
CHAPTER 2.0 APPROACH TO THE EIA REPORT

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2.0 APPROACH TO THE EIA REPORT

2.1 Introduction

2.1.1 This Chapter sets out the legislative requirement for the Variation Application to be supported by an EIA Report ('EIAR'); it outlines the general approach to the assessment and the scoping process; it describes the broad approach to the assessment that has been undertaken in relation to the topics that have been identified as having the potential to result in significant environmental effects; and finally, it sets how the EIAR complies with the requirements of The Electricity Works (Environmental Impact Assessment) (England and Wales) Regulations 2017 (the '2017 EIA Regulations').

2.2 Need for EIA

2.2.1 As previously addressed within Chapter 1.0 of the Main Report, Regulation 3 of the 2013 Variation Regulations requires the submission of an EIAR for s.36 variation applications where the 'proposed development' was originally subject to EIA. It is therefore necessary for an EIAR to be produced in support of the Variation Application.

2.3 Approach

2.3.1 The legislative context for the ambit of an EIAR supporting a variation application is set out in Regulation 17 and Schedule 4 of 2017 EIA Regulations. This includes, at Regulation 17 (1)(e):

- e) where the application is for a section 36 variation, the main respects in which the developer thinks that the likely significant effects on the environment of the development, as varied, will differ from those set out in—
 - (i) any EIA report or environmental statement prepared in connection with the application for the section 36 consent that it is proposed be varied.**

2.3.2 This requirement is mirrored in 2013 Variation Regulations where Regulation 7(6) states:

(6) *Part 2 of Schedule 4 to the EIA Regulations is to be read as requiring the inclusion in a statement prepared pursuant to regulation 4(1) of the EIA Regulations of—*

(a) the main respects in which the applicant considers that the likely significant effects on the environment of the proposed development would differ from those described in any environmental statement that was prepared in connection with the relevant section 36 consent.

2.3.3 Accordingly, the EIAR comprises a standalone document which assesses whether the likely significant environmental effects of the LSEP, as set out in the Environmental Statement (ES) for the original application (the ‘May 2011 ES’) would be different to those for the LSEP as now proposed to be varied and, where they differ, to assess those effects.

2.3.4 It is also important to note that the EIA Regulations have also changed since the preparation of the May 2011 ES. To ensure compliance, the EIAR includes consideration of the following new / additional requirements contained within the 2017 EIA Regulations:

- consideration of likely significant environmental effects (‘LSEE’) on human health;
- consideration of LSEE on climate change (carbon neutrality);
- the assessment of the vulnerability of the project to risks of major accidents and / or disasters;
- identification of ‘competent experts’;
- a reference list detailing the sources used for the descriptions and assessments included in the EIAR; and
- with regard to alternatives, a ‘comparison’ of environmental effects when providing the main reasons for selecting the chosen option.

2.3.5 In addition, it is noted that the May 2011 ES is now circa 10 years’ old and certain baseline information will be out of date. In this regard, paragraph 37 of the DECC 2013 Guidance on varying s.36 consents states: *“Since most, if not all, developments consented under section 36 are likely to have significant effects on the environment, it is expected that applications to vary section 36 consents will invariably need to be accompanied by some form of environmental statement. In*

cases where the changes that it is proposed to make to the design of the generating station do not result in the overall development having a different environmental impact from the generating station as originally consented, it may be that only minor updating of the original environmental statement is required, to take account of (or confirm the absence of) any changes in the wider environmental context of the development (for example, in the form of other adjacent development that may have been constructed or made the subject of a planning application since the original consent was granted). On the other hand, the impacts of any change in design which are likely to have significant effects on the environment must be properly assessed.”

- 2.3.6 The impact of the Covid 19 pandemic has been noted where appropriate in the technical assessments and commentary provided as to how any restrictions caused have been addressed and overcome.
- 2.3.7 In summary, the approach to this EIA involves:
- preparing the EIAR in accordance with the detailed requirements of the 2017 EIA Regulations;
 - updating the baseline (where necessary) to reflect the contemporary site and contextual conditions; and
 - assessing the environmental effects of all relevant aspects of the proposed amendments and comparing those identified effects to the effects reported in the May 2011 ES for the LSEP scheme.
- 2.3.8 Such an approach provides a compliant EIAR and compares the effects of the Proposal against the May 2011 ES, within the contemporary environmental baseline context.
- 2.3.9 The following sections of this Chapter are set out as broad considerations for the Main Report chapters, however, not all these will be relevant to each (as explained subsequently).

2.4 Scope of the EIA Report

2.4.1 The Proposal will not require any alteration to the physical form of the LSEP facility or to the layout of the LSEP site, as currently consented. Accordingly, the scope of the EIAR does not make an assessment of any new development (or indeed to the construction phase of the scheme). The proposed amendments to the operation of the LSEP facility that could have the potential to give rise to LSEE are limited to:

- the effect of additional vehicle movements on the local highway network and the environment;
- the effect of longer waste delivery hours; and
- changes to emissions from the LSEP facility as a result of thermally treating an additional quantity of waste (e.g. changes in aerial emissions from the stack).

2.4.2 As previously mentioned, information to be included in an EIA report is set out in Regulation 17 and Schedule 4 of the 2017 EIA Regulations. References to chapters in the Main Report where information relevant to the requirements of Schedule 4 can be found are listed within Table 2.1 below.

Table 2.1: Review of Schedule 4 Requirements

Para	Schedule 4 Requirement	Where Addressed Within the EIAR
1	A description of the development, including in particular— (a) a description of the location of the development; (b) a description of the physical characteristics of the whole development, including where relevant, requisite demolition works and the land use requirements during the construction and operational phases; (c) a description of the main characteristics of the operational phase of the development (in particular, any production process), for example, energy demand and energy used, the nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; (d) an estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during the construction and operational phases.	(a) Section 1.4. (b & c) Chapter 3.0. (d) Within Chapter 4.0 as it relates to the scheme description and within Chapters 4.0 to 9.0 as it relates to individual topic areas.
2	A description of the reasonable alternatives (for example, in terms of development design, technology, location, size and scale) studied by the developer that are relevant to the development and its specific characteristics and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.	Section 2.7
3	A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution of the environment without implementation of the development as far as natural changes from the baseline scenario can be assessed with	The baseline is fully described / established within Chapters 4.0 to 9.0 as it relates to individual topic

	reasonable effort on the basis of the availability of environmental information and scientific knowledge.	areas.
4	A description of the factors set out in regulation 7(2) likely to be significantly affected by the development.	The baseline factors that have potential to be affected by the Proposal are fully described / established within Chapters 4.0 to 9.0 as they relate to individual topic areas.
5	<p>(1) A description of the likely significant effects of the development on the environment resulting from, amongst other things—</p> <p>(a) the construction and existence of the development, including, where relevant, demolition works;</p> <p>(b) the use of natural resources, in particular, land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources;</p> <p>(c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances and the disposal and recovery of waste;</p> <p>(d) the risks to human health, cultural heritage or the environment (for example, due to accidents and disasters);</p> <p>(e) the cumulation of effects with other existing and approved developments, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected and the use of natural resources;</p> <p>(f) the impact of the development on climate (for example, the nature and magnitude of greenhouse gas emissions) and the vulnerability of the development to climate change;</p> <p>(g) the technologies and the substances used.</p> <p>(2) The description of the likely significant effects on the factors set out in regulation 7(2) must cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development, taking account of the environmental protection objectives established at European Union or domestic level that are relevant to the development, including in particular those established under the Habitats Directive or the Wild Birds Directive.</p>	All within Chapters 4.0 to 9.0 as it relates to individual topic areas.
6	A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example, technical difficulties or lack of knowledge) encountered in compiling the required information and the main uncertainties involved.	The overall EIA methodology and approach to assessment is described in sections 2.3 and 2.5. The specific technical methodologies used to identify and assess effects are fully described (or referenced) within Chapters 4.0 to 9.0 as they relate to individual topic areas. Certain methodologies are specifically contained within the Technical Appendices to Chapters 4.0 to 9.0.
7	<p>(1) A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example, the preparation of a post-development analysis).</p> <p>(2) The description must explain the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset and must cover both the construction and operational phases.</p>	'Incorporated Mitigation' (as described in section 2.5) is included within the detailed scheme description within Chapter 3.0. The specific mitigation measures, as they apply to individual environmental topic areas, are fully described (or referenced) within Chapters 4.0 to 9.0 as they relate to each topic.

8	<p>(1) A description of the expected significant adverse effects of the development on the environment deriving from the vulnerability of the development to risks of major accidents and disasters that are relevant to the development.</p> <p>(2) Relevant information available and obtained through risk assessments under requirements imposed in accordance with European Union legislation such as the Seveso III Directive or the Nuclear Safety Directive and relevant assessments undertaken under domestic legislation may be used for this purpose provided that the requirements of the EIA Directive are met.</p> <p>(3) Where appropriate, the description must include measures envisaged to prevent or mitigate the significant adverse effects of accidents and disasters referred to in sub-paragraph (1) on the environment and details of the preparedness for and proposed response to such emergencies.</p> <p>(4) In this paragraph—</p> <p>“Nuclear Safety Directive” means Council Directive 2009/71/Euratom of 25th June 2009 establishing a Community framework for the nuclear safety of nuclear installations;</p> <p>“Seveso III Directive” means Directive 2012/18/EU of the European Parliament and of the Council of 4th July 2012 on the control of major-accident hazards involving dangerous substances.</p>	Section 2.9
9	A non-technical summary of the information provided under paragraphs 1 to 8.	A separate Non-Technical Summary is contained as EIAR Volume 4.
10	A reference list detailing the sources used for the descriptions and assessments included in the EIA report	References are provided as footnotes and / or reference document lists within, or at the end of each Main Report Chapter, as appropriate.

Scoping Exercise / Consultation

2.4.3 Regulation 18 of the 2017 EIA Regulations allows a developer that is intending to make a s.36 variation application to formally request a written EIA Scoping Opinion from the Secretary of State (SoS), regarding the scope and level of detail that is to be included in their EIA report.

2.4.4 To ensure that the EIA is fully and properly scoped, an EIA Scoping exercise was undertaken for the Proposal and a Scoping Report was submitted to the Department for Business Energy and Industrial Strategy (BEIS) on 13th March 2021 (see Appendix B of the Supporting Statement for the Variation Application). BEIS issued their Scoping Opinion on 12th May 2021 (see Appendix C of the Supporting Statement for the Variation Application).

2.4.5 The Scoping Opinion revealed that the SoS largely endorsed the findings of the Scoping Report, however there were some additional items / topics which the SoS identified from the consultee responses received that should be included within the scope of the EIA. To ensure that the EIAR has been correctly focussed, comprehensive and fully compliant, these additional considerations have been included within the scope of the EIA for the Proposal (in addition to those already scoped in through the Scoping Report).

2.4.6 Table 2.2 below sets out the additional scoped items requested by the SoS and references are provided to the sections / chapters of the EIAR Main Report where they have been addressed.

Table 2.2: Review of Scoping Opinion Additional Items

Item	Matters Requested to be Scoped into the EIA	Where Included / Addressed Within the EIAR Main Report
1	The LSEP development is located within HSE's land-use-planning consultation zones for a major hazard site and two major-accident-hazard pipelines. Need to assess the Proposal against its vulnerability to accidents and disasters.	Section 2.9.
2	Traffic and Transportation EIA work should follow the IEMA Guidelines for Environmental Assessment of Road Traffic ("GEART") process to determine any likely significant effects on non-motorised users and the potential impact on road safety, cyclist and pedestrian amenity, severance, and fear and intimidation.	Chapter 4.0
3	Odour impact of increased waste vehicle traffic should be assessed to determine any likely significant effects on the route proposed.	Chapter 5.0
4	Assess impact of increased traffic (emissions) on ecological receptors within 200m of the affected routes.	Chapter 6.0
5	Include a chapter on Landscape and Visual to assess the visual impact of the plumes associated with a change of increased throughput, both from the stack and the cooling system.	Chapter 7.0
6	Impact of noise associated with changes to the configuration of the plant to accommodate the increased throughput to be assessed.	Chapter 6.0
7	Emissions from point sources and the associated HGV movements need to be considered.	Chapter 5.0
8	Emissions from the change in vehicle type will need to be assessed as there is a proposed change to some vehicle types that will transport waste to the LSEP site.	Chapter 5.0
9	Marston Flashes Local Wildlife Site is to be included in the list of biodiversity receptors and the EIA needs to take into account 'potential Local Wildlife Sites' within 2km of the LSEP site.	Chapter 6.0
10	Public Health England requested that the EIA Report include a summary of the Health and Safety impacts of the Proposal.	Section 2.8. Also addressed separately and where relevant within Chapters 4.0 – 9.0 and Chapter 10.0. Volume 4 (Non-Technical Summary) also provides a summary.

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- 2.4.7 The Scope of the EIAR for each environmental topic focuses upon the assessment of the proposed operational changes to the LSEP facility. The EIAR does not reconsider any effects associated with either the built form, design or the layout of the LSEP facility, on the basis that it is currently under construction and would remain unchanged as a consequence of the Proposal.
- 2.4.8 Where the Scoping exercise identifies that the Proposal may have the potential to give rise to a LSEE for a particular environmental topic, the EIAR chapters focus upon those matters. The EIAR chapters provide a proportionate update to the relevant chapters of the May 2011 ES, taking into account any changes that may have occurred to the baseline or to relevant legislation and guidance.
- 2.4.9 For all environmental topics that have been scoped out of the EIA, the EIAR does not provide an update to the May 2011 ES, irrespective of whether the environmental baseline is out of date, or relevant guidance for the assessment of effects has changed. In such cases, the effects of what is currently being built will be completely unchanged by the Proposal, irrespective of baseline or approach to assessment.
- 2.4.10 For example, Ground Conditions and Hydrology (environmental topics which the SoS agreed be scoped out) were the subject of assessment within the May 2011 ES. However, ground remediation works have now been carried out at the LSEP site (in accordance with an approved scheme of works), and the LSEP facility is now under construction. Furthermore, and as addressed previously, the Proposal would not change the built form of the LSEP facility or the construction processes. As such, even if there was scope to update the baseline for assessment etc, doing so would purely be an academic exercise as any assessment would ultimately conclude that the facility can be, and is being, built in accordance with the existing consent.
- 2.4.11 For clarity and to avoid confusion, a slightly different approach has been taken to that set out within the Scoping Report on how aerial emissions effects on ecology are presented within the EIAR. The Scoping Opinion agreed that impacts of the Proposal on terrestrial-related ecology can be scoped out, however, the impacts of aerial emissions on ecological receptors (from deposition) are to be fully assessed.

The Scoping Report originally set out that this would form its own Chapter, given then as 'Chapter 6.0: Assessment of Aerial Emissions on Features of Ecological and Nature Conservation Value'. Following later discussions between the relevant technical consultants, it was decided that a better approach would be to prepare an Ecological Interpretation of Air Quality Assessment report as an appendix to the Air Quality and Human Health Chapter 5.0. Chapter 5.0 would then discuss, at the relevant juncture, the impacts the aerial emissions in context of ecological receptors, with reference to the findings of the report. Accordingly, this is the approach that has been taken in the EIAR. The Ecological Interpretation of Air Quality Assessment can be viewed in full at Appendix 5-5.

2.4.12 The information and knowledge required to produce this EIAR has been acquired from a number of varied sources to ensure that all effects, whether explicit from the outset or coming to light during the LSEP scheme's development, have been assessed. These sources included:

- discussions with the local planning authority;
- discussions with technical consultees;
- review of public files and records;
- review of historical mapping and aerial photography;
- surveys undertaken by the Applicants specialists;
- surveys and assessments undertaken previously on the LSEP site;
- specialist studies, such as computer modelling of potential noise impacts; and
- expert knowledge from the consultancy team.

2.5 EIA Methodology

2.5.1 The overarching approach to the environmental assessment has been described in section 2.3 previously. This sets out how the EIAR focuses tightly on those areas where the proposed amendments to the LSEP scheme would be likely to give rise to significant environmental effects, as opposed to those topic areas where the effects of the amended scheme would remain consistent with those of the extant scheme currently under construction.

2.5.2 Accordingly, this section sets out the methodology for those topic areas where new assessments are required / have been undertaken. It provides a brief description of

the approach to the environmental assessment process and describes the broad principles that are applied within the technical assessments. It is important to note that, due to the nature of the Proposal and the intention for the EIAR to serve as an update to the May 2011 ES (where deemed necessary), some of the environmental chapters have been set out in a more streamlined approach, as specific areas of the methodology are deemed unnecessary. Accordingly, each Chapter of the Main Report has varying degrees of input, depending on how much the respective baselines required updating.

- 2.5.3 The broad structure of the EIAR Main Report environmental chapters is set out in the following paragraphs, however, as discussed above, each chapter has not necessarily followed this in its entirety.

Introduction

- 2.5.4 A brief summary of the basic scope and approach to the topic is provided outlining any key issues relevant to the subject area being assessed.

Methodology

- 2.5.5 This section provides details of the assessment method followed and provides the following information:
- a description of any relevant legislation, policy or guidance which has been taken into account in the assessment;
 - the findings from any consultations undertaken when compiling the assessment;
 - the approach taken to gathering of any desk-based or field data. Where specific surveys have been undertaken, an outline of the assessment methodology is provided;
 - the approach to the impact assessment is defined. This includes how the particular topic has defined impact magnitude, receptor sensitivity and how these relate to the overall level effect / significance; and
 - any limitations or assumptions made in the assessment.

Baseline

- 2.5.6 The May 2011 ES baseline conditions have been established relevant to each discipline. An assessment has been undertaken of the updates required (where necessary) in light of the Proposal, including an outline of the likely evolution of the baseline resulting from natural changes.
- 2.5.7 Where an update to the baseline has been required, the assessments identify any particular sensitive receptors that will need to be evaluated. Where not feasible due to the Covid 19 situation, any limitations have been noted.
- 2.5.8 Where relevant and appropriate, the likely future state of the environment is set out by predicting future change in the baseline conditions in the absence of the Proposal.

Determining Impact Significance

- 2.5.9 Where necessary, the technical disciplines describe the predicted environmental effects of the Proposal on the baseline conditions of the LSEP site and the local environment. The assessment includes a description of the nature, extent and significance of these effects. The assessment considers any mitigation measures that have been specifically incorporated into the development proposals to reduce the environmental effects of the Proposal.
- 2.5.10 The 2017 EIA Regulations do not provide definitive methods for the assessment of significance and a variety of methods are employed within EIAs. The method used to assess the effects is specific to each discipline. Where available and appropriate the assessments follow impact assessment criteria and methodology set out by relevant professional institutions e.g. Institute of Ecology and Environmental Management, Landscape Institute etc. Where such guidance is not available or prescriptive methods are not set out by the relevant professional body then assessment criteria is developed by the technical specialists to enable a clear and structured assessment to be undertaken.

2.5.11 The nature of the effect of the Proposal on the environment has been, in general, derived by considering the magnitude of the impact and the sensitivity of the receptor to a change resulting from the scheme.

2.5.12 Depending on the discipline, there are a number of factors that will need to be taken into account when establishing the type and magnitude of impact, including:

- whether the impact is adverse or beneficial;
- whether it is temporary or permanent;
- extent or spatial scale of the impact;
- duration of the impact;
- whether the effect is reversible; and
- probability/likelihood of the impact.

2.5.13 Similarly, the sensitivity of a receptor is the function of a number of elements dependent on the discipline and impact being assessed, these could include:

- designation and legal status;
- quality;
- rarity; and
- ability to adapt to change.

2.5.14 Having established the magnitude of the impact and the sensitivity of the receptor, the level of the effect has then been defined. For some disciplines a matrix is used to classify the level of effect by correlating magnitude and sensitivity, an example matrix is shown in Table 2.3 below.

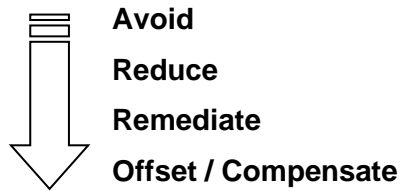
Table 2.3 – Example Level of Effect Matrix

		Magnitude of Impact			
		High	Medium	Low	Negligible
Receptor Sensitivity	High	Major	Moderate	Minor to Moderate	Negligible or Minor
	Medium	Moderate	Minor to Moderate	Minor	Negligible
	Low	Minor to Moderate	Minor	Negligible or Minor	Negligible
	Negligible	Negligible or Minor	Negligible	Negligible	Negligible

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- 2.5.15 Where a matrix is not used the magnitude of change and the sensitivity of the receptor has been used to make a reasoned judgement to establish the level of the effect and whether it is considered to be significant or not significant. For some topics an environmental risk assessment approach has been used to establish the potential environmental effects of the Proposal.
- 2.5.16 There is no statutory definition of what level of effect is considered to be significant and there is often not a single, definitive, correct answer as to whether an effect is significant or not. However, it is considered that a significant effect is one which is likely to be a key material factor in the decision-making process. A significant effect does not necessarily mean that such an effect is unacceptable to decision-makers. This is a matter to be weighed in the balance alongside other factors. What is important is that the likely effects of any proposal are transparently assessed and described in such a way to enable the relevant determining authority to bring a balanced and well-informed judgement to bear as part of the decision-making process.
- 2.5.17 Where the findings of an assessment are set out as different levels of effect (e.g. major, moderate, minor, etc) the assessment clearly sets out where an effect is considered to be significant. This approach is used to assist the decision maker, consultees and other interested parties in establishing the most important environmental effects of the Proposal.
- 2.5.18 In all instances the assessment sets out the basis of the judgements made so that the readers of the EIAR can appreciate the weight attached to the different factors and understand the rationale of the assessment. In this sense the EIAR clearly explains how the impact significance has been derived.

Mitigation

- 2.5.19 It is a requirement of the 2017 EIA Regulations to describe the measures envisaged to prevent, reduce and where possible offset any significant effects on the environment. Mitigation can be achieved in a number of ways as listed below. This approach is often referred to as the mitigation hierarchy with mitigation being selected as high up the hierarchy as possible.



2.5.20 Certain mitigation measures have been incorporated into the Proposal as a result of decisions undertaken during the design of the scheme. Accordingly, they feature within the detailed scheme description in Chapter 3.0 of the Main Report. On the basis that these mitigation measures are considered to be embedded into the scheme, they have been taken into account when coming to a judgement of the significance of the effects of the Proposal and are not necessarily specifically referenced within the individual EIAR assessment chapters.

2.5.21 The mitigation section of each technical chapter provides a description of additional mitigation and enhancement measures proposed to prevent, reduce or offset adverse effects unavoidable through design, or to provide benefits to the scheme / local environment. An explanation is provided of how these measures will mitigate / reduce the identified effects of the Proposal.

Residual Effects and Conclusions

2.5.22 This section of each technical chapter provides a textual description of the likely residual effects of the Proposal following the implementation of any additional mitigation or enhancement measures.

2.5.23 The conclusions summarise the key elements of the assessment and include a statement on whether the Proposal is likely to result in any significant environmental effects. It also compares these conclusions to those in the May 2011 ES.

2.6 Cumulative Effects

2.6.1 The 2017 EIA Regulations require that a description of the likely significant effects of the proposals on the environment should be included in the EIA report, including

cumulative effects. The 2017 EIA Regulations do not define cumulative effects, however, a commonly accepted description is:

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

2.6.2 There is no defined methodology in the UK as to how cumulative effects should be assessed. In determining the approach to be adopted, reference will be made to the following guidance:

- *Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions* (European Commission 1999);
- *Cumulative Effects Assessment Practitioners Guide* (Canadian Environmental Assessment Agency 1999);
- *Guidelines for Environmental Impact Assessment* (Institute of Environmental Management and Assessment 2006);
- *The State of Environmental Impact Assessment Practice in the UK* (Institute of Environmental Management and Assessment 2011); and
- *Advice note seventeen: Cumulative effects assessment relevant to nationally significant infrastructure projects* (The Planning Inspectorate 2015).

2.6.3 Due to the nature of the Proposal, cumulative effects have been assessed against relevant local projects which are consented but undeveloped.

2.6.4 The presence of operational schemes (and for some disciplines, schemes that are under construction, but not yet operational) is an established influence upon the environment, that has been taken into account when determining the baseline updates for the non-cumulative assessment for each discipline chapter (where necessary). The non-cumulative assessment of effects has given full regard to the presence of such schemes when arriving at any conclusions.

2.6.5 With regard to cumulative effects, given the nature of the proposed amendments to the LSEP, new effects, and hence new cumulative effects, can only occur in relation to a limited number of environmental topic areas. These are primarily:

- Traffic and Transportation, including traffic related environmental effects such as noise and emissions; and

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- Air Quality, encompassing process emissions and effects on human health and carbon / greenhouse gas emissions.

2.6.6 Accordingly, the assessment of cumulative effects has been limited to these topic areas, however some chapters have also addressed the matter for clarity (for example, in Chapter 7.0 Noise).

2.7 Alternatives

2.7.1 Regulation 17 paragraph 1(d) of the 2017 EIA Regulations requires that the EIA report includes: *“A description of the reasonable alternatives studied by the developer that are relevant to the development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment”*.

2.7.2 It is well established that this does not mean that the developer must study alternatives, rather that, where they have identified alternatives, and these are considered to be ‘reasonable’ alternatives, they are required to describe them and the main decision-making reasons set out as prescribed, taking into account effects on the environment.

2.7.3 In the case of the proposed LSEP amendments, the design, layout, technology, location and physical size of the plant are all unchanged and the facility is currently under construction in accordance with the extant s.36 variation consent. The decision has been made to seek to utilise the full treatment capacity of the plant by way of the Variation Application. No alternatives have fallen to be considered (reasonable or otherwise). Accordingly, the EIAR does not report on any alternatives.

2.8 Health and Safety

2.8.1 It is noted, from the consultee responses on the Scoping exercise, that Public Health England (PHE) requested a summary of the public health impacts of the Proposal. A Human Health Risk Assessment is provided in support of Chapter 5.0 on Air Quality and Human Health. Public health is also discussed, where relevant, within the environmental chapters of the Main Report in relation to the individual

topics. Furthermore, Chapter 10.0 (Summary of Effects) provides a summary of the public health impacts identified in the environmental chapters. A section on public health impacts has been included within the Non-Technical Summary (Volume 4 of the EIAR).

2.8.2 On other matters regarding health and safety, we note that the SoS (while not requiring it in the scope of the EIAR) wished that attention be drawn to a comment raised by PHE regarding the possible health effects of Electric and Magnetic Fields on the scheme. This matter has never been found to be an issue (or indeed raised as a topic for consideration) on any previous Energy from Waste (EfW) schemes that AXIS has worked on. It is not a matter which the LSEP scheme (either as consented or with the amendments now proposed) is likely to have an issue with or be impacted by. Accordingly, while we have considered this point from the Scoping Opinion, it is not considered further within the EIAR.

2.9 Project Vulnerability to Major Accidents / Disasters

2.9.1 Regulation 7 paragraph 3(b) of the 2017 EIA Regulations requires that the EIA includes a description of *“the expected effects arising from the vulnerability of the development to the risks of major accidents and disasters that are relevant to the development”*.

2.9.2 The Scoping Opinion identifies that the LSEP site is located within the Health and Safety Executive’s (HSE) land-use planning consultation zones for a major hazard site and two major-accident-hazard pipelines:

- Ineos Chlor Enterprises, Ethylene Conditioning Plant (HSE Ref: H4068);
- ICI Trans-Pennine Ethylene Pipeline: Runcorn/Lostock, Operated by Sabic pka ICI Chemicals & Polymers Ltd, HSE ref – 6713; and
- ICI Trans-Pennine Ethylene Pipeline: Lostock/Holford, Operated by Sabic pka ICI Chemicals & Polymers Ltd, HSE ref – 6714.

2.9.3 In light of this, the SoS considered that Accidents and Disasters should be included within the EIA. The HSE also advised (through their scoping consultee response) that the Proposal could be vulnerable to harmful effects from an industrial major accident at the nearby major accident hazard establishment or pipelines.

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- 2.9.4 As previously mentioned, the Proposal will not change the design, layout, technology, location or physical size of the LSEP, as currently consented. It is therefore unnecessary to re-assess the facility's vulnerability to major accidents / disasters. The only element of the Proposal which can feasibly be assessed against accidents / disasters is the additional HGV movements within the LSEP site. This is address in the following sections.
- 2.9.5 The LSEP site is located within a politically, geologically and meteorologically stable part of Europe. Accordingly, the LSEP site and its users are not at material risk from, for example, civil unrest, war, earthquakes or extreme weather conditions (hurricanes etc.).
- 2.9.6 The LSEP lies within Flood Zone 1 and is therefore suitably elevated above all surrounding watercourses and at an elevation above the extreme 1 in 1,000-year flood level that flooding does not present a significant risk to the Proposal.
- 2.9.7 In terms of human health (considered where relevant within the environmental chapters of the Main Report), the UK Government and specifically PHE (formerly the Health Protection Agency) - who has been undertaking an ongoing major Government funded study since 2012 into the potential health effects of emissions from waste combustion - has repeatedly reported that they have found no consistent or conclusive linkage between energy-from-waste plants and adverse human health. A study entitled 'Foetal growth, stillbirth, infant mortality and other birth outcomes near UK municipal waste incinerators; retrospective population based cohort and case-control study' (November 2018), is believed to be the largest study to date and is based on evidence from waste incinerators from 2003 – 2010. The study identifies that there is no evidence for increased risk of any of the studied birth outcomes in relation to either waste incinerator emissions or living near a facility operating to the current EU emissions regulations.¹ Accordingly, Government policy continues to support the development of energy-from-waste facilities (and thus also amendments to consented facilities). Most recently a study

¹ <https://www.sciencedirect.com/science/article/pii/S0160412018316398>

by Imperial College London also found no link between exposure to emissions from municipal waste incinerators and infant deaths or reduced foetal growth.²

- 2.9.8 The LSEP facility is required to obtain a series of regulatory consents for its construction and operation, most relevant of which is an Environmental Permit (EP). The legislation that governs the Environmental Permitting regime is in place to protect human health and the environment. In order to obtain an Environmental Permit (or an amendment to an existing one), sufficient information must be provided to the Environment Agency (EA) to satisfy them that the facility can be operated within the regulatory requirements established by UK and European legislation. It also requires a Fire Prevention Plan.
- 2.9.9 An EP was obtained for LSEP facility (which transferred to LSEP Ltd in 2015) to operate the facility in accordance with the design set out within the original consent. A variation to the permit was subsequently obtained in October 2018 to allow the facility to operate in accordance with the s.36 variation consent. The amendments to the LSEP facility as now proposed will again require an application to be made to the EA to vary the EP of the facility. The EP variation application will be made contemporaneously to the Variation Application and is anticipated to be submitted around the same time.
- 2.9.10 Once the variation to the EP has been issued, the LSEP facility will be required to operate within the set environmental limits of the Permit (e.g., emissions). Failure to do so may result in the facility being closed and could lead to prosecution of the operator.
- 2.9.11 Based upon the foregoing, it is concluded that the Proposal would not give rise to significant adverse effects on the environment deriving from the vulnerability of the proposed amendments to risks of major accidents and / or disasters. Nevertheless, the environmental chapters (specifically Chapter 5.0) of the Main Report provide detailed assessments, where relevant, of the risks associated with the scheme from a human health perspective. Accordingly, the specific topic of the risks arising from major accidents and / or disasters is not considered further within

² <https://www.imperial.ac.uk/news/191653/major-study-finds-conclusive-links-health/>

the EIAR and is deemed to have been properly considered in terms of compliance with the 2017 EIA Regulations.