SLOUGH MULTIFUEL PROJECT

SLOUGH MULTIFUEL EXTENSION PROJECT

[PINS Ref: EN010129]

Environmental Statement
Volume 1 – Environmental Statement

Chapter 3 - Alternatives

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3.0 ALTERNATIVES

3.1 Introduction

3.1.1 This chapter of the Environmental Statement (ES) sets out the reasonable alternatives that have been considered during the evolution of the Proposed Project.

3.1.2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations') Regulation 14(2)(d) states that an Environmental Statement (ES) should contain *"a description of the reasonable alternatives studied by the applicant, which are relevant to the proposed 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"*. This chapter of this ES recognises and fulfils this requirement in respect of the Proposed Project.

3.1.3 On the matter of alternatives, National Policy Statement (NPS) EN-1 (Department of Energy and Climate Change (DECC), 2011a) paragraphs 4.4.1 and 4.4.2 state that *"This NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option. However, applicants are obliged to include in their ES, as a matter of fact, information about the main alternatives they have studied. This should include an indication of the main reasons for the applicant's choice, taking into account the environmental, social and economic effects and including, where relevant, technical and commercial feasibility*." The matter of alternatives is also similarly addressed in the Draft Overarching NPS EN-1 paragraphs 4.2.11 to 4.2.13.

3.1.4 In this context, the consideration of reasonable alternatives and design evolution has been undertaken with the aim of avoiding and/ or reducing adverse environmental effects (following the mitigation hierarchy of avoid, reduce and, if possible, remedy), while maintaining operational efficiency and cost-effectiveness, and considering other relevant matters such as available land and planning policy.

3.1.5 The nature of the Proposed Project (being an extension to the Consented Development) means there has been relatively little design evolution in comparison with an application for a new generating station, but the design of the Proposed Project has been kept under review up to the point of the DCO application submission to enable it to recognise and be cognisant of consultation feedback and with reference to any ongoing surveys and technical studies.

3.2 The Need for the Proposed Project

3.2.1 There is a substantial body of policy and evidence in support of the national needs for new low carbon energy generation facilities and waste management facilities, which is further reflected in local planning policy.

3.2.2 The need for new electricity generation capacity of all types is set out in government policy – the Overarching National Policy Statement for Energy (NPS EN-1) (DECC, 2011a). This explains at paragraphs 2.2.16 - 2.2.19 that the Government is implementing a variety of reforms in order to promote investment to replace ageing coal-fired and nuclear power infrastructure with safe, secure, affordable and increasingly low carbon supplies of energy.

3.2.3 Paragraph 3.1.3 explains that the Planning Inspectorate should "*assess all applications for development consent for the types of infrastructure covered by the energy NPSs on the basis that the Government has demonstrated that there is a need for those types of infrastructure and that the scale and urgency of that need is as described for each of them in this Part*".

3.2.4 The important role of energy from waste power stations in addressing these needs is outlined in paragraphs 3.4.3 – 3.4.5 of NPS EN-1. Energy from waste is a renewable form of generation, as the principal purpose of the combustion of waste (as fuel) is to reduce the amount of waste going to landfill in accordance with the Waste Hierarchy and to recover useful energy from that waste. The Waste Hierarchy derives from the Waste Directive as implemented by the Waste (England and Wales) Regulations 2011. This ranks waste management options according to what is best for the environment and minimising resource consumption. The first priority is the prevention of waste, then re-use, and then recycling. Energy recovery is next in the hierarchy with disposal/landfill as the final option. Energy recovery includes anaerobic digestion and (as in the Consented Development and Proposed Project) combustion of waste with energy recovery. Accompanying guidance explains that for some forms of waste the hierarchy is different, so for example, low grade wood waste should undergo energy recovery in preference to recycling. The Proposed Project would (as part of the Consented Development') support the Waste Hierarchy and divert waste from less preferable forms of management.

3.2.5 The Proposed Project would also represent an efficient addition to the UK stock of energy from waste power stations. It will be classed as an energy recovery facility with its performance complying with the R1 Energy Efficiency formula in Annex II of the Waste Framework Directive 2008/98/EC.

3.2.6 The Proposed Project comprises works to increase the efficiency and output of the Consented Development, to achieve up to 60MW electrical output (MWe). The increase in efficiency and generating capacity will not require any increase in the hourly throughput of Waste Derived Fuel (WDF) or in the number of approved deliveries to the facility. The existing steam connection from the SHP site to the

Slough Trading Estate will be used for the Consented Development to export heat and steam to offsite users. The Proposed Project will not change this, and the Consented Development will continue to be able to export heat as either steam or hot water, depending on the requirements of the consumer. There will continue to be 20MW thermal energy available to export.

3.2.7 The Proposed Project will make effective use of the Consented Development to increase generating capacity, through an increase in efficiency, while supporting energy security and diversification.

3.2.8 In identifying reasonable and relevant alternatives to study, as described in this chapter, regard has been had to the ability of the Proposed Project meet the above needs.

3.3 The 'Do Nothing' Scenario

3.3.1 A 'do nothing' scenario in which the Proposed Project does not proceed is the baseline against which the impacts of the Proposed Project will be compared within the EIA. The 'do nothing' scenario would still lead to the Consented Development being built and becoming operational but would not maximise the efficiency and energy generation of the Consented Development, leading to a lost opportunity to deliver the full efficiency gain potential together with the increase in electricity generation capacity associated with the Proposed Project.

3.3.2 In the 'do nothing' scenario, the environmental effects of the Proposed Project as set out in this ES would not occur, but the beneficial effects would also not be realised, which primarily comprises the greater plant efficiency and additional energy generation.

3.4 Alternative Sites

3.4.1 The Applicant chose the Site for the Proposed Project, which was based on there already being the Consented Development under construction and the potential for an extension to increase its efficiency and power generation. Whilst no alternative sites were considered, careful consideration was given to the suitability of the Site, the Consented Development and the location, layout and integration of the Proposed Project with the Consented Development.

3.4.2 Within the submitted Scoping Report (November 2021) (refer to **Appendix 1A [Application Document Reference 6.4.1 – EIA Scoping Report]** of this ES) the area of the Proposed Project Site boundary ('the red line boundary') presented in the **Scoping Report [Application Document Reference 6.4.1 – EIA Scoping Report]** Figure 1, Figure 2 and Figure 3A of the Scoping Report comprised two parcels of land totalling 2.81 hectare (ha); the southern section, south of Edinburgh Avenue being 2.34 ha and the northern section, north of Edinburgh Avenue, being

0.47 ha. It was noted in the Scoping Report that this Site boundary may be subject to change as the design and EIA progress.

3.4.3 Following the submission of the Scoping Report, the Proposed Project Site boundary ('the red line boundary') was refined with minor modifications to join the northern and southern parcels of land and also edited to take into account minor adjustments around the Site perimeter. The expected maximum area of land potentially required for the Application is illustrated on **Figure 2.1 [Application Document Reference 6.3.3 – Proposed Project Site Boundary (Plan)]** of this ES and comprises 2.81 hectare (ha). As indicated in the **Scoping Report** (refer to **Appendix 1A [Application Document Reference 6.4.1 – EIA Scoping Report]**) and PEI Report the Consented Development building envelopes will not change as a result of the Proposed Project.

3.4.4 It was decided it would be prudent at statutory consultation stage for the PEI Report to include the entirety of the Slough Multifuel Facility with the Proposed Project and therefore Edinburgh Avenue was included because there are underground pipes and cable ducts connecting the cooling towers and supporting infrastructure with the main site. Other minor changes were made to exclude areas no longer part of the Slough Multifuel Facility. There were no comments received as part of the consultation on the Site boundary and the boundary has followed through to the ES and determining the ES Proposed Project Site boundary ('the red line boundary').

3.4.5 Central to informing the Site suitability was the undertaking of added value option appraisals by the Engineering, Procurement and Construction (EPC) works contractor Hitachi Zosen Inova (HZI). The studies were undertaken to determine the engineering and technical viability of the Proposed Project, to enable the increase in gross generation capacity through associated engineering operations.

3.4.6 The Site was selected for the Proposed Project for the following key reasons:

- the Consented Development is currently under construction and presented a viable opportunity to undertake engineering operations in parallel with the Consented Development construction programme to enable and increase in generating capacity;
- the Site is located within an existing industrial area with existing off-site Combined Heat and Power opportunities. Slough Heat and Power (SHP) Plant, which is the wider site within which the Consented Development and Proposed Project are situated, provides various services to businesses on the Slough Trading Estate, including electricity distribution and distribution and supply of heat and potable water;
- the Proposed Project will not require any new or additional underground or overhead cabling associated with electricity export over and above those required for the Consented Development; and
- the Site is under the control of the Applicant.

3.4.7 As the Proposed Project is additional engineering operations and infrastructure to increase the electrical output, located on the same Site as the Consented Development, no further consideration of the suitability of the site was required for the Proposed Project.

3.5 Alternative Design Scenarios

3.5.1 In summary, the main reasonable design scenarios considered by the Applicant were as follows:

Applying for an Extension between 50MW and less than 60MWe

3.5.2 This option would not deliver the full efficiency gain potential together with the increase in electricity generation capacity associated with the Proposed Project. While not enabling the benefits of the Proposed Project in terms of the increase in efficiency and the additional electricity generation capacity it is also not viable from a commercial position.

Applying for up to 60MWe

3.5.3 This is the chosen option for the Proposed Project and is assessed in this ES.

Applying for >60MWe

3.5.4 This option would generate increased HGV traffic and increased throughput of fuel, which would increase congestion and traffic emissions, and has therefore been dismissed by the Applicant. A >60MWe design would require significant modifications to the Consented Development fuel bunker and building envelope which would require an application for a full generating station (rather than an Extension). This option would also require demolition of the structures already built on site as part of the current construction phase. There is also likely to be insufficient space onsite for this option. This option was therefore not considered further.

Alternative Design Appearance

3.5.5 The design and appearance of the proposed material for the external pipe has been driven by engineering requirements and the colour has been chosen to blend in with other consented pipework on the pipe rack (Aluzinc / aluminium zinc alloy finish). In that respect no reasonable alternatives for colour or pipe design were considered.

3.6 References

HM Government (2017) The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017 No. 572).

Department of Energy and Climate Change (2011) Overarching National Policy Statement for Energy (EN-1) (publishing.service.gov.uk)

The Waste (England and Wales) Regulations 2011 (legislation.gov.uk)

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives (legislation.gov.uk)