

KEADBY
NEXT GENERATION
POWER STATION

Hydrogen-enabled flexible power

A collaboration between SSE Thermal and Equinor

The Keadby Next Generation Power Station Project

Document Ref: 7.5

Planning Inspectorate Ref: EN0110001

The Keadby Next Generation Power Station Development Consent Order

Land at, and in the vicinity of, the existing Keadby Power Station (Trentside, Keadby, Scunthorpe DN17 3EF)

Outline Construction Traffic Management Plan

The Planning Act 2008

The Infrastructure Planning (Environmental Information Assessment) Regulations 2017

Applicant: Keadby Next Generation Limited

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Glossary

Abbreviation	Description
AIL	Abnormal Indivisible Load – a load that cannot be broken down into smaller loads for transport without undue expense or risk of damage. It may also be a load that exceeds certain parameters for weight, length and width.
Applicant	Keadby Next Generation Limited
CCGT	Combined Cycle Gas Turbine - a highly efficient form of electricity generation technology. An assembly of heat engines work in tandem using the same source of heat to convert it into mechanical energy which drives electrical generators and consequently generates electricity.
CTMP	Construction Traffic Management Plan – a plan outlining measures to organise and control vehicular movement on a construction site so that vehicles and pedestrians using site routes can move around safely.
DCO	Development Consent Order - made by the relevant Secretary of State pursuant to The Planning Act 2008 to authorise a Nationally Significant Infrastructure Project. A DCO can incorporate or remove the need for a range of consents which would otherwise be required for a development. A DCO can also include rights of compulsory acquisition.

Abbreviation	Description
DESNZ	Department for Energy Security and Net Zero – UK government department responsible for ensuring the UK’s energy security, protecting bill payers, and driving the transition to a green economy.
ES	Environmental Statement – a report in which the process and results of an Environment Impact Assessment are documented.
HGV	Heavy Goods Vehicle – vehicles with a gross weight in excess of 3.5 tonnes.
MW	Megawatt – unit of power.
NH	National Highways – government owned company in the UK responsible for operating, maintaining and improving England’s motorways and major A roads also known as the strategic road network
NLC	North Lincolnshire Council – the council with jurisdiction over the area within which the Proposed Development Site (the Site) is situated.
NSIP	Nationally Significant Infrastructure Projects – defined by the Planning Act 2008 and covers projects relating to energy (including generating stations, electric lines and pipelines); transport (including trunk roads and motorways, airports, harbour facilities, railways and rail freight interchanges); water (dams and reservoirs, and the transfer of water resources); wastewater treatment plants and hazardous waste facilities. These projects are only defined as nationally significant if they satisfy a statutory threshold in terms of their scale or effect.
SoS	Secretary of State - title typically held by Cabinet Ministers in charge of Government Departments.

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Executive Summary

1. This Outline Construction Traffic Management Plan (Outline CTMP) has been prepared to outline the controls intended to be used for the management and routing of HGV traffic associated with the construction, operation and maintenance of a new combined cycle gas turbine ('CCGT') electricity generating station carbon ('the Proposed Development') on land at, and in the vicinity of, the existing Keadby Power Station, Trentside, Keadby, Scunthorpe DN17 3EF ('the Site').
2. The construction of the Proposed Development would generate a volume of HGV involved in site preparation (removal of spoil and importation of material) and delivering plant and machinery, concrete and aggregates, steelwork, bricks and block work and other general construction materials. A small number of abnormal indivisible loads ('AIL') will also be generated by the construction of the Proposed Development which will need appropriate management.
3. This Outline CTMP sets the traffic movement limits determined by the assessment of traffic impacts associated with the Proposed Development and other measures to manage traffic movement. The appointed contractor will be required to use this document as the starting point for the detailed CTMP to be prepared in accordance with a requirement of the draft Development Consent Order ('DCO'). The **Draft DCO** is included as Application **Document Ref. 3.1**. This Outline CTMP also describes the issues that have been identified during the application process and the measures necessary to address these issues.

1. Introduction

1.1. Overview

- 1.1.1. This **Outline Construction Traffic Management Plan** ('CTMP') (**Application Document Ref. 7.5**) has been prepared by Ove Arup & Partners Limited ('Arup') on behalf of Keadby Next Generation Limited ('the Applicant') which is a subsidiary of SSE plc. It forms part of the application for a Development Consent Order (DCO) ('the Application'), that has been submitted to the Secretary of State (the 'SoS') for Energy Security and Net Zero under Section 37 of 'The Planning Act 2008' ('the 2008 Act').
- 1.1.2. The Applicant is seeking development consent for the construction, operation and maintenance of a new combined cycle gas turbine ('CCGT') electricity generating station on land at, and in the vicinity of, the existing Keadby Power Station, Trentside, Keadby, Scunthorpe DN17 3EF ('the Site').
- 1.1.3. The Keadby Next Generation Power Station ('the Proposed Development') is a new CCGT electricity generating station with a capacity of up to 910MW electrical output. The CCGT electricity generating station will be designed to run on 100% hydrogen and able to run on 100% natural gas or a blend of natural gas and hydrogen and will be located on land to the west of Keadby 1 and Keadby 2 Power Stations. The Proposed Development includes connections for cooling water, electricity, hydrogen and natural gas, and construction laydown areas and other associated development. It is described in full in **Environmental Statement (ES) Volume I Chapter 4: The Proposed Development (Application Document Ref. 6.2)**.
- 1.1.4. The Proposed Development falls within the definition of a 'Nationally Significant Infrastructure Project' (NSIP) under Section 14(1)(a) and Sections 15(1) and (2) of the 2008 Act, as it is an onshore generating station in England that would have a generating capacity greater than 50MW electrical output (50MWe). As such, a DCO application is required

to authorise the Proposed Development in accordance with Section 31 of the 2008 Act.

- 1.1.5. The DCO, if made by the SoS, would be known as 'The Keadby Next Generation Power Station Order' ('the Order').

1.2. The Applicant

- 1.2.1. The Applicant is a subsidiary of the FTSE-listed SSE plc, one of the UK's largest and broadest-based energy companies, and the country's leading developer of renewable energy. Over the last 20 years, the SSE Group has invested over £20 billion to deliver industry-leading offshore wind, onshore wind, CCGT, energy from waste, biomass, battery energy storage, energy networks and gas storage projects. Related SSE companies own and operate the adjacent Keadby 1 and 2 Power Stations and have the benefit of the DCO for Keadby 3 CCS Power Station (herein referred to as the 'Keadby CCS Power Station').
- 1.2.2. The Proposed Development is being developed with Equinor, one of the country's leading energy providers, supplying natural gas, oil and electricity. Equinor is developing multiple low-carbon hydrogen and carbon capture projects in the Humber, working towards transforming the UK's most carbon intensive industrial cluster into a net zero region.
- 1.2.3. SSE Renewables Limited operates Keadby Windfarm, which lies to the north and south of the Site and generates renewable electricity from 34 turbines, with a total installed generation capacity of 68MW.
- 1.2.4. SSE plc has set out a clear commitment to investment in low carbon power infrastructure, working with government and other stakeholders to create a Net Zero power system by 2040. This includes investment in flexible sources of electricity generation and storage for times of low renewable output which will complement other renewable generating sources, either using low carbon fuels and/ or capturing and storing carbon emissions.
- 1.2.5. The design of the Proposed Development demonstrates this commitment and the Proposed Development will be built with a clear route to decarbonisation, consistent with SSE's Net Zero Acceleration Programme Plus and net zero transition plan which committed to the development and

progression of new low carbon flexible power including hydrogen-fuelled generation.

1.3. The Proposed Development

1.3.1. The Proposed Development would comprise a high efficiency gas fired power station with an electrical output capacity of up to 910MWe and associated buildings, structures and plant and other associated development defined in Schedule 1 of the **Draft DCO (Application Document Ref. 3.1)** as Work Nos. 1-11 and shown on the **Works Plans (Application Document Ref. 2.3)**.

1.3.2. The Proposed Development will include:

- a new-build CCGT electricity generating station fuelled by hydrogen and/or natural gas with a power output of up to 910MW (**Work No. 1**) including:
 - a CCGT plant;
 - cooling infrastructure;
 - natural gas and hydrogen blending equipment;
 - supporting facilities including administration and control buildings, workshops, storage buildings, effluent treatment facilities, fire water storage tank(s), demineralised water treatment plant including storage tank(s), and permanent laydown areas for operation and maintenance activities;
- a hydrogen supply pipeline, including a gas compound for the hydrogen supplier's apparatus and a hydrogen gas compound for the Applicant's apparatus (**Work No. 2**);
- a natural gas supply pipeline including a compound for the natural gas supplier's apparatus and a natural gas compound for the Applicant's apparatus (**Work No. 3**);
- electrical connection works for the export and import of electricity to and from the generating station and the existing 400kV National Grid Electricity Transmission (NGET) substation located adjacent to the Keadby Power Station site, including works within the substation (which would be undertaken by NGET) (**Work No. 4**);
- water supply connection works to provide cooling and make-up water to the generating station, including intake structures and an underground and/or overground water supply pipeline running between the generating station and the Stainforth and Keadby Canal (**Work No. 5**);

- connections to and use of an existing outfall and associated pipework for the discharge of used cooling water, surface water and treated effluent to the River Trent (**Work No. 6**);
- public water connection pipeline from a new connection on Chapel Lane to provide potable water to the generating station (**Work No. 7**);
- new permanent access to the generating station (**Work No. 8**), comprising:
 - maintenance and improvement of an existing private access road from the A18, including replacement of a private bridge (Mabey Bridge) (**Work No. 8A**);
 - installation of layby and gatehouse with barriers, enclosures, drainage and lighting north of the A18 junction (**Work No. 8B**) and associated utilities connections (**Work No. 8C**); and
 - emergency access route comprising the maintenance and improvement of an existing private track running between the generating station and Chapel Lane and including new private bridge crossing over Glew Drain (**Work No. 8D**);
- temporary construction and laydown areas (**Work No. 9A**);
- maintenance and improvement of the existing access routes running between the A18 and construction laydown areas (**Work No. 9B**); and between Skew Bridge adjacent to the A18 and a temporary construction laydown area associated with Mabey Bridge replacement (**Work No. 9C**);
- retention, maintenance and improvement and subsequent removal of existing temporary haul route from the Waterborne Transport Offloading Facility (**Work No. 9D**) and the inspection and repair of the existing jetty, and temporary placement of mobile cranes including the temporary oversailing of crane arms (**Work No. 9E**); and
- landscaping and biodiversity enhancement measures (**Work No. 10**);
- an allocation of land to meet the requirements of the Carbon Capture Readiness (Electricity Generating Stations) Regulations 2013 (**Work No. 11**).

1.3.3. The Applicant will be responsible for the construction, operation (including maintenance) and eventual decommissioning of the Proposed

Development including the on-site connections to electricity, cooling water, hydrogen and natural gas supplies.

- 1.3.4. The Proposed Development will be capable of operating 24 hours per day, 7 days per week with programmed offline periods for maintenance.
- 1.3.5. The route for the hydrogen supply pipeline to the Proposed Development has not yet been confirmed. The supply pipeline is not included in the Proposed Development and will be progressed by a third party under a separate consent. In line with Government policy, it is recognised that developments such as the Proposed Development are needed to stimulate investment in the development of hydrogen production and supply infrastructure.
- 1.3.6. Further detail on the components of the Proposed Development is provided in **ES Volume I Chapter 4: The Proposed Development (Application Document Ref. 6.2)**. The areas within which each numbered Work (component) of the Proposed Development are to be built are defined by the coloured and hatched areas on the **Works Plans (Application Document Ref. 2.3)**.
- 1.3.7. The locations of the elements of the Proposed Development described above within the Site are shown in **ES Volume III Figure 3.3: Indicative Parts of the Site Plan** and an Indicative Layout Plan is included as **ES Volume III Figure 4.1: Indicative Layout of the Main Site (Application Document Ref. 6.4)**.
- 1.3.8. The Proposed Development is a 'first of a kind' for this type of power station infrastructure project and could represent the UK's first hydrogen-fired power station. Consequently, at this consenting stage of the project, a number of the design aspects and features of the Proposed Development cannot be confirmed until the detailed design has been completed. For example, the building sizes may vary, depending on the Engineering, Procurement and Construction (EPC) contractor(s) selected and their specific configuration and selection of plant and equipment. It is also important that the consent retains some flexibility to allow for changing economic conditions and the advancement of hydrogen-fired CCGT technology in the period between preparing the Application and starting construction.
- 1.3.9. The need for flexibility extends to the period of time for implementation of the Proposed Development. A period of 5 years is typically granted in development consent orders. In this case, a 7-year period is considered appropriate given that the delivery of hydrogen projects is largely untested and this will be the first project of its kind in the UK, alongside the ongoing

Connections Reform process being led by National Energy System Operator which presents uncertainty regarding the development's predicted connection to the grid. A 7-year period has been applied before, notably in The Rampion 2 Offshore Wind Farm Order 2025.

- 1.3.10. In order to ensure a robust assessment of the likely significance of the environmental effects of the Proposed Development, the Environmental Impact Assessment (EIA) has been undertaken adopting the principles of the 'Rochdale Envelope' approach, where appropriate in accordance with the Planning Inspectorate's Advice Note 9: The Rochdale Envelope (PINS, 2018). This involves assessing the maximum (or where relevant, minimum) parameters for the elements where flexibility needs to be retained (such as the building dimensions or operational modes for example). Where this approach is being applied to the specific aspects of the EIA, this is confirmed within the relevant chapters of this Planning Statement.
- 1.3.11. Justification for the need to retain flexibility in certain parameters is outlined in this chapter and also in **ES Chapter 4: The Proposed Development (Application Document Ref. 6.2)**.

1.4. The Proposed Development Site

- 1.4.1. The Site is located within and near to the existing Keadby Power Station. The Site (which equates to the 'Order Limits') is located within and adjacent to the boundary of the existing Keadby Power Station site near Scunthorpe, Lincolnshire and falls within the administrative area of North Lincolnshire Council ('NLC') (the 'Site'). The Keadby Power Station site currently encompasses the operational Keadby 1 and Keadby 2 Power Stations. The location of the Site, which is approximately centred on national grid reference (NGR) 481961, 412101 is shown on the **Site Location Plan (Application Document Ref. 2.1)**.
- 1.4.2. The Site encompasses an area of approximately 77.1 hectares (ha), of which approximately 26.7ha of land is proposed for construction laydown.
- 1.4.3. The proposal includes multiple land uses with the different areas described in turn below and shown on **ES Volume III Figure 3.3** Indicative Parts of the Site Plan (**Application Document Ref. 6.4**) and the **Works Plans (Application Document Ref. 2.3)**. These terms have been used to describe land use zones within the Site. Distances to environmental

receptors reported within the ES are measured relative to the areas illustrated on these plans.

1.4.4. The Site is divided into the following areas of permanent and temporary land use (the proposed use is described in more detail in **ES Volume I Chapter 3: Site and Surrounding Area (Application Document Ref. 6.2)**):

- Main Site;
- Ancillary Facilities;
- Water Connections;
- Electricity Connections;
- Waterborne Transport Off-loading Area;
- Construction Laydown Areas;
- Access routes (emergency, permanent and construction);
- Connections to Keadby 1 and Keadby 2 power stations; and
- Additional areas for landscaping and biodiversity provision.

1.5. The DCO Process

1.5.1. The Proposed Development falls within the definition of a NSIP under Section 14(1)(a) and 15(2) of the 2008 Act as a 'generating station exceeding 50 MW'.

1.5.2. As a NSIP project, the Applicant is required to seek a DCO to construct and operate the generating station, under Section 31 of the 2008 Act. Section 37 of the 2008 Act also governs the form, content and accompanying documents that are required as part of a DCO application. The requirements are implemented through the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended) ('APFP Regulations') which state that an application must be accompanied by an ES, where a development is considered to be 'EIA development' under the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the EIA Regulations) (as amended).

1.5.3. An application for development consent for the Proposed Development has been submitted to the Planning Inspectorate (PINS) acting on behalf of the SoS. Subject to the application being accepted, PINS will then examine it and make a recommendation to the SoS who will then decide whether to grant a DCO. The acceptance, examination, recommendation

and decision stages are subject to fixed timescales and the decision is therefore anticipated to fall in 2026.

- 1.5.4. A DCO, if granted, has the effect of providing deemed planning permission for a development, in addition to a number of other consents and authorisations where specified within the Order.

1.6. The Purpose and Structure of this Document

1.6.1. This Outline CTMP is structured as follows:

- Section 1 describes the Proposed Development including the construction programme, the profile of car and light van generation and heavy goods vehicle (HGV) generation;
- Section 2 describes the proposed measures to control HGV routing and impact;
- Section 3 describes the proposed AIL route and routing strategy;
- Section 4 provides the monitoring strategy; and
- Section 5 describes the planned liaison with key stakeholders.

2. Measures to Control HGV Routing and Impact

2.1. Indicative Construction Programme

2.1.1. It is anticipated that construction of the Proposed Development could (subject to the necessary consents being granted and an investment decision being made) potentially start in 2027. Construction activities are expected to be completed within 42 months (comprising a circa 9 month early preparation phase and 42-month main construction build), followed by a period of commissioning. However, for the purposes of **ES Volume II Appendix 10A: Transport Statement (Application Document Ref. 6.3)** a construction build programme lasting 42 months starting in Q2 2034 (starting with an early works phase comprising the replacement of Mabey Bridge, access road improvement works and construction of the emergency access crossing) and ending Q4 2037 would provide a representative worst-case scenario for traffic impact assessment purposes.

2.2. Construction Phase Site Worker Traffic Generation

2.2.1. The profile of construction workforce over the construction period has been developed based on the indicative construction programme (see **ES Volume I Chapter 5: Construction Programme and Management (Application Document Ref. 6.2)**, and through discussion with the Applicant.

2.2.2. The estimated profile of workforce over the construction period for the Proposed Development is shown in **Table 1** and has been benchmarked against both the construction of the Keadby 2 Power Station **CCGT Plant**, and the consented Net Zero Teesside CCGT and CCP Plant. The first six months of the construction programme would be associated with Early Preparation Works phase, and the Mabey Bridge replacement works. The main construction build would take place over a period of 36 months between Months 7 and 42. This shows that the peak construction workforce is forecast to occur between months 26 and 27 when circa 1,050 workers are expected on-site.

Table 1: Profile of daily workforce throughout construction

Month of Construction	Daily workforce in the month
1	24

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<u>Month of Construction</u>	<u>Daily workforce in the month</u>
<u>2</u>	<u>24</u>
<u>3</u>	<u>24</u>
<u>4</u>	<u>24</u>
<u>5</u>	<u>24</u>
<u>6</u>	<u>24</u>
<u>7</u>	<u>57</u>
<u>8</u>	<u>65</u>
<u>9</u>	<u>73</u>
<u>10</u>	<u>145</u>
<u>11</u>	<u>162</u>
<u>12</u>	<u>170</u>
<u>13</u>	<u>218</u>
<u>14</u>	<u>436</u>
<u>15</u>	<u>654</u>
<u>16</u>	<u>788</u>
<u>17</u>	<u>872</u>
<u>18</u>	<u>961</u>
<u>19</u>	<u>1,002</u>
<u>20</u>	<u>1,002</u>
<u>21</u>	<u>1,002</u>
<u>22</u>	<u>1,002</u>
<u>23</u>	<u>1,026</u>
<u>24</u>	<u>1,026</u>

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<u>Month of Construction</u>	<u>Daily workforce in the month</u>
<u>25</u>	<u>1,026</u>
<u>26</u>	<u>1,050</u>
<u>27</u>	<u>1,050</u>
<u>28</u>	<u>1,002</u>
<u>29</u>	<u>1,002</u>
<u>30</u>	<u>1,002</u>
<u>31</u>	<u>985</u>
<u>32</u>	<u>985</u>
<u>33</u>	<u>985</u>
<u>34</u>	<u>985</u>
<u>35</u>	<u>985</u>
<u>36</u>	<u>985</u>
<u>37</u>	<u>985</u>
<u>38</u>	<u>985</u>
<u>39</u>	<u>654</u>
<u>40</u>	<u>436</u>
<u>41</u>	<u>218</u>
<u>42</u>	<u>121</u>

2.2.3. [In relation to traffic generation associated with construction workers, it has been assumed that 80% of workers will travel to the Site by private car, with an average occupancy of two workers per vehicle. A further 20% will travel to the Site by minibus, with an average occupancy of seven workers per vehicle. This assumption has previously been used as a basis for assessment within the Knottingley CCGT Power Station Transport Assessment \(June 2013\) which gained DCO consent in March 2015 and Eggborough CCGT Power Station which gained DCO consent in September 2018. This is considered a realistic assumption given that the](#)

mode of arrival of construction workers can be controlled through travel planning measures and that construction workers are likely to want to minimise their travel expenditure, particularly if having to pay for temporary accommodation. It is proposed that this level of traffic generation can be managed and maintained through Travel Plan measures and the availability of on-site parking spaces.

2.2.4. When this occupancy rate is applied to the workforce associated with construction of the Proposed Development, the daily vehicle trip generation on a month-by-month basis are shown in **Table 2**. This equates to an overall vehicle occupancy rate of 2.33 per vehicle (including minibuses). The peak months for construction workforce trip generation are Months 26-27.

Table 2: Construction worker vehicle generation at peak of construction

Month of Construction	Total workers per day	No. of cars/vans (2 per vehicle)	No. of minibuses (7 per vehicle)	Average two-way daily flow
1-6	24	10	1	22
2	24	10	1	22
3	24	10	1	22
4	24	10	1	22
5	24	10	1	22
6	24	10	1	22
7	57	23	2	50
8	65	26	2	56
9	73	29	2	62
10	145	58	4	124
11	162	65	5	140
12	170	68	5	146
13	218	87	6	186

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<u>Month of Construction</u>	<u>Total workers per day</u>	<u>No. of cars/vans (2 per vehicle)</u>	<u>No. of minibuses (7 per vehicle)</u>	<u>Average two-way daily flow</u>
<u>14</u>	<u>436</u>	<u>174</u>	<u>12</u>	<u>372</u>
<u>15</u>	<u>654</u>	<u>262</u>	<u>19</u>	<u>562</u>
<u>16</u>	<u>788</u>	<u>315</u>	<u>23</u>	<u>676</u>
<u>17</u>	<u>872</u>	<u>349</u>	<u>25</u>	<u>748</u>
<u>18</u>	<u>961</u>	<u>384</u>	<u>27</u>	<u>822</u>
<u>19</u>	<u>1,002</u>	<u>401</u>	<u>29</u>	<u>860</u>
<u>20</u>	<u>1,002</u>	<u>401</u>	<u>29</u>	<u>860</u>
<u>21</u>	<u>1,002</u>	<u>401</u>	<u>29</u>	<u>860</u>
<u>22</u>	<u>1,002</u>	<u>401</u>	<u>29</u>	<u>860</u>
<u>23</u>	<u>1,026</u>	<u>410</u>	<u>29</u>	<u>878</u>
<u>24</u>	<u>1,026</u>	<u>410</u>	<u>29</u>	<u>878</u>
<u>25</u>	<u>1,026</u>	<u>410</u>	<u>29</u>	<u>878</u>
<u>26</u>	<u>1,050</u>	<u>420</u>	<u>30</u>	<u>900</u>
<u>27</u>	<u>1,050</u>	<u>420</u>	<u>30</u>	<u>900</u>
<u>28</u>	<u>1,002</u>	<u>401</u>	<u>29</u>	<u>860</u>
<u>29</u>	<u>1,002</u>	<u>401</u>	<u>29</u>	<u>860</u>
<u>30</u>	<u>1,002</u>	<u>401</u>	<u>29</u>	<u>860</u>
<u>31</u>	<u>985</u>	<u>394</u>	<u>28</u>	<u>844</u>
<u>32</u>	<u>985</u>	<u>394</u>	<u>28</u>	<u>844</u>
<u>33</u>	<u>985</u>	<u>394</u>	<u>28</u>	<u>844</u>
<u>34</u>	<u>985</u>	<u>394</u>	<u>28</u>	<u>844</u>
<u>35</u>	<u>985</u>	<u>394</u>	<u>28</u>	<u>844</u>

<u>Month of Construction</u>	<u>Total workers per day</u>	<u>No. of cars/vans (2 per vehicle)</u>	<u>No. of minibuses (7 per vehicle)</u>	<u>Average two-way daily flow</u>
<u>36</u>	<u>985</u>	<u>394</u>	<u>28</u>	<u>844</u>
<u>37</u>	<u>985</u>	<u>394</u>	<u>28</u>	<u>844</u>
<u>38</u>	<u>985</u>	<u>394</u>	<u>28</u>	<u>844</u>
<u>39</u>	<u>654</u>	<u>262</u>	<u>19</u>	<u>562</u>
<u>40</u>	<u>436</u>	<u>174</u>	<u>12</u>	<u>372</u>
<u>41</u>	<u>218</u>	<u>87</u>	<u>6</u>	<u>186</u>
<u>42</u>	<u>121</u>	<u>48</u>	<u>3</u>	<u>102</u>

2.2.1-2.2.5. For construction worker traffic generation and the measures to be implemented to encourage sustainable travel modes, please refer to the **Outline Construction Workers' Travel Plan (Application Document Ref. 7.6)**.

2.3. Construction Phase HGV Traffic Generation

2.3.1. The volume of construction HGV on the network is predicted to be at its maximum of around 828 two-way daily HGV movements (414 in and 414 out) during the initial Site Enabling and Preparation phase of construction following Mabey Bridge replacement works. This is associated with the potential cut and fill of the top layer of ground within the Site to improve the geotechnical condition of the ground. The import and export of material will occur over a three month period during Months 7 and 9 of the construction programme. During the remainder of the construction period HGV movements will vary with 120 daily two-way HGV movements (60 in and 60 out) from month 24 to month 35 of construction, 60 daily two-way HGV movements (30 in and 30 out) from months 10 to 23 and months 36 to 42 of construction and 10 daily two-way HGV movements (5 in and 5

out) from months 1 to 6 of construction. The full profile is shown in **Table 3**

Table 3: Profile of daily (two-way) HGV movements throughout construction

Month of Construction	Daily HGV movements in the month
1	10
2	10
3	10
4	10
5	10
6	10
7	828
8	828
9	828
10	60
11	60
12	60
13	60
14	60
15	60
16	60
17	60
18	60
19	60
20	60

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**KEADBY
NEXT GENERATION
POWER STATION**

Hydrogen-enabled flexible power

A collaboration between SSE Thermal and Equinor

<u>Month of Construction</u>	<u>Daily HGV movements in the month</u>
<u>21</u>	<u>60</u>
<u>22</u>	<u>60</u>
<u>23</u>	<u>60</u>
<u>24</u>	<u>120</u>
<u>25</u>	<u>120</u>
<u>26</u>	<u>120</u>
<u>27</u>	<u>120</u>
<u>28</u>	<u>120</u>
<u>29</u>	<u>120</u>
<u>30</u>	<u>120</u>
<u>31</u>	<u>120</u>
<u>32</u>	<u>120</u>
<u>33</u>	<u>120</u>
<u>34</u>	<u>120</u>
<u>35</u>	<u>120</u>
<u>36</u>	<u>60</u>
<u>37</u>	<u>60</u>
<u>38</u>	<u>60</u>
<u>39</u>	<u>60</u>
<u>40</u>	<u>60</u>
<u>41</u>	<u>60</u>
<u>42</u>	<u>60</u>

2.3.1-2.3.2. As described **ES Volume I Chapter 10: Traffic and Transport (Application Document Ref. 6.2)**, no allowance has been made in the traffic impact assessment for the delivery of construction materials by water or other means, in order to assess the 'worst-case' construction road traffic impact. However, provision for the delivery of AIL by water is included within the Site.

2.4. Proposed Development Construction

2.4.1. HGV delivering construction materials would access the Site from the M180 Junction 2, via the A161 and A18, entering over Mabey Bridge. Access into the Site will be controlled by a new gatehouse and HGV waiting area where vehicle registration and deliveries will be recorded. The location of the gatehouse has been set sufficiently back from the A18 to allow HGV to queue on the access road, rather than on the A18.

2.4.2. The volume of HGV associated with construction of the Proposed Development on the network would be at its maximum of 828 two-way daily HGV movements (414 in and 414 out) for three months during the initial site enabling and preparation phase of construction after Mabey Bridge has been replaced (refer to **ES Volume I Chapter 5 (Application Document Ref. 6.2)**). This is associated with the potential cut and fill of the top layer of ground within the Main Site to improve the geotechnical condition of the ground and land raising parts of the Main Site and Ancillary Facilities to 3.0m Above Ordnance Datum to provide flood risk mitigation. The import and export of material will occur over a two month period during Months 7 and 9 of the construction programme. During the remainder of the construction period, HGV movements will vary with 120 two-way daily HGV movements (60 in and 60 out) from month 24 to month 35 of construction, 60 two-way daily HGV movements (30 in and 30 out) from months 9 to 23 and months 36 to 42 of construction and 10 daily two-way HGV movements (5 in and 5 out) from months 1 to 6 of construction.

2.4.3. HGV arrivals, including deliveries, will be managed as far as reasonably practicable, such that they are spread evenly over the day between the hours of 07:00 and 19:00 Monday to Friday (except bank holidays) and 08:00 to 13:00 on Saturday (if required) to avoid on-site congestion.

2.5. Designated Route to the Proposed Development Site

2.5.1. It is proposed that HGV associated with the construction of the Proposed Development would be required to access/ depart the Proposed Development Site from the M180 Junction 2 via the A161 and the A18. At the junction of the M180, it is assumed that 80% would arrive/ depart to

the west and 20% arrive/ depart to the east. The HGV routing plan is shown in Plate 1.

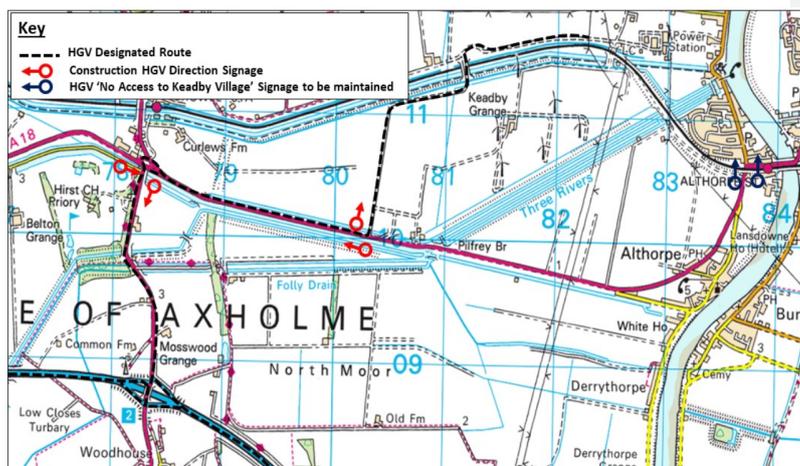


Plate 1: Illustrative HGV Designated Route Plan (Proposed Development Construction)

- 2.5.2. The contractor must distribute the HGV routing plan to all HGV drivers during their induction. It will be a condition of contract between the Applicant and the appointed contractor to aim to ensure that all construction HGV deliveries must use the designated route to access and egress the construction site. Sanctions will be put in place to deal with non-compliance (see Section 2.8).
- 2.5.3. It is noted that signage was put in place at locations agreed with NLC for the construction of Keadby 2 Power Station, with the aim of facilitating appropriate routing of construction traffic, including avoiding Keadby village.
- 2.5.4. For the Proposed Development, the contractor will erect signage at the main junctions to appropriately direct all HGV traffic relating to the Proposed Development (both accessing and egressing the site) towards the M180. The indicative signage locations are shown in **Plate 1**. These

will be in place for the duration of the construction phase and will be checked regularly to confirm they are visible throughout.

- 2.5.5. The appointed contractor will be required to maintain all the HGV route signage.

2.6. Parking

2.6.1. Car and cycle parking will also be provided to accommodate construction workers during the construction programme. Parking demand would vary throughout the construction phase although parking areas have been set aside within the Site to accommodate construction workers. At this stage the areas proposed for construction parking include space within laydown areas to the south of North Pilfrey Bridge, adjacent to the Site access road.

2.6.2. The level of car and cycle parking required during each phase of construction will be confirmed once the design has progressed sufficiently to allow for construction planning to be completed.

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2.6.2.7. Construction Programme/ Site Hours

2.6.2.7.1. The Applicant would appoint one or more EPC contractors for the construction of the CCGT (**Work No. 1A**). An early works phase, including the Mabey Bridge replacement, access road improvement works and construction of the emergency access crossing would be undertaken over a circa 9 month period. Construction activities for the main works phase are expected to be completed within approximately three and a half years, followed by commissioning.

2.6.2.7.2. In order to minimise the disruption to the public, HGV deliveries will be restricted to the following core construction hours unless agreed otherwise with NLC:

- Monday – Friday: 07:00 – 19:00 (excluding Bank Holidays); and
- Saturday: 08:00 – 13:00.

2.6.2.7.3. It is proposed that HGV deliveries will be made during these core working hours, unless agreed in exceptional circumstances (e.g. during concrete pouring) in advance with NLC. The only expected HGV deliveries outside these hours may be the delivery of certain AIL, if required. Any noisy

works outside the core working hours, including timing of AIL deliveries, if required, would be agreed with NLC on a case by case basis.

2.7-2.8. HGV Access via Keadby Village

2.7-1-2.8.1. The Applicant is aware of a small number of instances during the construction of Keadby 2 Power Station where HGV did not use designated and signed routes, resulting in HGV routing through Keadby village.

2.7-2-2.8.2. It will be a condition of contract between the Applicant and the appointed contractor to aim to ensure that the designated HGV route (which is the most direct route from the motorway network) is adhered to by HGV drivers and the contractor must ensure that the HGV routing plan is distributed to all HGV drivers. This HGV routing plan policy will be reinforced during staff inductions and will include HGV drivers being made aware specifically not to access the Proposed Development Site via Keadby village (except in case of emergency), with sanctions put in place to deal with non-compliance with the aim of no repeat events (see Section 2.8).

2.8-2.9. Dealing with Non-Compliance

2.8-1-2.9.1. To provide compliance with the measures set out above, the contractor must enforce a disciplinary procedure, "yellow/ red card system" or equivalent.

2.8-2-2.9.2. In the first event of non-compliance, a warning will be issued to the HGV driver (yellow card). In the event of any repeat of the contravention, that driver will be prohibited from making further HGV deliveries to the Proposed Development Site (red card).

2.9-2.10. Wheel Cleaning Facility

2.9-1-2.10.1. In the interests of highway safety, wheel cleaning facilities will be installed at the Site from the start of the construction phase. All HGV would be required to wheel wash prior to exiting the Site. The need for this measure will be periodically reviewed throughout the construction phase.

2.10-2.11. Contact with Local Residents

2.10-1-2.11.1. A 24 hour contact name and number will be displayed on a notice board at the Proposed Development Site entrance and on the Applicant's website, for members of the public to contact should they have any issues

regarding construction traffic. The contact number could also be displayed on the Keadby with Althorpe Parish Council website if they wish to host this.

2.11.2. Residents will be updated on the construction of the Proposed Development via a regular update bulletin posted on the Applicant's website. This will include information on the timing and routing of AIL deliveries and a 24-hour contact name and number established by the contractor for members of the public to contact should they have any issues regarding construction traffic. It is anticipated that a community liaison officer will act as the initial point of contact for members of the community to find out further information. A link to this information could also be provided on the Keadby with Althorpe Parish Council website if they wish to host this.

2.12. Management of Waste, Pollution, Dust and Noise

2.12.1. Details of the arrangements for the management of waste, pollution, dust and noise are provided in the Outline Construction Environmental Management Plan (Application Document Ref. 7.4). This provides details of the measures proposed to manage waste, pollution, dust and noise during the construction programme. A final CEMP will be prepared by the EPC Contractor(s) prior to construction. The submission, approval and implementation of this is proposed to be secured through Requirement in the Draft DCO (Application Document Ref. 3.1). The final CEMP will be developed in accordance with the Outline CEMP.

2.12.2. -A Site Waste Management Plan (SWMP) will be developed to control construction activities to minimise, as far as reasonably practicable, impacts on the environment and will specify the waste streams to be estimated and monitored and will set goals with regards to the waste produced. An Outline SWMP is included in Appendix A of the Outline CEMP. The final SWMP will be finalised by the EPC Contractor(s), with specific measures to be implemented prior to the start of construction. This is proposed to be secured by a Requirement of the Draft DCO (Application Document Ref. 3.1) and will form part of the final CEMP.

3. Abnormal Indivisible Loads

3.1. Strategy and Routing

- 3.1.1. A number of AIL movements are expected during the construction programme associated with the delivery of large items of plant and equipment. The exact number and size/ weight is not known at this stage and is based on specific construction methodologies that will be confirmed during detailed design. However, it is expected that the proposed construction methodology will favour modularisation with pre-assembly off-site supplemented by on-site construction.
- 3.1.2. The 'Water preferred policy guidelines for the movement of abnormal indivisible loads' (National Highways, 2016) states that it is Government policy to avoid road transport as far as possible by using alternative modes, such as water.
- 3.1.3. It is anticipated that delivery of AIL to the Site will use the same routes as those used for the delivery of AIL during the construction of Keadby 2 Power Station.
- 3.1.4. It is expected that the largest abnormal loads will be received at the Port of Immingham and barged down the River Trent to the Waterborne Transport Offloading Area (Railway Wharf), which is included within the Site boundary for the Application and shown on **ES Volume III Figure 3.3 Application Document Ref. 6.4.4**. The components will then be transported to the Site crossing the B1392 onto the temporary haul road that runs to the east of PD Port Services (as shown in Plate 2) Traffic management in the form of Stop/ Go signs will be used to halt traffic along the B1392 in order to allow the abnormal loads to cross the B1392.

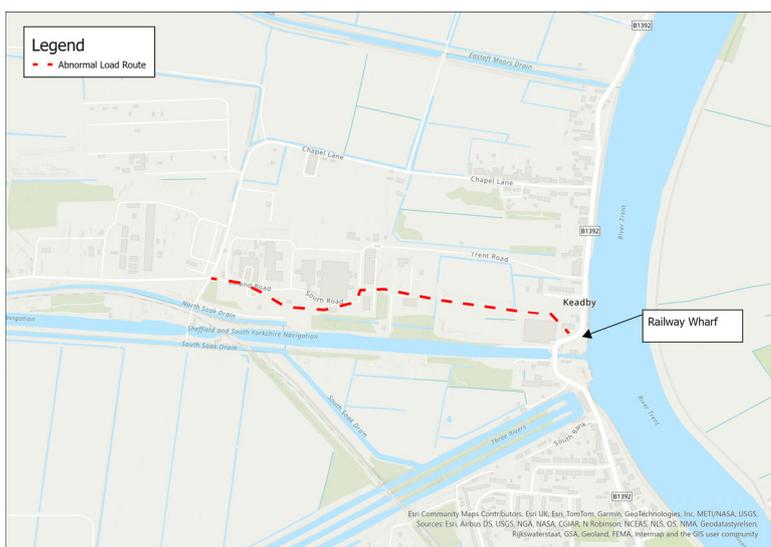


Plate 2: Abnormal Indivisible Load Route via Waterborne Transport Offloading Area for Proposed Development

- 3.1.5. The indicative estimated number of AIL movements to the Waterborne Transport Offloading Area (Railway Wharf) is not known. However, data from the construction of Keadby 2 Power Station has been reviewed and it is expected that the Proposed Development will require a similar number of AIL shipments for the CCGT unit. Over the course of circa 7 months in 2020, 25 AIL shipments arrived at Railway Wharf (SSE, 2020) for Keadby 2 Power Station. The AIL movements for the Proposed Development would take place over the period allocated for erection of main process equipment in Table 5.1: Indicative construction and commissioning programme in **ES Volume I Chapter 5: Construction Programme and Management (Application Document Ref. 6.2)**.
- 3.1.6. The smaller abnormal loads are expected to be transported by road from Immingham Dock via the M180 to Junction 2 and then from the A161 to the A18, entering the Site via the perpendicular construction access off the A18 (Mabey bridge) (**Work No. 8B**) and then over the privately owned and

maintained North Pilfrey Bridge (see Plate 3). This route is also included within the Site boundary for the Application.

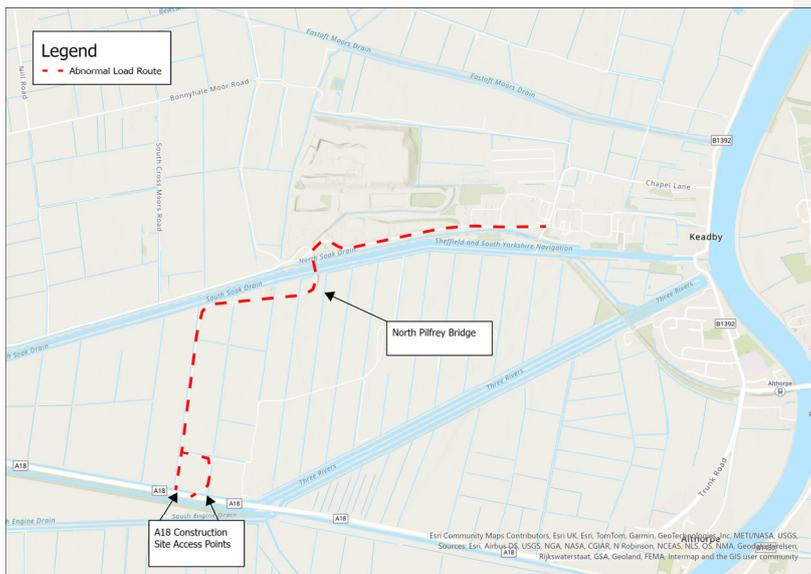


Plate 3: AIL Route using A18 to access the Proposed Development Site

- 3.1.7. Use of this AIL route would be subject to the load bearing capacity of North Pilfrey Bridge, as follows:
- normal design loading covering vehicles up to 44 tonnes gross vehicle weight;
 - SV80 Vehicle (max gross weight 80 tonnes with a maximum basic axle load of 12.5 tonnes);
 - SV100 Vehicle (max gross weight of 100 tonnes with a maximum basic axle load of 16.5 tonnes); and
 - SV196 Vehicle (max gross weight of 196 tonnes with a maximum basic axle load of 16.5 tonnes).

- 3.1.8. An alternative access route for certain abnormal loads that cannot pass over North Pilfrey Bridge was used during construction of Keadby 2 Power Station via Bonnyhale Road. This route is shown in Plate 4.

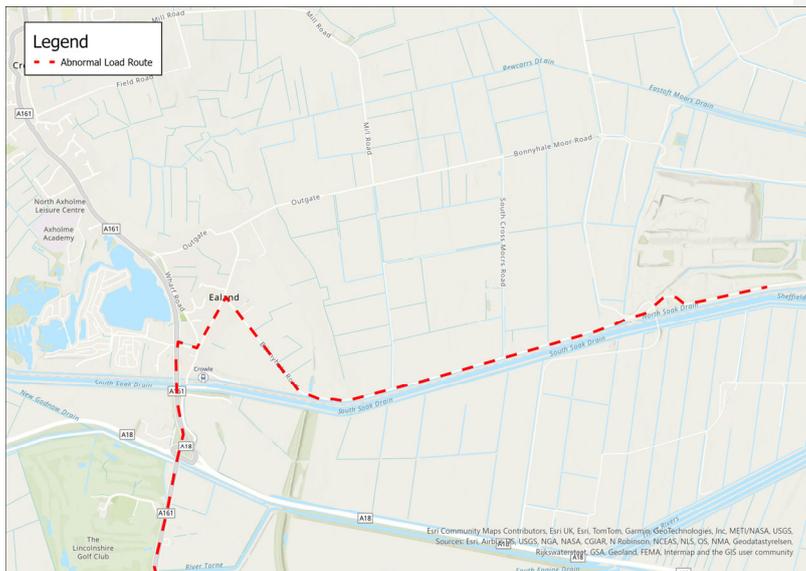


Plate 4: Alternative proposed access route for certain abnormal loads (if North Pilfrey Bridge and Railway Wharf are unsuitable)

- 3.1.9. Should it be necessary, AIL could potentially utilise the route from Ealand village via the A161, A161 Crowle Bridge, New Trent Road and Bonnyhale Road. During the construction of Keadby 2 Power Station, consent was provided for up to 10 AIL to use this route. As this is already an established route and no works are required for the purposes of the Proposed Development, this route has not been included within the Site boundary.
- 3.1.10. This route would only be used if North Pilfrey Bridge and Railway Wharf are unsuitable or if delays to the construction programme would otherwise result. Should any AILs be required to use this route they would be below the axle loading capacity of the A161 Crowle Bridge, owned and maintained by North Lincolnshire Council as highway authority.
- 3.1.11. Detail of the routing strategy and procedures for the notification and conveyance of AIL, including agreed routes, the number of abnormal loads

to be delivered by road, construction programme, and measures for the temporary protection of carriageway surfaces, the protection of statutory undertakers' plant and equipment, and any temporary removal of street furniture will be set out in the final Construction Traffic Management Plan, which is secured as a Requirement of the **Draft DCO (Application Document Ref. 3.1)**.

- 3.1.12. NLC and National Highways abnormal loads officer will be consulted at the earliest opportunity on the programme and plan for the delivery of the AIL, as part of or in advance of discharging the relevant DCO Requirement. Relevant asset owners such as Network Rail (with infrastructure below North Pilfrey Bridge) would also be notified, as would the Police, where relevant.
- 3.1.13. As has happened on Keadby 2 Power Station, the Applicant will notify and work closely with the Canal and River Trust and harbour authority to minimise restrictions on use of Keadby Lock during AIL deliveries.
- 3.1.14. The public will also be made aware of when abnormal load deliveries are taking place via a notice on the board at the existing entrance to Keadby 1 Power Station in Keadby village, on the Applicant's Website, and via the press and social media.

4. Monitoring

4.1. General Measures

- 4.1.1. A programme of monitoring will be adopted to assess the effectiveness of the measures included in the final CTMP to control the routing and impact of construction HGV. It will provide a firm basis upon which to answer queries and complaints regarding the HGV traffic impacts during construction. A 24-hour contact name and number will be established by the Contractor and displayed at the Proposed Development Site.

4.2. HGV Monitoring Surveys

- 4.2.1. The appointed contractor will maintain gatehouse records of construction HGV entering and leaving the Proposed Development Site, which will be made available to NLC on request.
- 4.2.2. Should any complaints be raised by members of the public with regards to construction HGV not using the dedicated HGV route to the Proposed Development Site, gatehouse records along with CCTV footage obtained from the gatehouse would be used to identify the offending HGV involved and appropriate sanctions put in place with the aim of avoiding repeat events.

5. Consultation

5.1. Planned Liaison

- 5.1.1. As was undertaken for the construction of Keadby 2 Power Station, a formal process of liaison between all relevant parties (Principal Contractor, NLC and NH) via a Community Liaison Group would:
- make all parties aware of the results of monitoring of the final CTMP;
 - provide a route by which any complaints can be communicated and dealt with; and
 - provide a route through which transport related issues can be identified and dealt with.
- 5.1.2. The Community Liaison Group will be secured via a Requirement of the **Draft DCO (Application Documents Ref. 3.1)**.
- 5.1.3. It is proposed that a short written report is prepared by the contractor on a six monthly basis during the construction of the Proposed Development and circulated to all key stakeholders. Any comments generated by the report will be circulated to all key stakeholders and a meeting may be held if required.