

## **Wylfa Newydd Project**

**6.9.11 ES Volume I - Cumulative effects App  
I4-3 - Intra-project cumulative noise effects**

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PINS Reference Number: EN010007

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Application Reference Number: 6.9.11

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June 2018

Revision 1.0

Regulation Number: 5(2)(a)

Planning Act 2008

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009

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# 1 Intra-project cumulative noise effects

## 1.1 Introduction

1.1.1 This appendix supplements the description of cumulative noise effects provided in section 4.2 of chapter I4. The text provided here includes more detail based on the calculated cumulative noise levels at the identified receptors.

## 1.2 Assessment findings

1.2.1 Receptor groups with expected intra-project noise and vibration cumulative effects are outlined below with details of the key interactions.

### ***Receptors at Cefn Coch***

1.2.2 A total of 11 receptors within Cefn Coch are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest intra-project cumulative significant effect within Cefn Coch is major.

1.2.3 The predicted increases in significant effects are due to the following key intra-project interactions:

- project-wide traffic, A5025 off-line highway improvements and the construction of the power station main site; and
- project-wide traffic and the construction of the power station main site.

1.2.4 During the first of these interactions, the A5025 off-line highway improvements are dominant at two receptors located within 25m of the A5025. These two receptors would experience moderate effects from the project-wide traffic alone, moderate effects from the A5025 off-line highway improvements works alone, and moderate effects from the construction of power station main site alone, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time. At three other receptors with one located approximately 400m to the east of the A5025, and the other two located approximately 400m west from the A5025, none of the intra-projects are considered dominant. These three receptors would experience minor effects from the project-wide traffic, minor effects from the A5025 off-line highway improvements works and moderate effects from the construction of power station main site alone, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time.

1.2.5 For the second interaction, project-wide traffic is dominant at two receptors within 80m of the A5025. These two receptors would experience moderate effects from both the project-wide traffic and construction of the power station main site alone, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time. At three receptors located off the road between Llanfairyngornwy and

Llanfechell, none of the intra-projects are considered as the dominant development. These receptors would experience minor effects from both the project-wide traffic and construction of the power station main site as standalone developments, but would experience intra-project cumulative effects of moderate significance because the effects would happen at the same time.

1.2.6 There is a single individual receptor located along the A5025 which is affected by both interactions. For this receptor, the dominant activity changes due to different phases (i.e. a variation in noise level as the construction programme progresses). This receptor experiences moderate effects from both the project-wide traffic and construction of the power station main site and moderate effects from the A5025 off-line highway improvements works as standalone developments. It would experience an intra-project cumulative effect of major significance.

### **Mitigation**

1.2.7 Of the intra-project cumulative effects identified above, it is noted that a number of properties within this receptor group have already been recognised as qualifying for noise insulation as a result of impacts from individual Wylfa Newydd developments.

1.2.8 On this basis these receptors have been scoped out as requiring additional mitigation to reduce their significance of effects. The number of individual properties identified as potentially requiring mitigation from the intra-project cumulative assessment is reduced from 11 to seven.

1.2.9 Additional analysis of the seven properties shows that project-wide traffic effects were either the dominant or a non-dominant noise source contributing to the cumulative intra-project effects. However, it is noted that project-wide traffic has been mitigated by the application of low noise road surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the A5025 off-line highway improvements or the construction of the power station main site alone would not be practicable given the remaining noise contribution from the project-wide traffic could not be addressed. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out from benefiting from additional mitigation no additional properties remain for consideration.

1.2.10 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### **Receptors at Kingsland**

1.2.11 One receptor within Kingsland is expected to experience increases in significant effects as a result of cumulative intra-project activities. This receptor will experience a major intra-project cumulative significant effect.

1.2.12 The predicted increase in significant effect is due to the following key interactions:

- project-wide traffic and construction of the logistics centre; and
- project-wide traffic and the operation of the logistic centre.

1.2.13 During the first of these interactions, the combination of the project-wide traffic and construction of the logistic centre causes a significant effect increase at a single residential receptor off Kingsland Road, south of the A5153. For this interaction, none of the intra-projects are considered dominant. This receptor would experience moderate effects from the project-wide traffic and construction and operation of the logistics centre site alone, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time.

1.2.14 During the second of these interactions, the project-wide traffic is dominant at the same receptor.

### **Mitigation**

1.2.15 This single receptor calculated to experience an intra-project cumulative effect as identified above, is as a result of project-wide traffic effects as the dominant and the non-dominant noise source. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the construction of the logistic centre alone would not be practicable given the remaining noise contribution from the project-wide traffic could not be addressed. On this basis further mitigation to reduce the new or worsened significant effect is not reasonably practicable. Once the property has been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.16 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effect remains.

### **Receptors at Llanfaethlu**

1.2.17 A total of 41 receptors within Llanfaethlu are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect within Llanfaethlu is major.

1.2.18 The predicted increases in significant effects are due to the following key intra-project interactions:

- project-wide traffic and A5025 off-line highway improvements; and
- project-wide traffic and the construction of off-site power station facilities.

1.2.19 For the first of these interactions, at 13 residential receptors in Llanfaethlu village, none of the intra-projects are considered dominant. These 13 receptors would experience either moderate or minor effects from the

project-wide traffic and minor effects from the A5025 off-line improvements alone, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time. An outlying residential receptor south east of Llanfaethlu would experience moderate effects from both the project-wide traffic and the A5025 off-line improvements as standalone developments, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time. At two residential receptors off the A5025, north of Llanfaethlu Village, the project-wide traffic is considered the dominant development. These receptors would experience moderate effects from the project-wide traffic and minor effects from A5025 off-line improvements as standalone developments, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time. An outlying residential receptor north of Llanfaethlu would experience a minor effect from both the project-wide traffic and the A5025 off-line improvements as standalone developments, but would experience an intra-project cumulative effect of major significance because the effects would happen at the same time.

- 1.2.20 For the second interaction, 12 residential receptors in Llanfaethlu village would experience minor effects from the project-wide traffic and minor effects from construction of off-site power station facilities as standalone developments, but would experience intra-project cumulative effects of major significance at five and moderate significance at seven properties because the effects would happen at the same time. An additional two residential receptors in Llanfaethlu village would experience moderate effects from the project-wide traffic and minor effects from the construction of off-site power station facilities as standalone developments, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time. Two residential receptors off the A5025, north of Llanfaethlu Village would experience moderate effects from the project-wide traffic and minor effects from the construction of off-site power station facilities as standalone developments, but would experience intra-project cumulative effects of major significance at one and moderate significance at the other receptor because the effects would happen at the same time.
- 1.2.21 Five residential receptors in Llanfaethlu village and three residential receptors off the A5025, north of Llanfaethlu Village are affected by both interactions, with major significance adverse effects expected at all eight.

### **Mitigation**

- 1.2.22 Of the intra-project cumulative effects identified above, it is noted that a number of properties within this receptor group have been recognised as qualifying for noise insulation as a result of impacts from other individual Wylfa Newydd developments.
- 1.2.23 These have been scoped out as requiring additional mitigation to reduce their significance of effects and the number of individual properties identified as potentially requiring mitigation is reduced to 37.

1.2.24 Further analysis of these remaining properties shows that project-wide traffic effects were either the dominant or a non-dominant noise source contributing to the cumulative intra-project effects at all 37 properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the A5025 off-line highway improvements or the construction of the power station off-site facilities alone would not be practicable given the remaining noise contribution from the project-wide traffic could not be addressed. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.25 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### ***Receptors at Llanfihangel-yn-Nhywyn***

1.2.26 A total of two receptors within Llanfihangel-yn-Nhywyn are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect within Llanfihangel-yn-Nhywyn is major.

1.2.27 The predicted increases in significant effects are due to the following key intra-project interaction:

- project-wide traffic and the construction of the park and ride facility.

1.2.28 During this interaction, neither intra-project is considered dominant at two residential receptors in Dol Eithin within Llanfihangel-yn-Nhywyn. These two receptors would experience minor effects from the project-wide traffic and minor effects from the construction of the park and ride facility alone, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time.

### ***Mitigation***

1.2.29 Of the intra-project cumulative effects identified above, project-wide traffic effects were a non-dominant noise source contributing to the cumulative intra-project effects at two properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from construction of the park and ride facility alone would not be practicable given the remaining noise contribution from the project-wide traffic could not be addressed. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.30 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### ***Receptors at Llangynghenedl***

1.2.31 A total of four receptors within Llangynghenedl are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect within Llangynghenedl is major.

1.2.32 The predicted increases in significant effects are due to the following key intra-project interaction:

- project-wide traffic and A5025 off-line highway improvements.

1.2.33 The four receptors are located off the A5025 near the junction with the B5109 and none of the intra-projects are considered dominant at these receptors. These four receptors would experience moderate effects from the project-wide traffic and minor effects from the A5025 off-line highway improvements works alone, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time.

### ***Mitigation***

1.2.34 Of the intra-project cumulative effects identified above, it is noted that a number of properties within this receptor group have been recognised as qualifying for noise insulation as a result of impacts from other individual Wylfa Newydd Projects.

1.2.35 On this basis these have been scoped out as requiring additional mitigation to reduce their significance of effects and the number of individual properties identified as potentially benefiting from additional mitigation is reduced to two.

1.2.36 Additional analysis of these remaining properties shows that project-wide traffic effects were a non-dominant noise source contributing to the cumulative intra-project effects at two properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the A5025 off-line highway improvements alone would not be practicable given the remaining noise contribution from the project-wide traffic could not be addressed. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.37 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### ***Receptors north of Trearddur Bay***

1.2.38 A total of seven receptors north of Trearddur Bay are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect within Trearddur Bay is moderate.

1.2.39 The predicted increases in significant effects are due to the following key intra-project interaction:

- project-wide traffic and the operation of the logistic centre.

1.2.40 For this interaction, neither intra-project is considered dominant at seven residential receptors located in Penrhyn Geiriol. These seven receptors that would experience minor effects from the project-wide traffic alone and minor effects from the operation of the logistic centre alone, would experience intra-project cumulative effects of moderate significance because the effects would happen at the same time.

### ***Mitigation***

1.2.41 Of the intra-project cumulative effects identified above, project-wide traffic effects were a non-dominant noise source contributing to the cumulative intra-project effects at all seven properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from the operation of the logistic centre alone would not be practicable given the remaining noise contribution from the project-wide traffic. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.42 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### ***Outlying receptors at Llanfihangel-yn-Nhywyn***

1.2.43 A total of 18 receptors within the outlying area of Llanfihangel-yn-Nhywyn are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect within Llanfihangel-yn-Nhywyn is major.

1.2.44 The predicted increases in significant effects are due to the following key intra-project interactions:

- project-wide traffic and the construction of the park and ride facility; and
- project-wide traffic and the operation of the park and ride facility.

1.2.45 During the first of these interactions, project-wide traffic is dominant at one receptor off Holyhead Road. This receptor would experience minor effects from the project-wide traffic alone and minor effects from the construction of the park and ride facility alone, but would experience intra-project cumulative

effects of major significance because the effects would happen at the same time. At an additional eight receptors including seven residential properties and one hotel off Holyhead Road, neither intra-project is considered dominant. These eight receptors would experience minor effects from the project-wide traffic alone and minor effects from the construction of the park and ride facility alone, but would experience an increased intra-project cumulative effects of moderate at four receptors and major at the remaining four because the effects would happen at the same time. At five residential receptors off Altwen Goch, neither intra-project is considered dominant. These receptors would experience minor effects from the project-wide traffic alone and minor effects from the construction of the park and ride facility alone, but would experience an increased intra-project cumulative effects of moderate at one receptor and major at the remaining four because the effects would happen at the same time. A single residential receptor near the Go Kart track would experience a minor effect from the project-wide traffic alone and a minor effect from the construction of the park and ride facility alone, but would experience an increased intra-project cumulative effect of major because the effect would happen at the same time. A single residential receptor off the road to Bodedern would experience a minor effect from the project-wide traffic alone and a minor effect from the construction of the park and ride facility alone, but would experience an increased intra-project cumulative effect of moderate because the effect would happen at the same time. For these two receptors, neither intra-project is considered dominant.

1.2.46 During the second interaction, the project-wide traffic is dominant at two residential receptors off Altwen Goch near to the junction with Minffordd Road. These two receptors would experience minor effects from the project-wide traffic alone and minor effects from the construction of the park and ride facility alone, but would experience increased intra-project cumulative effects of moderate because the effects would happen at the same time.

### **Mitigation**

1.2.47 Of the intra-project cumulative effects identified above, it is noted that a number of properties within this receptor group have been recognised as qualifying for noise insulation as a result of impacts from other individual Wylfa Newydd developments.

1.2.48 On this basis these properties have been scoped out as requiring additional mitigation to reduce their significance of effects and the number of individual properties identified as potentially requiring mitigation is reduced to 17.

1.2.49 Additional analysis of these remaining properties shows that project-wide traffic effects were either the dominant or a non-dominant noise source contributing to the cumulative intra-project effects at all 17 properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the construction and operation of the park and ride facility alone

would not be practicable given the remaining noise contribution from the project-wide traffic. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.50 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### ***Outlying receptors north of Cefn Coch***

1.2.51 A total of 13 outlying receptors north of Cefn Coch are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect north of Cefn Coch is major.

1.2.52 The predicted increases in significant effects are due to the following key intra-project interactions:

- project-wide traffic, A5025 off-line highway improvements and the construction of the power station main site; and
- project-wide traffic and the construction of the power station main site.

1.2.53 No receptors have been identified to experience intra-project cumulative effects from the first interaction only.

1.2.54 During the second interaction, for a single residential receptor, the dominant intra-project activity is the construction of the power station main site. For two residential receptors, the project-wide traffic is considered the dominant intra-project activity and for six residential receptors, neither of the intra-projects is considered dominant. Considering these nine residential receptors, five receptors would experience moderate effects and four receptors would experience minor effects from the project-wide traffic alone. Two receptors would experience moderate effects and seven receptors would experience minor effects from the construction of the power station main site alone. The combined intra-project cumulative effect would result in five properties experiencing major effects and four properties experiencing moderate effects due to the interacting projects happening at the same time.

1.2.55 There are four residential receptors which are affected by both interactions. For these receptors, the dominant activity changes due to different phases (i.e. a variation in noise level as the construction programme progresses). These four receptors that would experience moderate effects from project-wide traffic alone, moderate effects from the construction of the power station main site alone and moderate at two, minor at two from the A5025 off-line highway improvements, would experience intra-project cumulative effects of major significance because the effects would happen at the same time.

### **Mitigation**

- 1.2.56 Of the intra-project cumulative effects identified above, it is noted that a number of properties within this receptor group have been recognised as qualifying for noise insulation as a result of impacts from other individual Wylfa Newydd developments.
- 1.2.57 On this basis these have been scoped out as requiring additional mitigation to reduce their significance of effects and the number of individual properties identified as potentially requiring mitigation is reduced to 12.
- 1.2.58 Additional analysis of these remaining properties shows that project-wide traffic effects were either the dominant or a non-dominant noise source contributing to the cumulative intra-project effects at seven properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the A5025 off-line highway improvements or the construction of the power station main site alone would not be practicable given the remaining noise contribution from the project-wide traffic. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out from benefiting from additional mitigation the number of properties under consideration is reduced to five. The number of receptors expected to experience major significant effects is also reduced to three.
- 1.2.59 Within the remaining additional or worse cumulative effects identified, for the consideration of mitigation, it is noted that the construction of the power station main site is the dominant noise source with contribution from project-wide traffic and the A5025 off-line highway improvements.
- 1.2.60 On the basis that three receptors have been identified as having an intra-project cumulative effect further mitigation will be considered. However, at this stage of the construction process it is not possible to confirm and define the options available due to lack of certainty in the construction methods. Once further detail on the construction processes have been confirmed all additional reasonably practicable mitigation will be established.

### ***Outlying receptors north of Llanfaethlu***

- 1.2.61 One outlying receptor north of Llanfaethlu is expected to experience increases in significant effects as a result of cumulative intra-project activities. The single cumulative significant effect within this area is major.
- 1.2.62 The predicted increase in significant effects is due to the following key intra-project interaction:
  - project-wide traffic and the construction of power station off-site facilities.
- 1.2.63 During this interaction, the combination of the project-wide traffic and construction of the off-site power station facilities causes a significant effect increase at a single residential receptor off the A5025 near the road fork with Chapel Street. For this interaction, the project-wide traffic is considered

dominant. This receptor would experience a moderate effect from the project-wide traffic alone and a minor effect from the construction of the off-site power station facilities alone, but would experience an intra-project cumulative effect of major significance because the effects would happen at the same time.

1.2.64 During this interaction, project-wide traffic is dominant, with an increase in the calculated ambient receptor noise level due to intra-project cumulative effects of 1.1 dB.

### **Mitigation**

1.2.65 This single intra-project cumulative effect has project-wide traffic effects as the dominant noise source contributing to the cumulative intra-project effect. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. On this basis further mitigation to reduce the new or worsened significant effect is not reasonably practicable. Once the property has been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.66 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### ***Outlying receptors north of Llanfachraeth***

1.2.67 A total of three outlying receptors north of Llanfachraeth are expected to experience increases in significant effects as a result of cumulative intra-project activities.

1.2.68 The predicted increases in significant effects are due to the following key intra-project interaction:

- project-wide traffic and A5025 off-line highway improvements.

1.2.69 During this interaction, the project-wide traffic is dominant at three residential receptors located on an unnamed road east of the A5025. These three receptors would experience moderate effects from the project-wide traffic alone and minor effects from the A5025 off-line highway improvements works alone, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time.

### **Mitigation**

1.2.70 The intra-project cumulative effects identified above have project-wide traffic effects as the dominant noise source contributing to the cumulative intra-project effects at all three properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these

properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.71 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### ***Receptors on the A5025 between Cemaes and Tregele***

1.2.72 A total of 15 receptors on the A5025 between Cemaes and Tregele are expected to experience increases in significant effects as a result of cumulative intra-project activities.

1.2.73 The predicted increases in significant effects are due to the following key intra-project interaction:

- project-wide traffic and the construction of the power station main site.
- project-wide traffic and the operation of the power station main site.

1.2.74 During the first interaction, the combination of the project-wide traffic and construction of the power station main site causes a significant effect increase at six residential receptors south of the A5025 (Between Tregele & Cemaes). For this interaction, neither intra-project is considered dominant at five receptors, with project-wide traffic considered dominant at one receptor. These six receptors would each experience a minor effect from the project-wide traffic alone. Five receptors would experience moderate effects and one receptor would experience a minor effect from the construction of the power station main site alone. The combined intra-project cumulative effect would result in four properties experiencing a major effect and two properties experiencing moderate effects due to the interacting projects happening at the same time.

1.2.75 Also during this interaction, the combination of the project-wide traffic and construction of the power station main site causes a significant effect increase at eight residential receptors north of the A5025 (Between Tregele & Cemaes). For this interaction, project-wide traffic is considered dominant at six receptors, with neither intra-project considered dominant for the remaining two receptors. These eight receptors would experience minor effects from the project-wide traffic alone. Seven receptors would experience moderate effects and one receptor would experience a minor effect from the construction of the power station main site alone. The combined intra-project cumulative effect would result in one property experiencing a major effect and seven properties experiencing moderate effects due to the interacting projects happening at the same time.

1.2.76 There is one residential receptor on the A5025 between Cemaes and Tregele which is affected by multiple interactions. For this receptor, the dominant activity changes due to different phases (i.e. a variation in noise level as the construction programme progresses). This receptor would experience a minor effect from project-wide traffic alone, a moderate effect from the construction of the power station main site alone and a negligible effect from the operation of the power station main site alone but would

experience an intra-project cumulative effect of major significance because the effects would happen at the same time.

1.2.77 Construction and operation of the power station main site would not happen at the same time, but project-wide traffic would occur at the same time as both construction and operation of the power station main site.

### **Mitigation**

1.2.78 Of the intra-project cumulative effects identified above, it is noted that a number of properties within this receptor group have been recognised as qualifying for noise insulation as a result of impacts from other individual Wylfa Newydd developments.

1.2.79 On this basis these have been scoped out as requiring additional mitigation to reduce their significance of effects and the number of individual properties identified as potentially requiring mitigation is reduced to ten.

1.2.80 Additional analysis of these remaining properties shows that project-wide traffic effects were either the dominant or a non-dominant noise source contributing to the cumulative intra-project effects at all ten properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the construction of the power station main site alone would not be practicable given the remaining noise contribution from the project-wide traffic. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.81 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### ***Outlying receptors south of Valley***

1.2.82 A total of two outlying receptors south of Valley are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect within this area is moderate. Two receptors are expected to experience moderate significant effects as a result of the intra-project cumulative assessment.

1.2.83 The predicted increases in significant effects are due to the following key intra-project interaction:

- project-wide traffic and A5025 off-line highway improvements.

1.2.84 For this interaction, project-wide traffic is considered dominant at two residential receptors within 200m of the A55. These two receptors that would experience minor effects from the project-wide traffic alone and minor effects from the A5025 off-line highway improvements alone, would experience intra-project cumulative effects of moderate significance because the effects would happen at the same time.

## **Mitigation**

1.2.85 Of the intra-project cumulative effects identified above, project-wide traffic effects were a dominant noise source contributing to the cumulative intra-project effects at two properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from the A5025 off-line highway improvements alone would not be practicable given the remaining noise contribution from the project-wide traffic. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.86 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

## ***Receptors at Tregele***

1.2.87 A total of 60 receptors in Tregele are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect in Tregele is major.

1.2.88 The predicted increases in significant effects are due to the following key intra-project interactions:

- Project-wide traffic, A5025 off-line highway improvements and the construction of the power station main site;
- Project-wide traffic and the construction of the power station main site; and
- Project-wide traffic and the operation of the power station main site.

1.2.89 For the first of these interactions, at two residential receptors off A5025 near Tregele Petrol Station, none of the intra-projects are considered dominant. These two receptors would experience minor effects from the project-wide traffic, minor effects from the construction of the power station main site and minor effects from the A5025 off-line improvements alone, but would experience intra-project cumulative effects of major significance because the effects would happen at the same time.

1.2.90 During the second of these interactions, the combination of the project-wide traffic and construction of the power station main site causes a significant effect increase at 53 residential receptors in Tregele. For this interaction, neither intra-project is considered dominant. These receptors would experience minor effects from the project-wide traffic alone. Six receptors and 47 receptors would experience moderate and minor effects, respectively, from the construction of the power station main site alone. Of the 53 residential receptors in Tregele, 35 would experience intra-project cumulative effects of major significance and 18 would experience cumulative effects of moderate because the effects would happen at the same time.

- 1.2.91 No receptors experience a significant cumulative effect solely from the third interaction.
- 1.2.92 There are five residential receptors in Tregele which are affected by multiple interactions. For these receptors, the dominant activity changes due to different phases (i.e. a variation in noise level as the construction programme progresses).
- 1.2.93 These five receptors in Tregele would experience minor effects from project-wide traffic alone. Four receptors would experience moderate effects and one receptor would experience a minor effect from the construction of the power station main site alone. Four receptors would experience negligible effects from the operation of the power station main site. The combined intra-project cumulative effect would result in four properties experiencing major effects and one property experiencing a moderate effect due to the interacting projects happening at the same time.
- 1.2.94 Construction and operation of the power station main site would not happen at the same time but project-wide traffic would occur at the same time as both construction and operation of the power station main site.

### **Mitigation**

- 1.2.95 Of the intra-project cumulative effects identified above, it is noted that a number of properties within this receptor group have been recognised as qualifying for noise insulation as a result of impacts from other individual Wylfa Newydd developments.
- 1.2.96 On this basis these have been scoped out as requiring additional mitigation to reduce their significance of effects and the number of individual properties identified as potentially requiring mitigation is reduced to 54.
- 1.2.97 Additional analysis of these remaining properties shows that project-wide traffic effects were either the dominant or a non-dominant noise source contributing to the cumulative intra-project effects at 22 properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the construction of the power station main site alone would not be practicable given the remaining noise contribution from the project-wide traffic. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out from benefiting from additional mitigation the number of properties under consideration is reduced to 13.
- 1.2.98 Within the remaining additional or worse cumulative effects identified, it is noted that the construction of the power station main site is the dominant noise source with contributions from project-wide traffic and the A5025 off-line highway improvements.
- 1.2.99 On the basis that 13 receptors have been identified as having an intra-project cumulative effect further mitigation will be considered. However, at

this stage of the construction process it is not possible to confirm and define the options available due to lack of certainty in the construction methods. Once further detail on the construction processes have been confirmed all additional reasonably practicable mitigation will be established.

### **Receptors at Valley**

1.2.100 A total of 338 receptors in Valley are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect within Valley is major.

1.2.101 The predicted increases in significant effects are due to the following key intra-project interaction:

- project-wide traffic and A5025 off-line highway improvements.

1.2.102 During this interaction, the combination of the project-wide traffic and A5025 off-line highway improvements causes a significant effect increase at 117 residential receptors north of the A5. Of these 117 properties, project-wide traffic is dominant at 31, with neither intra-project dominant at the remaining 86. These receptors would experience minor effects from the project-wide traffic alone and minor effects from the A5025 off-line highway improvements alone. Of these residential receptors, 69 would experience intra-project cumulative effects of major significance and 48 would experience cumulative effects of moderate because the effects would happen at the same time.

1.2.103 The combination of the project-wide traffic and A5025 off-line highway improvements causes a significant effect increase at 87 residential receptors south of the A5 and north of the North Wales Coast Railway Line. Of these 87 properties, project-wide traffic is dominant at 58, with neither intra-project dominant at the remaining 29. These receptors would experience minor effects from the project-wide traffic alone and minor effects from the A5025 off-line highway improvements alone. Of these residential receptors, 9 would experience intra-project cumulative effects of major significance and 78 would experience cumulative effects of moderate because the effects would happen at the same time.

1.2.104 During this interaction, the combination of the project-wide traffic and A5025 off-line highway improvements causes a significant effect increase at 121 residential receptors south of the North Wales Coast Railway Line. Of these 121 properties, project-wide traffic is dominant at 117, with neither intra-project dominant at the remaining four. These receptors would experience minor effects from the project-wide traffic alone and minor effects from the A5025 off-line highway improvements alone. Of these residential receptors, all 121 would experience intra-project cumulative effects of moderate significance because the effects would happen at the same time.

### **Mitigation**

1.2.105 Of the intra-project cumulative effects identified above, it is noted that a number of properties within this receptor group have been recognised as

qualifying for noise insulation as a result of impacts from other individual Wylfa Newydd developments.

1.2.106 On this basis these have been scoped out as requiring additional mitigation to reduce their significance of effects and the number of individual properties identified as potentially requiring mitigation is reduced to 333.

1.2.107 Additional analysis of these remaining properties shows that project-wide traffic effects were either the dominant or a non-dominant noise source contributing to the cumulative intra-project effects at all 333 properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the A5025 off-line highway improvements alone would not be practicable given the remaining noise contribution from the project-wide traffic. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.108 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.

### ***Receptors at West Llanfachraeth***

1.2.109 A total of 36 receptors in West Llanfachraeth are expected to experience increases in significant effects as a result of cumulative intra-project activities. The highest cumulative significant effect within West Llanfachraeth is major.

1.2.110 The predicted increases in significant effects are due to the following key intra-project interaction:

- Project-wide traffic and A5025 off-line highway improvements.

1.2.111 During this interaction, the combination of the project-wide traffic and A5025 off-line highway improvements causes a significant effect increase at two residential receptors off the A5025 and north of Llanfachraeth Ysgol. Of these properties, project-wide traffic is dominant at one, with neither intra-project dominant at the remaining one. These receptors would experience moderate effects from the project-wide traffic alone and minor effects from the A5025 off-line highway improvements alone. These receptors would experience intra-project cumulative effects of major significance because the effects would happen at the same time.

1.2.112 The same interaction causes a significant effect increase at 24 residential receptors off the A5025 and south of Stad Roebuck. Of these 24 properties, project-wide traffic is dominant at five, with neither intra-project dominant at the remaining 19. 23 of these receptors would experience moderate effects and one would experience minor effects from the project-wide traffic alone. Minor effects would be experienced at all 24 receptors from the A5025 off-line highway improvements alone. These receptors would experience intra-

project cumulative effects of major significance because the effects would happen at the same time.

1.2.113 During the same interaction, a significant effect increase is expected at nine residential receptors north of Stad Roebuck and south of Llanfachraeth ysgol. At these properties, neither intra-project is dominant. Seven of these receptors would experience moderate effects and two would experience minor effects from the project-wide traffic alone. Minor effects would be experienced at all nine receptors from the A5025 off-line highway improvements alone. These receptors would experience intra-project cumulative effects of major significance because the effects would happen at the same time.

### **Mitigation**

1.2.114 Of the intra-project cumulative effects identified above, it is noted that a number of properties within this receptor group have been recognised as qualifying for noise insulation as a result of impacts from other individual Wylfa Newydd developments.

1.2.115 On this basis these have been scoped out as requiring additional mitigation to reduce their significance of effects and the number of individual properties identified as potentially requiring mitigation is reduced to 26.

1.2.116 Additional analysis of these remaining properties shows that project-wide traffic effects were either the dominant or a non-dominant noise source contributing to the cumulative intra-project effects at all 26 properties. However, it is noted that project-wide traffic has been mitigated by the application of low road noise surfaces and the application of extensive noise barriers is not reasonably practicable. Sufficient noise reductions from mitigation of the A5025 off-line highway improvements alone would not be practicable given the remaining noise contribution from the project-wide traffic. On this basis further mitigation to reduce the numbers of properties with new or worsened significant effects is not reasonably practicable. Once these properties have been scoped out there are no other properties to consider for the benefit of mitigation.

1.2.117 No further mitigation is therefore proposed to be incorporated within this receptor grouping and the intra-project cumulative effects remain.