

Wylfa Newydd Project

6.9.1 ES Volume I - Cumulative effects I1 - Introduction

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1 Introduction

1.1 What are cumulative effects?

1.1.1 The individual impacts from a single development or project may not result in significant effects on their own but, when combined with other impacts, the effects could become significant. Similarly, individual significant effects may combine with other effects to become more significant. The resultant overall effects arising in either of these circumstances are known as cumulative effects.

1.1.2 The terms used in this volume are described in more detail in chapter A1 (introduction) (Application Reference Number: 6.1.1). In addition, for the purposes of this volume the following terms are used.

- Development: components of the Wylfa Newydd Project, for example the Power Station and the A5025 Off-line Highways Improvements. The component developments making up the Wylfa Newydd Project are listed in chapter I2 (scope) (Application Reference Number: 6.9.2).
- Activity: individual tasks within a development, such as vegetation clearance along the A5025 corridor.

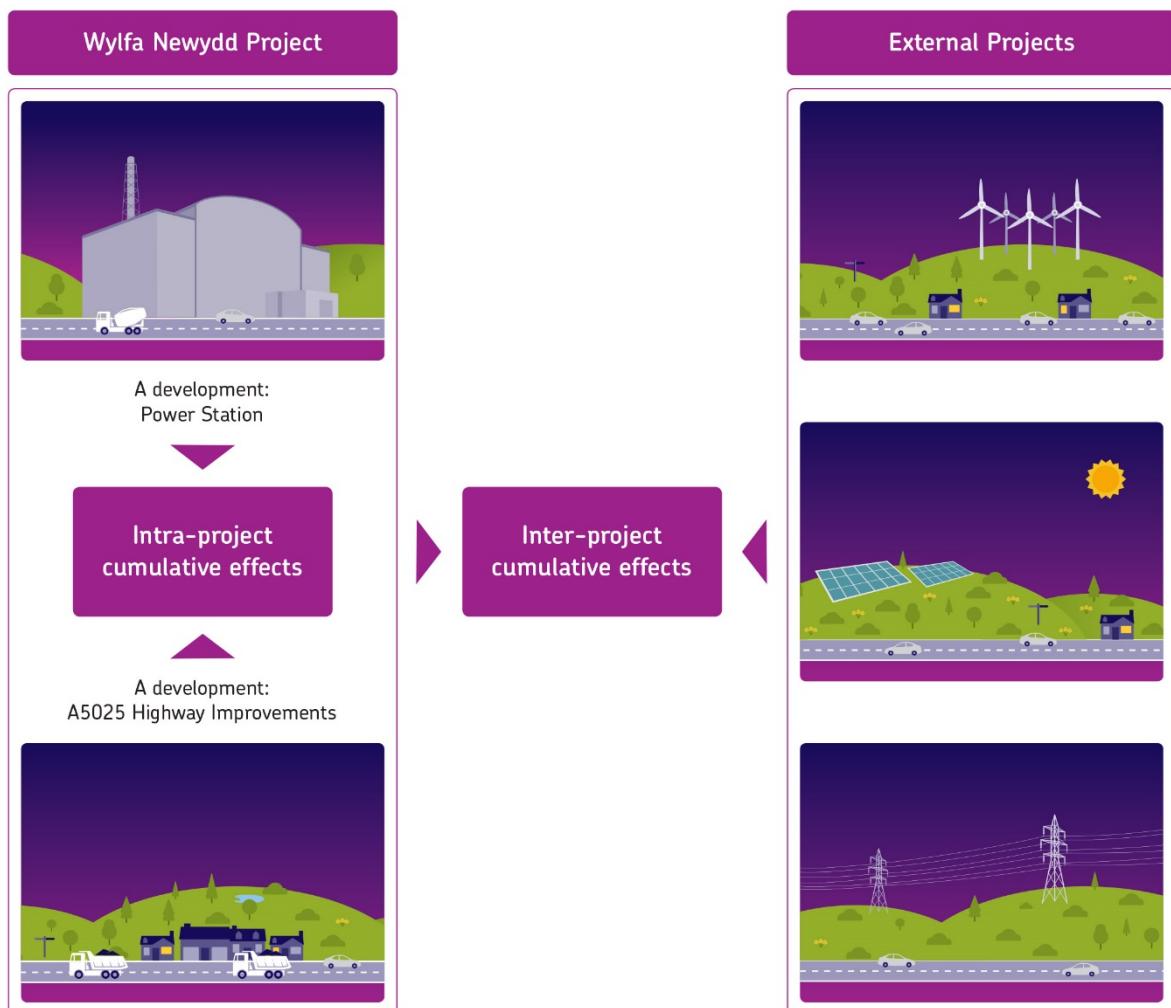
1.1.3 Cumulative effects can potentially occur at each level (project, development or activity). For example, cumulative effects can arise from different activities (but within the same development), from different developments (within the same project), or across different projects. The following terminology has been adopted to describe different categories of cumulative effects associated with the Wylfa Newydd Project.

- Intra-development: combined topic effects can arise when a single resource or receptor is affected by more than one effect from the same development, usually at the same time. For example, nesting birds close to a development site may be affected by both noise and dust arising from that development; the combined effect may be more significant than the individual noise and dust effects assessed separately. These are reported in dedicated chapters for combined topic effects in each of volumes C to H (Application Reference Numbers: 6.3.7, 6.4.16, 6.5.12, 6.6.12, 6.7.12 and 6.8.12), of this Environmental Statement and are not repeated in this volume.
- Intra-project: in a complex project involving multiple developments, such as the Wylfa Newydd Project, cumulative effects can arise when a single resource or receptor is affected by different developments (in the same project) at the same time. For example, noise from the construction of the Power Station and light from construction of A5025 Off-line Highway Improvements could combine to have an effect on a single population of bats foraging in the area.
- Inter-project: cumulative effects can arise when a single resource or receptor is affected by more than one project at the same time. For

example, noise from construction of the Wylfa Newydd Power Station and noise from the construction of a proposed National Grid overhead power line could combine to have a cumulative effect on local residents.

1.1.4 Figure I1-1 shows that intra-project cumulative effects result from multiple developments and inter-project cumulative effects result from multiple projects.

Figure I1-1 The origin of cumulative effects



1.1.5 Cumulative effects can be additive or combined, and these terms are discussed below.

- Additive: additive effects occur when a receptor experiences two effects of the same type which add up to a larger and potentially more significant cumulative effect. For example, two separate sources both producing dust at the same time, but at levels not likely to cause a significant nuisance on their own, could combine to cause a significant dust nuisance when acting together.
- Combined: combined (or synergistic) effects occur when a receptor experiences two effects of different types. The combined effect may be greater than the simple sum of its parts. For example, the generation of

light from construction activities on one project could combine with the presence of new physical structures associated with a different project, none of which might be individually assessed as being significant, but which in combination might significantly affect the behaviour of bats.

1.2 Legal requirements and policy guidance

- 1.2.1 Schedule 4 Part 1 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 requires an Environmental Statement to include (among other things) a description of the likely significant effects of the development on the environment, including cumulative effects.
- 1.2.2 In addition, this assessment has had regard to Schedule 4 Clause 5 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017, which requires an Environmental Statement to include (among other things) a description of the likely significant effects of the development on the environment, including "*the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources*".
- 1.2.3 The *Overarching National Policy Statement for Energy (EN-1)* [RD1] states at paragraph 4.2.5 that "*When considering cumulative effects, the Environmental Statement should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)*".
- 1.2.4 *National Policy Statement for Nuclear Power Generation (EN-6)* [RD2] notes that the cumulative effects assessment should be carried out in line with the guidance contained in EN-1 [RD1].
- 1.2.5 The Planning Inspectorate's *Advice Note Seventeen: Cumulative Effects Assessment* [RD3] has been taken into account in this assessment of cumulative effects.

1.3 How we assess cumulative effects

- 1.3.1 Horizon's approach to the assessment of cumulative effects is set out below.

Temporal and spatial limits

- 1.3.2 Cumulative effects arise from multiple individual effects occurring in the same place and either at the same time or over a combined, extended duration. The temporal and spatial limits of the Wylfa Newydd Project have been defined through consideration of the:
 - topic-specific Environmental Impact Assessment study areas/zones of influence;
 - Habitats Regulations Assessment study area; and
 - Wylfa Newydd Project timeline.

1.3.3 Chapter I2 (Application Reference Number: 6.9.2) sets out the scope of the cumulative effects assessment, based on consideration of these temporal and spatial limits.

Reasonably foreseeable future projects

1.3.4 It is necessary to identify past, present or reasonably foreseeable future projects which could contribute to cumulative effects. Past projects are usually included in the environmental baseline, and are considered as reasonably foreseeable future projects only if the actual effects of the project are still being determined through monitoring and measurement, or where they have been undertaken in the time between the baseline information being collected and the assessment being undertaken.

1.3.5 Present projects are sometimes referred to as 'committed development'. This term refers to those projects (outside the Wylfa Newydd Project) which are currently preparing to commence construction activities, or which have full planning consent in place and can reasonably be expected to progress. Committed development projects are included in the baseline for certain topics, particularly those using modelled baseline traffic data as part of their assessment, and therefore they are included in the cumulative effects assessment only to the extent that they have not already been considered as part of the baseline, in order to avoid the double-counting of effects.

1.3.6 Chapter I2 (Application Reference Number: 6.9.2) sets out how the reasonably foreseeable future projects with the potential to contribute to cumulative effects with the Wylfa Newydd Development, have been identified.

Receptors

1.3.7 Receptors that would be affected by more than one development or project have been identified through reference to environmental assessments for the short-listed projects and the developments within the Wylfa Newydd Project. Chapter I2 (Application Reference Number: 6.9.2) provides more details.

Assessment

1.3.8 Chapter I3 (methodology) (Application Reference Number: 6.9.3) sets out the methodology used for the assessment of cumulative effects. Because the Wylfa Newydd Project comprises a number of individual developments, the cumulative effects assessment first assesses intra-project cumulative effects, where more than one of the Wylfa Newydd Project developments would affect shared receptors. It then assesses inter-project cumulative effects, where the Wylfa Newydd Project and at least one reasonably foreseeable future projects would affect shared receptors. Chapters I4 (intra-project cumulative effects) (Application Reference Number: 6.9.4) and I5 (inter-project cumulative effects) (Application Reference Number: 6.9.5) report the assessment of intra-project and inter-project cumulative effects, respectively.

Alternatives and mitigation

1.3.9 The assessment of cumulative effects is based on the residual effects identified in the topic chapters in volumes C to H (Application Reference Numbers: 6.3.1 to 6.8.11) of this Environmental Statement, meaning that mitigation measures identified earlier in the assessment process are taken into account. During the assessment of cumulative effects, where appropriate, additional mitigation for cumulative effects can be proposed. Chapters I4 (Application Reference Number 6.9.4) and I5 (Application Reference Number 6.9.5) include additional mitigation measures, as appropriate. These chapters then report the residual cumulative effects, with all mitigation in place.

Limitations

1.3.10 The inter-project cumulative effects assessment relies upon environmental information reported by third-party developers for their projects. The available information varies between projects, and therefore there is a degree of uncertainty in the cumulative effects reported. Table I2-3 in chapter I2 (Application Reference Number: 6.9.2) lists the information used in each case.

1.4 References

Table I1-1 Schedule of references

ID	Reference
RD1	Department of Energy and Climate Change. 2011. <i>Overarching National Policy Statement for Energy (EN-1)</i> . [Online]. [Accessed: 16 May 17]. Available from: https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure
RD2	Department of Energy and Climate Change. 2011. <i>National Policy Statement for Nuclear Power Generation (EN-6)</i> . [Online]. [Accessed: 16 May 17]. Available from https://www.gov.uk/government/publications/national-policy-statements-for-energy-infrastructure
RD3	Planning Inspectorate. 2015. <i>Advice Note Seventeen: Cumulative Effects Assessment. Version 1</i> . [Online]. [Accessed: 16 May 17]. Available from: https://infrastructure.planninginspectorate.gov.uk/legislation-and-advice/advice-notes/