A5025 On-line Highway Improvements to be slight adverse.	<p>combine resulting in an inter-project effect.</p> <p>No cumulative effects during operation have been identified.</p> <p>No permanent cumulative effect.</p> <p>As the A5025 Off-line Highway Improvements is predicted to significantly affect the setting of this receptor, it has been assessed that the inter-project cumulative effect would not be more significant than this individual effect.</p>		
<b>Coastal process and geomorphology – no significant inter-project effects identified</b>					
<b>Marine environment – no significant inter-project effects identified.</b>					
<b>Radiological effects – no cumulative effects identified</b>					
<b>Shipping and navigation</b>					
Collision - recreational/fishing/high speed/harbour vessel with vessel transiting to or from Wylfa Newydd	Minor adverse effect	This cumulative effect relates directly to the Holyhead Waterfront Development. The planned redevelopment of the Holyhead Waterfront includes the development of a 500-berth marina. This increase in recreational capacity is likely to increase vessel transits near to the Wylfa Newydd Development Area, increasing the likelihood of a vessel collision.	Cumulative effects have the potential to occur throughout a vessel's passage and, therefore, the volume of additional vessel movements would be frequently above baseline volume. Cumulative effect during construction of the Marine Off-Loading Facility and construction of Power Station.	None identified	Moderate adverse
Stranding - small recreational vessel on breakwater	Minor adverse effect from the WNDA Development during construction phase.	The increase in recreational vessels associated with the redevelopment of Holyhead Waterfront could lead to an increase in recreational vessels transiting near to Wylfa Newydd Development Area. This, in turn, would increase the likelihood of vessels stranding on a breakwater.	Permanent cumulative effect due to permanent presence of breakwaters and more likely due to increased number of recreational vessels.	None identified	Moderate adverse

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