5 CONSIDERATION OF ALTERNATIVES

5.1 Introduction

5.1.1 This chapter of the ES sets out the consideration of reasonable alternatives.

5.2 Requirement to Consider Alternatives

5.2.1 Consideration of the reasonable alternatives studied by the developer (and a description of these) is a requirement of the EIA Regulations (Regulation 18, 3 (d) and Schedule 4, point 2). The legislation notes that these are to be "*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*." Typically, consideration of alternatives may include aspects such as the 'do nothing' option, potential alternative sites, designs, site accesses or alternative technologies.

5.2.2 Whilst the EIA Regulations require a description of alternatives to be included within the ES, as set out above, these must be reasonable and relevant to the proposed development. There is no policy requirement to consider alternative sites, nor can an application be refused based on the grounds that another site exists that may also be suitable for development.

5.2.3 The PEIR for IAMP TWO (March 2019) noted in the Non-Technical Summary (para. 1.3.5) that "*Alternatives to IAMP as a whole were assessed during the production of the IAMP AAP. This concluded that the land to the north of Nissan was the preferred option due to its size and availability for development, adjacency to Nissan, and its links to transport networks*."

5.2.4 The PEIR for IAMP TWO also included an assessment of alternatives (PEIR Chapter C, section C3.3 and Appendix C2). This addressed the size and scale of the development, its location (with reference to the site selection criteria), the design of the development and the 'no project' alternative. A high-level comparison of environmental impacts, between the different site options, was also included, although this concluded that such a comparison is not appropriate.

5.2.5 In the case of the proposed development of the AESC Plant 3 site, the planning application is required to facilitate the shared use of the assembly and warehousing building and AESC headquarters office with the neighbouring AESC Plant 2 development. The application is for detailed planning consent and the type of industry that will be developed within the site boundary is known. On this basis, the

alternatives being considered for the Proposed Development, within the context of the EIA, are as follows:

- Need for the proposed development: providing a description of the likely evolution of the site in the absence of the proposed development and setting out the need and for and benefits of the proposed development; and
- Design and layout (i.e. the alternative design and layout options).

5.2.6 The site falls within existing green belt and a very special circumstances report has been prepared alongside the Planning Statement (Lichfields, 2024) that accompanies the plant application. This provides a rationale as to the appropriateness of the site for the proposed development and the requisite release of the area of land from the green belt.

Need for the proposed development

5.2.7 The EIA Regulations require an ES to describe the likely evolution of a site in the absence of a development. This is being considered alongside the need for the proposed development. It is considered likely that, in the absence of the proposed development, the site will continue in its current use of providing ecological and landscape mitigation for the IAMP ONE developments.

5.2.8 The objective of the proposed development is to help meet the need for more large-scale battery production to support the move away from internal combustion engines towards hybrid and electric vehicles. The Government is committed to achieving 'net zero' by 2050 and in September 2023 announced that by 2030 80% of all new cars and 70% of new vans sold should be set to be zero emission increasing to 100% by 2035. The switch to zero emission vehicles will be the single biggest carbon saving measure in the UK's journey to net zero.

5.2.9 The Faraday Institution's report 'UK Electric Vehicle and Battery Production Potential to 2040' (June 2022) (hereinafter referred to as the 'Faraday Report') predicts that by 2030 around 100 GWh of supply will be needed in the UK to satisfy the depend for batteries for private cars, commercial vehicles, heavy goods vehicles, buses, micro-mobility and grid storage. This demand is equivalent to five gigafactories, with each plant running at a capacity of 20 GWh per annum. By 2040, it is predicted that demand will rise to nearly 200 GWh and the equivalent of 10 gigafactories. There is therefore an urgent need for the UK to develop large scale battery production capacity to enable the transition to EVs and to help the UK become net zero. The industry is facing a huge

challenge and needs to gear up in the production of batteries for EVs. The market is fast moving and competitive and the UK risks being left behind in the global race if it does not ramp up production. The proposed development will therefore help meet this demand for batteries for EVs, which will contribute to the UK's target of transitioning current vehicle use to a lower emissions alternative. The new facilities will also create employment opportunities for around 1,000 staff, which could potentially increase to up to 1,911 new jobs at the site.

Design and layout

5.2.10 The site boundary and the various site-specific constraints (listed, below) established the overall area available for the proposed development.

- North-west - Limit of IAMP Phase 1 and existing National Grid overhead HV powerline (which have been relocated).
- North-east - Flood zone, adjacent to IAMP infrastructure attenuation pond.
- East - Adjacent to new IAMP highway infrastructure (International Drive and to new industrial IAMP units).
- South - Adjacent to A1290 Highway, including space allocation for future dualling and foul water rising main. Adjacent to Nissan Motor Manufacturing UK.
- West - Relocated National Grid overhead HV powerlines.

5.2.11 As part of the consideration of alternatives for the proposed development, alternative site layout options were considered. The building footprint, which was established by the demand of product output and the requirements of the process equipment to provide this demand, was used to determine the optimum building orientation to provide safe and efficient site access, and suitable boundary treatment(s). Alternative layouts are described, below, and are illustrated upon Drawing ENV3-RPS-ST-XX-SK-A-000083 and Drawing ENV3-RPS-ST-XX-SK-A-000084.

Alternative design layout 1

5.2.12 In this layout option (see Drawing ENV3-RPS-ST-XX-SK-A-000083), the placement of the factory building and the warehouse with ancillary structures was varied. In this configuration, the factory building is situated in the south-western section, featuring an external plant zone that runs along its northernmost east-facing side. Adjacent to the factory, the warehouse and ancillary buildings form the northern perimeter, while an elongated car park zone is situated to the east of the warehouse. The office zone

is positioned in the centre of the site, north of the existing structure. The objective behind this change was to minimise the footprint of the warehouse and ancillary buildings on the green belt land to the north. However, this layout arrangement resulted in insufficient space to accommodate the factory building and was, therefore, not a viable option.

Alternative design layout 2

5.2.13 In this layout option (see Drawing ENV3-RPS-ST-XX-SK-A-000084), the rectangular warehouse and ancillaries building was placed in the south-western section of the site, bordering the A1290. To the north of this building lies the larger of the two external plant zones, which occupies a thin rectangular strip. North of this, the rectangular factory zone occupies a large proportion of the north of the site. The slightly smaller of the two external plant zones borders the factory zone to the north. To the east of the factory zone, a square shaped car park and thinner rectangular office zone take up the remaining space between the existing building and the boundary of the site.

5.2.14 In this layout, the factory building has been rotated 90 degrees in order to reduce the impact on the green belt. However, in this layout, the there are various redundant spaces and the factory occupies a larger footprint parallel to Usworth Burn. The development would also be situated within the flood zone, resulting in a requirement to provide compensatory storage earthworks to accommodate the floodplain encroachment. This would be done on the higher ground bordering the factory, resulting in additional changes to the green belt. For these reasons, it was not a viable option.