Review of the current practices in the assessment of Cumulative Effects

**What are Cumulative Environmental Effects?**

Understanding the interaction of multiple development types across large temporal and spatial scales is important for predicting how future developments may impact populations, communities, the economy and biodiversity. Most development activities would typically have minor impacts individually, but collectively over time their impact on the environment is more substantial. The potential environmental effects in different locations related to one study area show the importance of cumulative effects. These are defined as:

“Impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the projects” (May 1999).

The cumulation of these effects are characterised by two different types of relationships:

- **Intra-relationship**: combined effect of individual development – for examples, noise, dust and visual on one particular receptor; and,
- **Inter-relationship**: several developments with insignificant impacts individually but which together represent a significant cumulative effect.

Inter-relationships between the cumulative effects are also referred to as:

“the accumulation of, and interrelationship between, effects which might affect the environment, economy or community as a whole, even though they may be acceptable when considered on an individual basis with mitigation measures in place”.

The need to consider cumulative effects in planning and decision making is set out in the National Policy Statements (NPS), especially National Planning Policy Framework (NPPF) 2018. Paragraph 204(f) states that planning policies should:

“set out criteria or requirements to endure that permitted and proposed operations do not have unacceptable adverse impacts on the natural historic environment and human health, taking into account the cumulative effects of multiple impacts from individual sites and / or a number of sites in a locality”.

The overarching NPS for Energy (EN-1) 2011 states that: “when considering cumulative effects assessment, the ES should provide information on how the effects of the applicant’s proposal would combine and interact with the effects of other developments”.

The NPS clearly states that all ‘other developments’ considered as part of the Cumulative Effects Assessment (CEA) must be those for which consent has been sought or granted, as well as those already in existence. PINS Advice Note Nine: Rochdale Envelope identifies ‘other developments’ and more specifically ‘major developments’ as those that are:

- under construction;
- permitted application(s), but not yet determined;
- submitted application(s) not yet determined;
- projects on the Planning Inspectorate’s Programme of Projects; and,
- Identified in the relevant Development Plan.

Identified in other plans and programmes (as appropriate) which set the framework for future development consents/approvals, where such development is reasonably likely to come forward.

**Summary of the existing Advice Notes and guidelines**

Many practitioners face the complexity of cumulative effects in practice, primarily due to:

a) the essence of impact assessments must focus to the foreseeable future; and,

b) a lack of knowledge and clear regulation concerning how cumulative effects assessment should be undertaken. Currently, a range of public sectors and industry-led guidance are available on how to approach cumulative effects assessment (CEA) but at present there is no single, agreed industry standard method. Nonetheless, the following guidance reports are effectively used by environmental consultants as a guide to CEA. These are:

- Hyder Guidance 1999: guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions; and,
- The PINS Note 17: Cumulative Effects Assessment.

Both reports identified above provide general criteria that can be used to aid in cumulative assessment and are not intended to be formal or prescriptive.
Hyder Guidance 1999 suggests various approaches which practitioners can adapt and combine to suit a particular project; and does not recommend a single method for assessing cumulative effects. The guidance emphasises that the approach adopted for the assessment of cumulative effects must be practical and suitable for the project chosen and multiple factors must be considered. These are:

- the nature of the impact(s);
- the availability and quality of data; and,
- the availability of resources (time and finance).

With these factors in mind, practitioners can choose from a combination of techniques used throughout different stages of CEA such as Scoping and Impact Identification; and, Evaluation Techniques. Scoping and Impact Identification techniques include:

- Network & systems analysis;
- Consultations;
- Checklists; and,
- Spatial Analysis.

And, Evaluation techniques include to:

- Modelling; and,
- Carrying capacity analysis.

On the other hand, PINS Advice Note 17: Cumulative Effects Assessment provides a clear methodology for effective CEA, which consists of a staged process that consultants may wish to adopt.

This methodology can be used for a variety of projects, from small scale mixed-use developments to Nationally Significant Infrastructure Projects. It advises consultants to follow four stages when conducting a CEA, which include:

1. Establishing the Zone of Influence (ZOI) and identify a list of ‘other developments’ which could potentially interact with the proposed development;

2. Analysing the list obtained in stage 1 and identify the sites that may have a significant effect on the environment, economy or community when assessed cumulatively with the proposed site. Providing a justification as to why the sites that will result in no cumulative effects can be scoped out of the assessment and develop a new list of sites that can progress to stage 3;

3. Gathering all required information for the sites on the new list;

4. Assessing the likely residual effects as a result of the interrelationship between the proposed and cumulative sites.

The four stages are then combined within a matrix table for clear identification of potential cumulative sites and their residual effects. For clear identification of the scale of the ‘other developments’, ZOI and distances from identified receptor, PINS Note 17 also recommends that the table is used with aid of spatial analysis and GIS mapping. Additionally, the in-depth methodology provided by the guidance ensures that all potential cumulative sites within the development area are assessed.

**Remaining challenges of CEA**

Both guidance reports outlined above provide a comprehensive amount of detail of how to approach CEA and produce CEA reports. Nonetheless, neither Hyder Guidance nor PINS Note 17 provide advice on how assessments can be completed when information regarding other sites is lacking or not available. Planning Act 2008: Guidance on the Pre-Application Process highlights that it is not always easy for applicants to assess potential cumulative effects due to the lack of information available on the public domain, especially in relation to development programmes, development phasing and technical constraints. On this basis, neither guideline reports are effective in determining the residual effects for sites with limited information available, recognising that a pragmatic approach and professional judgement must be taken when determining what is feasible and reasonable. To reduce room for bias and uncertainty, it is therefore recommended that early engagement between regulators, statutory advisors and developers is achieved and the cumulative scope is agreed. Where information is lacking, cumulative assessment should avoid speculating the potential impacts of ‘other developments’ and clearly state all limitations and uncertainties.

*WYG, April 2019.*