

## **Wylfa Newydd Project**

**6.5.12 ES Volume E - Off-Site Power Station  
Facilities: AECC, ESL and MEEG E12 -  
Combined topic effects**

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## 12 Combined topic effects

### 12.1 Introduction

- 12.1.1 Combined topic effects, also known as intra-development effects, occur when a single receptor is affected in more than one way by the same development.
- 12.1.2 This combined topic effects chapter considers those receptors that would experience more than one of the minor, moderate or major residual effects identified in the preceding topic assessment chapters, and describes the predicted combined effects that would result.
- 12.1.3 Human receptors are considered first, followed by other receptors. Within those two main sections, receptors are grouped according to different types of receptors and the scale at which the effects have been assessed.
- 12.1.4 Within the section of this chapter relating to human receptors, in cases where effects would be different for residential and non-residential receptors, sub-headings are used to make this clear.
- 12.1.5 Embedded, good practice and additional mitigation measures are identified in the individual topic chapters and not in this chapter, which is based on the residual effects. It has not been possible to identify any additional mitigation to address combined effects that has not already been identified and committed to through the earlier steps in the Environmental Impact Assessment process.
- 12.1.6 Combined topic effects may be contributed to by multiple effects reported in one topic chapter (e.g. both a noise and a vibration effect) and/or in more than one topic chapter (e.g. both a noise and an air quality effect). Where combined topic effects result from individual effects reported in different topic areas, there is no published methodology for assessing such effects and assigning a level of significance to them, and so the assessment is limited to descriptions of the effects that would combine, based on professional judgement as to which effects would combine. The potential is recognised for some people affected to perceive the combined effect to be significant. Where combined topic effects result from individual effects reported within one topic, the significance criteria are as described in the relevant topic chapter.

### 12.2 Scope

- 12.2.1 The scope of this chapter is limited to the scope of this volume (Application Reference Numbers: 6.5.1 to 6.5.27) of the Environmental Statement, i.e. effects of the Off-Site Power Station Facilities.
- 12.2.2 All topics within this volume are scoped into the assessment of combined topic effects. However, the assessment has found that not all topics would contribute to combined topic effects. Appendix E12-1 (matrix of receptors and which topics affect them) (Application Reference Number: 6.5.26) indicates which receptors are shared by more than one topic. In some cases, the effects reported in one topic chapter already have combined topic

effects embodied within them (for example, amenity effects in the Public access and recreation topic are based in part on visual and noise effects), and so they are not considered again in this chapter.

12.2.3 Traffic-related effects are assessed on a project-wide basis; hence they are excluded from the assessment of combined effects for this development in isolation. Cumulative effects, both intra-project (resulting from the various developments that constitute the Wylfa Newydd Project) and inter-project (resulting from the Wylfa Newydd Project together with external projects) are not considered here, but are reported in volume I (Application Reference Numbers: 6.9.1 to 6.9.5).

## 12.3 Combined effects

### *Human receptors in the vicinity of Llanfaethlu*

#### **Residential receptors**

##### ***Llanfaethlu***

###### **Construction**

12.3.1 During construction, noise effects from the Off-Site Power Station Facilities would be of major significance at five residential receptors around Llanfaethlu (350m to the south-west), and three properties are expected to experience moderate adverse noise effects in the area, with minor effects expected at all other residential properties. Properties on the north-eastern edge of the village would experience minor adverse visual effects during these periods.

12.3.2 During the construction phase, there are likely to be combined effects on the community off the A5025 (i.e. properties along the A5025 to the north and south of the site) within 0.3km of the site, due to adverse effects on views in combination with increases in noise levels and a not-significant effect on dust deposition. There would be a moderate adverse effect on views, and noise effects of major significance at five residential properties, moderate significance at three residential properties and minor significance at all other properties.

12.3.3 During construction, the combined effects on the receptors described above would be likely to be perceived, by some people affected, to be significant.

###### **Operation**

12.3.4 During the operational phase of the Off-Site Power Station Facilities, noise effects would be of minor significance at all residential receptors in the study area, and properties on the north-eastern edge of Llanfaethlu would also experience minor adverse visual effects.

12.3.5 During the operational phase, there are likely to be combined effects on the community off the A5025 within 0.3km of the site, due to adverse effects on views in combination with increases in noise levels. There would be a minor adverse effect on views, and noise effects of minor significance.

12.3.6 During operation, the combined topic effects at these receptors would be unlikely to be perceived, by the people affected, to be significant.

#### **Decommissioning**

12.3.7 During decommissioning, noise effects from the Off-Site Power Station Facilities would be of major significance at five residential receptors around Llanfaethlu (350m to the south-west), and three properties are expected to experience moderate adverse noise effects in the area, with minor effects expected at all other residential properties. Properties on the north-eastern edge of the village would experience minor adverse visual effects during these periods.

12.3.8 During the decommissioning phase, there are likely to be combined effects on the community off the A5025 within 0.3km of the site, due to adverse effects on views in combination with increases in noise levels. There would be a minor adverse effect on views, and noise effects of major significance at five residential properties, moderate significance at three residential properties and minor significance at all other properties.

12.3.9 During decommissioning, the combined effects on the receptors described above would be likely to be perceived, by some people affected, to be significant.

#### ***Llanrhuddlad***

##### **Construction**

12.3.10 There are likely to be combined effects on the community receptor of Llanrhuddlad (viewpoint 1) during construction due to adverse effects on views in combination with increases in noise levels. There would be a minor adverse effect on views, and noise effects of minor significance at the residential receptor Pen Y Cae (a property between Llanrhuddlad and Llanfaethlu).

12.3.11 It is possible that the combined topic effects in Llanrhuddlad may be perceived, by some people affected, to be significant during construction.

##### **Operation**

12.3.12 During the operational phase, there are likely to be combined effects on Llanrhuddlad due to adverse effects on views in combination with increases in noise levels. There would be a minor adverse effect on views, and noise effects of minor significance at the residential receptor Pen Y Cae.

12.3.13 It is unlikely that the combined topic effects in Llanrhuddlad during operation would be perceived, by some people affected, to be significant.

##### **Decommissioning**

12.3.14 During the decommissioning phase, there are likely to be combined effects on Llanrhuddlad due to adverse effects on views in combination with increases in noise levels. There would be a minor adverse effect on views, and noise effects of minor significance, at the residential receptor Pen Y Cae.

12.3.15 It is possible that the combined topic effects in Llanrhuddlad may be perceived, by some people affected, to be significant during decommissioning.

### **Non-residential receptors**

#### ***Recreational receptors***

12.3.16 The assessment of effects on public access and recreation in chapter E4 (Application Reference Number: 6.5.4) included the combined effects of air quality (in terms of dust), noise and vibration, and landscape and visual. This combined effect is reported as the 'recreational amenity' of the recreational receptors. No further combined topic effects are predicted for public access and recreation.

#### ***Llanfaethlu Primary School***

12.3.17 Llanfaethlu Primary School would be expected to experience a not significant effect from dust deposition due to the construction of the Off-Site Power Station Facilities. However, dust effects can appear more significant to an individual when combined with noise and visual effects.

12.3.18 Noise effects from the Off-Site Power Station Facilities would be of minor significance at Llanfaethlu Primary School during construction, operation and decommissioning.

12.3.19 Minor adverse visual effects are likely to be experienced from Llanfaethlu Primary School during construction, operation and decommissioning. Impacts would be primarily associated with views of plant and machinery, fencing installation, and the installation of the proposed on-site buildings during construction, and the presence of those features during operation.

12.3.20 It is possible that the combined topic effects at this receptor during construction and decommissioning may be perceived, by some people affected, to be significant.

#### ***Commercial receptors***

12.3.21 There are likely to be combined effects on the commercial development within 0.1km of the site during construction, due to adverse effects on views in combination with increases in noise levels and a not significant increase in dust. There would be a minor adverse effect on views, and noise effects of minor significance.

12.3.22 During the decommissioning phase, there are likely to be combined effects on the commercial development within 0.1km of the site, due to adverse effects on views in combination with increases in noise levels and a not significant effect on dust levels. There would be a minor adverse effect on views, and noise effects of minor significance.

12.3.23 It is unlikely that the combined topic effects experienced at the commercial receptors would be perceived, by the people affected, to be significant.

## ***Other receptors in the vicinity of Llanfaethlu***

### **East Drain**

12.3.24 During construction, the effects typically relate to the disturbance of sediment through in-channel working, which is predicted to have a minor adverse effect on channel morphology. Effects would also occur from the destabilisation of East Drain at the location of the bank modification associated with the outfall construction, which is predicted to have a minor adverse effect. In combination, the effect on channel morphology would be minor.

12.3.25 During operation, flows from the outfall on East Drain could alter local channel flow processes, creating scour and the potential for sediment movement and deposition downstream. This effect would be minor adverse. However, there would also be a minor beneficial effect on freshwater ecology in East Drain, because of the changes in water levels that would be achieved through flood attenuation after storm events.

12.3.26 Overall, the changes in sediment processes during construction and operation would occur over two different timescales and would be very unlikely to cause a change in baseline sediment movement downstream. For this reason, they would have a combined effect of minor significance.

### **Local landscape character**

12.3.27 There are likely to be combined effects on the local landscape character area during construction due to minor adverse effects on landscape character, in combination with increases in noise levels and a reduction in air quality, which would increase the level of disturbance. Increases in noise levels have been predicted during construction within the character area. This would result in an increased perception of adverse changes to local landscape character, including the localised area of the Special Landscape Area and Area of Outstanding Natural Beauty, when combined with the minor adverse effects resulting from the change to landscape character. In combination, it is possible that these effects would be perceived, by some people in this area, to be significant.

12.3.28 During operation, there would also be an increased perception of the minor adverse effects to local landscape character, when combining the loss of, or change to, existing landscape features. It is unlikely that this combined effect would be perceived to be significant.

12.3.29 During decommissioning it is anticipated that the predicted increase in noise levels associated with the dismantling works would be similar to levels experienced during the construction phase. This would result in an increased perception of minor adverse changes to local landscape character, when combined with the loss of or change to existing landscape features, and it is possible that this may be perceived, by some people in this area, to be significant.

### **Heritage assets**

12.3.30 Potential effects on the setting of heritage assets arising from visual intrusion and changes in landscape character, the noise environment, vibration, air quality and hydrology have already been considered in the cultural heritage chapter (chapter E11, Application Reference Number: 6.5.11). No combined topic effects are therefore predicted on those assets.