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: 6.3

Planning Inspectorate Ref: EN0110001

The Keadby Next Generation Power Station Development Consent Order [year]

Environmental Statement (ES)

Volume II – Appendix 10A Transport Statement

The Planning Act 2008

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017

Applicant: Keadby Next Generation Limited

Date: August 2025

Issue: V0

ARUP DWD AECOM

Document History

Document Ref	6.3.8 / Appendix 10A
Issue	V0
Document Owner	Arup

Glossary

Abbreviation/	Description
AADT	Annual Average Daily Traffic Movements
ATC	Automatic Traffic Count
CCGT	Combined Cycle Gas Turbine
CTMP	Construction Traffic Management Plan
CWTP	Construction Workers Travel Plan
DCO	Development Consent Order
DfT	Department for Transport
EIA	Environmental Impact Assessment
ES	Environmental Statement
HGV	Heavy Goods Vehicle
MSOA	Middle Super Output Area
NGET	National Grid Electricity Transmission
NGT	National Gas Transmission
NH	National Highways
NLC	North Lincolnshire Council
PIA	Personal Injury Accident
TS	Transport Statement
TTRO	Temporary Traffic Regulation Order

Contents

Plates

Tables

10A. Transport Statement

10A.1 Overview

10A.1.1 This Technical Appendix accompanies **Environmental Statement (ES) Volume I Chapter 10**: Traffic and Transport (**Application Document Ref. 6.2**) and sets out the impact of the Proposed Development on the local transport network in more detail.

10A.2 Development Vision

10A.2.1 DfT Circular 01/2022 sets out the principles of sustainable development as encouraging economic growth while protecting the environment and improving safety and quality of life for current and future generation. It identifies the important role to play in the drive towards zero emissions and the need for new development which should be facilitating a reduction in the need to travel by private car and encouraging walking, wheeling, cycling and public transport which must be the natural first choice for all who can take it.

10A.2.2 The nature and operation of the Proposed Development, and the location of the site with limited sustainable travel connections, as well as staff working shift patterns, means that there is limited scope for sustainable transport options at the site. However, the proposed development will seek to minimise impact on the local highway network, where practical.

10A.2.3 The location of the site close to the M180 and with access to the site undertaken from the A18 will limit the impact of construction and operational vehicles on the local highway network enabling more efficient distribution directly on to the strategic road network.

10A.3 Existing Conditions

Site Location and Access

10A.3.1 The Site is located within the wider Keadby Power Station site, approximately 4.1km to the west of the town of Scunthorpe. The village of Keadby is the nearest settlement which lies immediately adjacent to the Site boundary and approximately 1km east of the Site at its closest point

(refer to **ES Volume III Figure 3.1:** Proposed Development Site (**Application Document Ref. 6.4**)).

10A.3.2 Access to the Site during both construction and operation will be via the existing perpendicular bridge (Mabey Bridge) and skew bridge construction access points off the A18, built for construction vehicles during construction of Keadby Wind Farm.

10A.3.3 The skew bridge access was constructed to carry oversized turbine blades into the Keadby Wind Farm site. The angle of the skewed bridge means that any oversized loads are forced to travel to and from the west. The skew access would only be used, during the replacement of Mabey Bridge during the initial early phase works which will be completed ahead of the main construction works commencing.

10A.3.4 The perpendicular access road crosses Hatfield Waste Drain over a private bridge (Mabey Bridge). The access road continues for circa 1km north towards the Stainforth and Keadby Canal, crossing the canal and existing Scunthorpe to Doncaster passenger railway line on the North Pilfrey Bridge (Network Rail asset number DOW/26AA at 17m 0550yds). The bridge was constructed in 2012 and has been used by construction vehicles during the construction of Keadby 2 Power Station. The access road then links to Bonnyhale Road and onwards towards the Proposed Development along existing private access roads. This would be the main route used during the construction and operation of the Proposed Development.

10A.3.5 Abnormal Indivisible Loads (AIL) access is proposed via an existing offloading point (Waterborne Transport Offloading Area) at Railway Wharf on the River Trent. This route crosses a short section of the B1392 and then incorporates an existing temporary haul road that runs to the east of PD Ports Services freight yard, through an agricultural field (owned by the Applicant). The route crosses over an existing outage car park and into the Keadby 1 Power Station Site. Should it be required, small numbers of AIL may also use an alternative route, by road via Ealand and Bonnyhale Road.

Local Highway Network

10A.3.6 The A18 continues westwards from the Site access to form a gyratory junction with the A161. The A161 is a single-carriageway link following a north-south alignment between J2 of the M180 and the A18 to the north. This section of the A161 is subject to the National Speed Limit and is rural in nature, with no footways provided on either side of the carriageway. The

M180 Junction 2 is a grade separated junction with priority arrangements from the off-slip roads.

10A.3.7 The A18 continues to the west to join the M180 Junction 1 via the Tudworth roundabout.

10A.3.8 To the east of the access to the Site, the A18 continues in an easterly direction where it meets the B1392. The A18 is subject to the National Speed Limit which reduces to a 40mph speed limit as the road bends towards the north and bypasses Althorpe. The speed limit reduces further to 30mph on the approach to the B1392.

10A.3.9 The existing main site access to Keadby Power Station is taken from the B1392, named Station Road, although this would not be used for access to the Site during construction or operation of the Proposed Development. This two lane single carriageway links the A18 at Keadby to the A161 at Eastoft. The road is subject to a 30mph speed limit within the village and to a distance of approximately 400m north of Keadby Power Station entrance, beyond which the National Speed Limit applies. Adjacent to the existing Keadby Power Station site entrance, it is approximately 5.5m in width. Footways are provided within the village, and the road is street lit.

10A.3.10 The B1392 joins the A18 at a priority junction on the southern edge of Keadby, near Althorpe station. Left and right turning lanes are provided from the B1392, while a right turning lane from the A18 is also provided.

10A.3.11 The A18 crosses the River Trent to the east of the junction with the B1392, via the King George V bridge. This bridge has footway on its northern side which is provided on a separate structure. There is a bend in the carriageway at the eastern end of the bridge before the road turns to the north. The speed limit increases from 30mph to 40mph near its junction with the B1216 Station Road. The A18 continues through the village of Gunness, and then continues east towards Scunthorpe, with the speed limit increasing to the National Speed Limit at the eastern edge of the village.

10A.3.12 The A18 meets the M181 and A1077 at the Frodingham Grange roundabout junction on the western edge of Scunthorpe, before continuing into the town.

10A.3.13 Chapel Lane runs to the east of the Site, from the B1392, and provides access to the rear entrance to Keadby 1 and Keadby 2 Power Station. This route will not be used by construction traffic or construction staff during construction of the Proposed Development, nor by operational staff

accessing the Site during normal operations. However, Chapel Lane will provide a connection to the proposed Emergency Vehicle Access which would only be utilised as a secondary point of access and egress for emergency vehicles and/ or pedestrians in the event of an emergency to and from the north of the Site over a new private bridge. Chapel Lane is a single carriageway, which is subject to a 30mph speed limit in the residential area to the east and the National Speed Limit in the rural section to the west and south. In the residential area, the carriageway is approximately 5.8m wide, and on-street parking occurs along the northern side, which results in width for just one vehicle to pass at a time. In the rural section of the road approaching the Site, the width ranges between approximately 4.8m and 6.3m.

Baseline Traffic Flows

10A.3.14 The study area has been defined based on the sensitivity of the route and the percentage impact that development traffic adds to baseline flows. As such, traffic flow data has been collected on the following highway links within the study area (see **Plate 10A.1**). This includes:

- Link 1: A18 (west of construction site entrance to Keadby 2 Power Station);
- Link 2: A161 (between the A18 and the M180 Jct 2);
- Link 3: A18 Station Road (west of King George V Bridge);
- Link 4: A18 High Levels Bank (east of Tudworth Roundabout); and
- Link 5: A18 Doncaster Road (between Station Road and Frodingham Grange Roundabout).

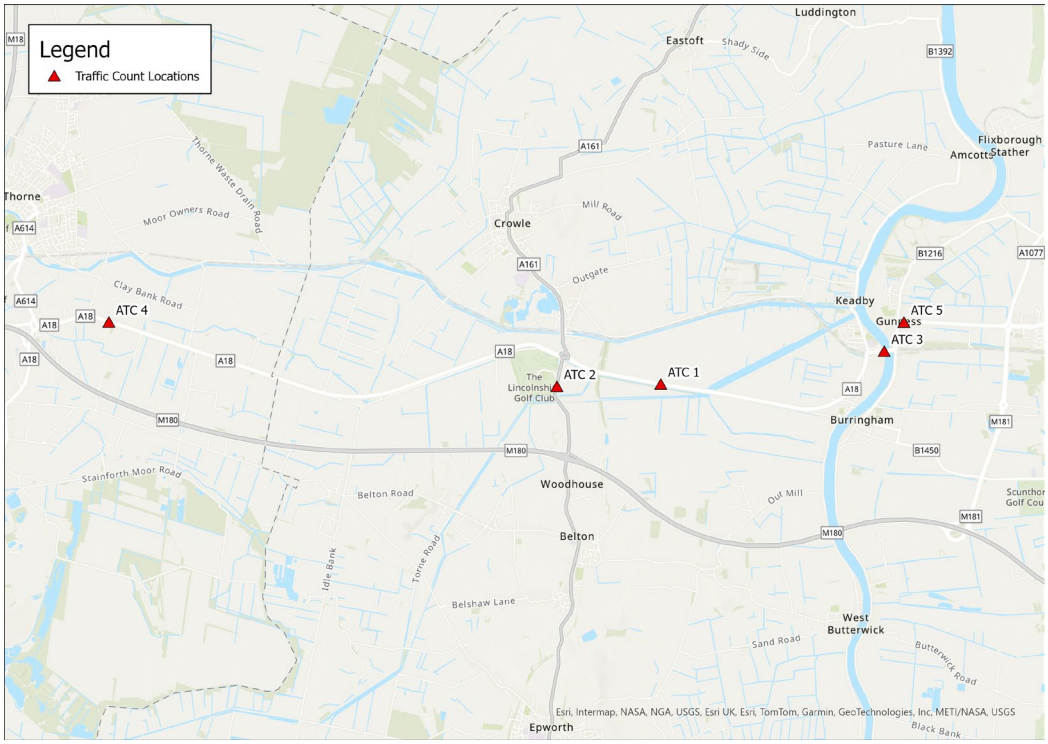

Plate 10A.1: Traffic Count Locations

10A.3.15 A series of seven day automatic traffic counts (ATC) were undertaken at these locations between 11 and 18 July 2024. Counts on Link 1 were disrupted half way through the week and were repeated in early September 2024.

10A.3.16 Data for one additional location, Link 5 on the A18 Doncaster Road (between Station Road and the Frodingham Grange roundabout) was provided by North Lincolnshire Council (NLC). This data is for 2022 and is deemed suitable for use in this assessment.

10A.3.17 A summary of the baseline typical AM peak hour (07:00-08:00), the typical PM peak hour (16:00-17:00) and 24-hour annual average daily traffic (AADT) two-way link flows for the study area and are provided in **Table**

10A.1. **Plate 10A.2** to **Plate 10A.6** show the average profile of traffic for each of these links.

Table 10A.1: 2024 Baseline Traffic Flows

Link	Link Description	AM peak period (07:00-08:00)		PM peak period (16:00-17:00)		AADT	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
1	A18 (west of the Proposed Developme nt Site access)	576	40	745	37	8,928	618
2	A161 (between the A18 and the M180 Jct 2)	403	18	537	35	6,479	668
3	A18 Station Road (to the west of King George V Bridge)	882	40	1,117	41	13,403	772
4	A18 High Levels Bank (east of Tudworth Roundabout)	538	51	613	43	7,335	774
5	A18 Doncaster Road (between Station Road and Frodingham Grange	604	24	934	19	12,469	587

Link	Link Description	AM peak period (07:00-08:00)		PM peak period (16:00-17:00)		AADT	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
	Roundabout)						

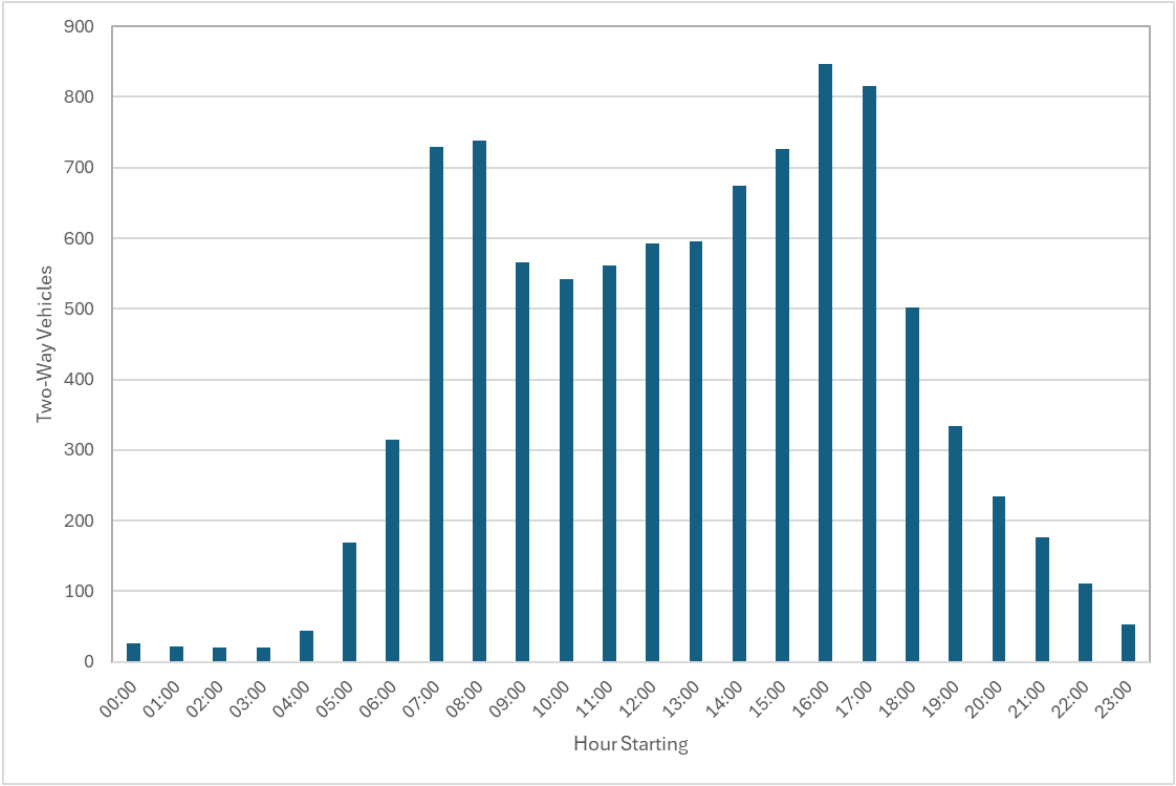

Plate 10A.2: A18 (West of the Proposed Development Site Access) Average Weekday Profile

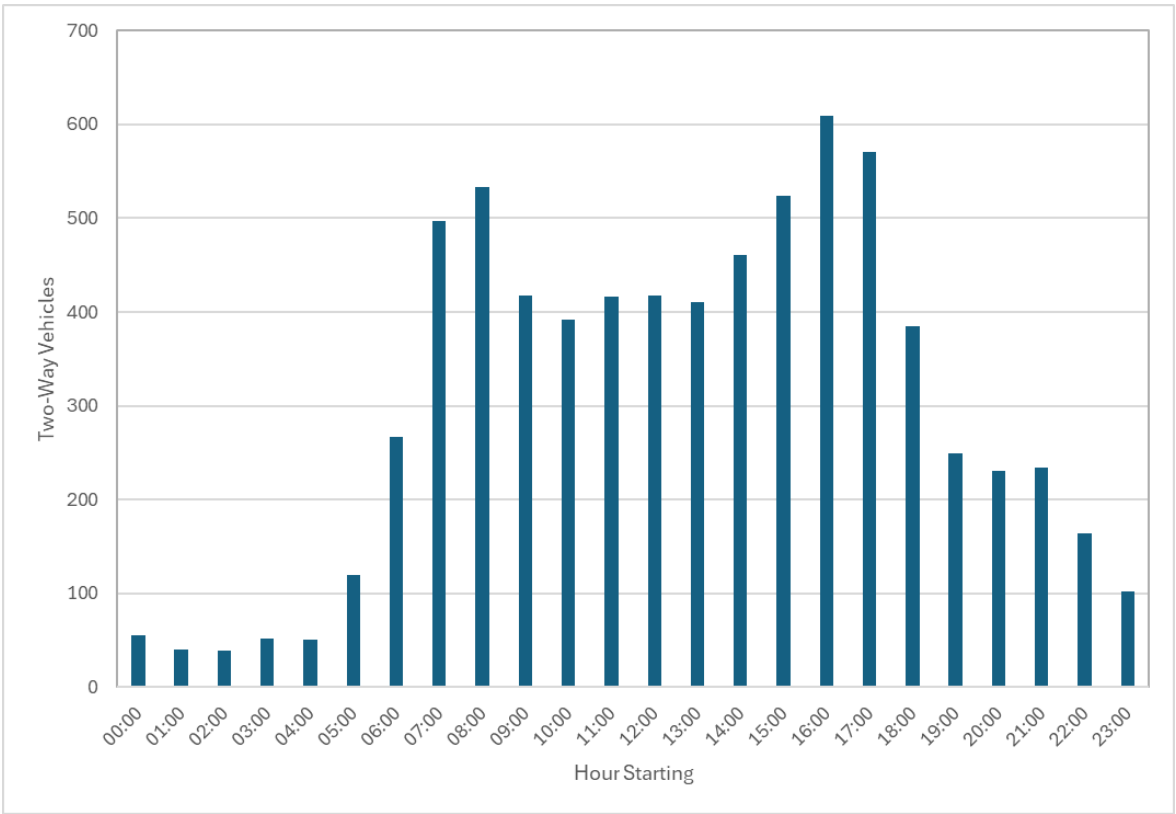

Plate 10A.3: A161 (between the A18 and the M180 Jct 2) Average Weekday Profile

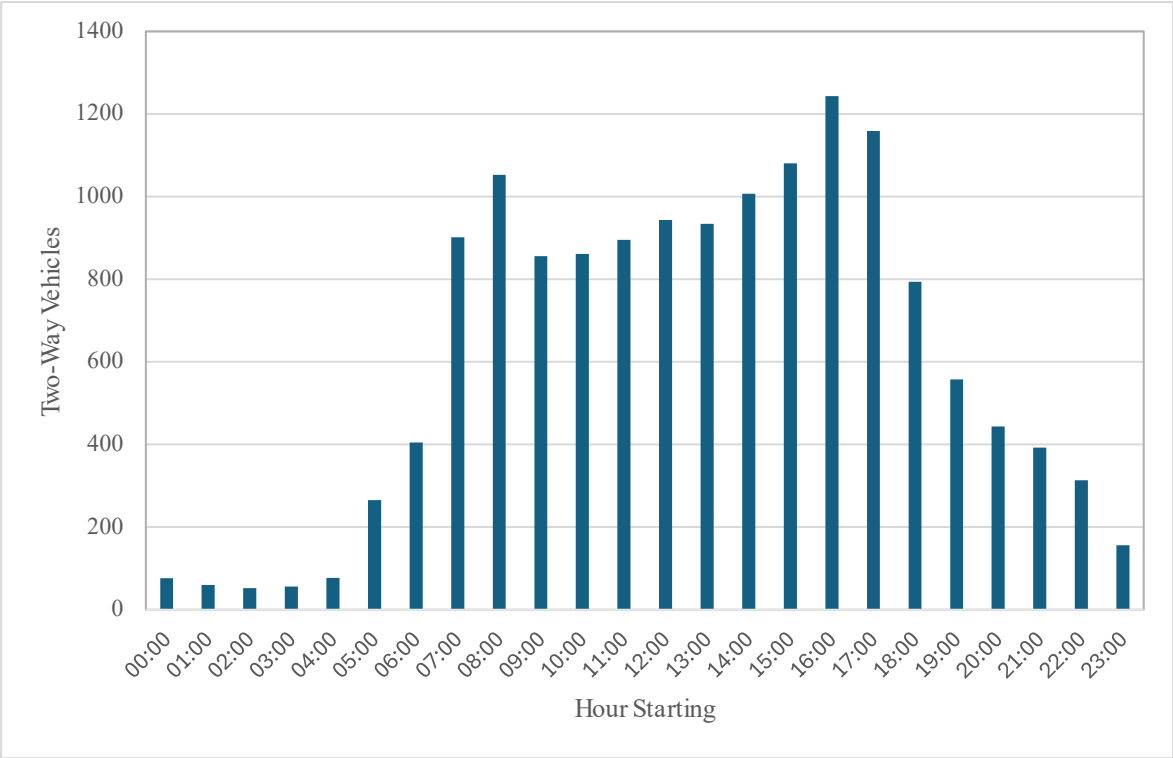

Plate 10A.4: A18 Station Road (to the west of King George V Bridge) Average Weekday Profile

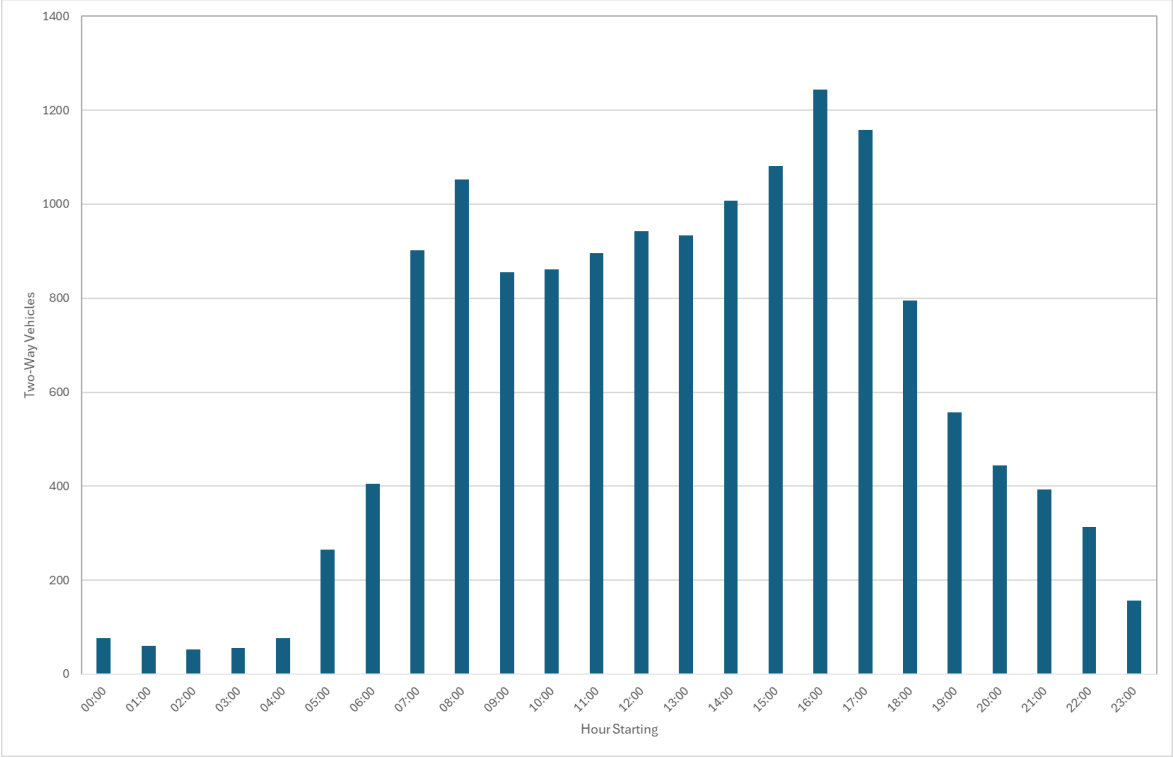

Plate 10A.5: A18 High Levels Bank (east of Tudworth Roundabout) Average Weekday Profile

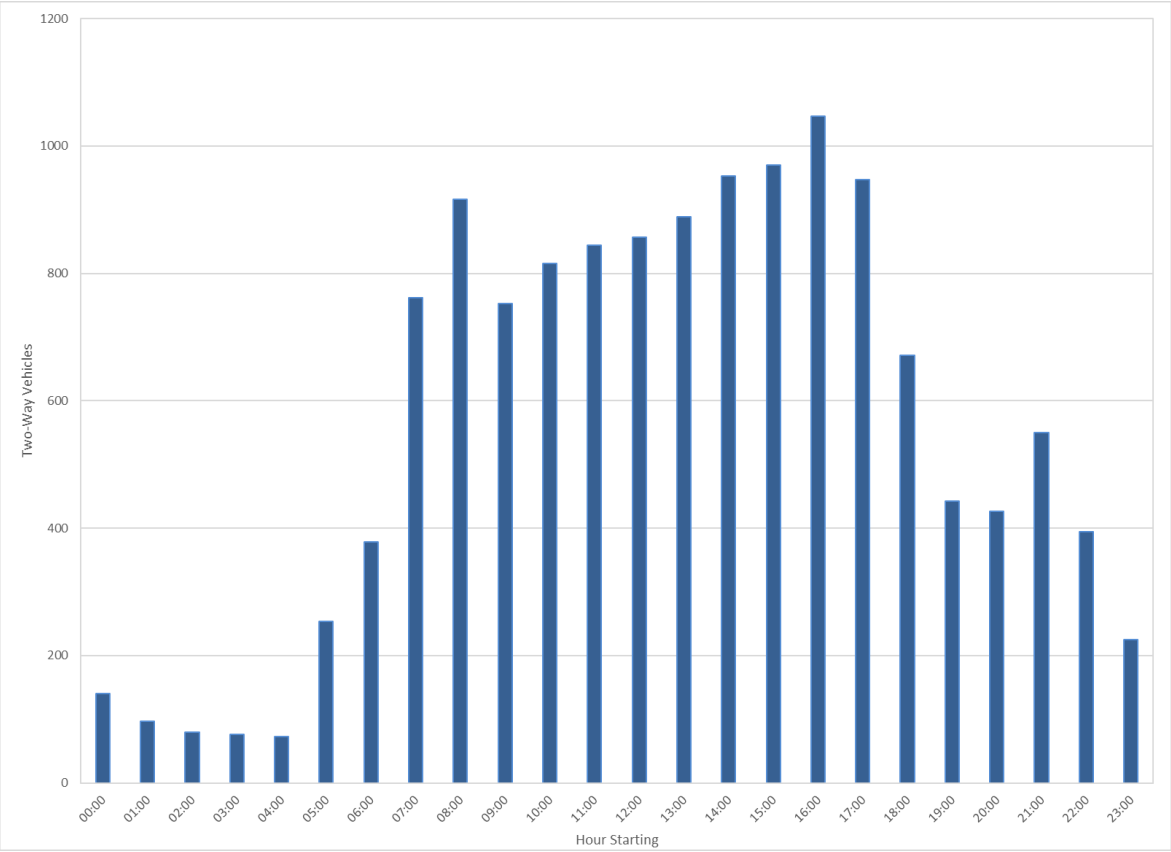

Plate 10A.6: A18 Doncaster Road (between Station Road and Frodingham Grange Roundabout) Weekday Profile

10A.4 Personal Injury Accident Data

10A.4.1 Personal Injury Accident (PIA) Data has been taken into consideration in line with current Department for Transport (DfT) guidance, which requires analysis of any road traffic incidents that have occurred within the most recent five-year period for which data is available. The range analysed in this case is 2019 to 2023 inclusive, with data sourced from Crashmap (www.crashmap.co.uk). However, as data for 2020-2021 will not be representative of the typical road safety situation abnormal traffic flow

during the Covid-19 pandemic, data for these years has been excluded and data from 2017 and 2018 considered instead.

10A.4.2 A road collision is classified as one that involved personal injury and took place on the public highway. In summary 'road collisions' include the following:

- collisions which commence on the highway, but which involve casualties off the highway;
- collisions involving the boarding and alighting of buses or coaches and accidents in which passengers already aboard a bus/ coach are injured, whether or not another vehicle or pedestrian is involved;
- collisions with pedal cyclists or horse riders, where they injure themselves or another road user. Only accidents occurring on the public highway are included. The public highway usually includes the adjacent footway; and
- some local authorities and organisations refer to road collisions as road accidents or road crashes.

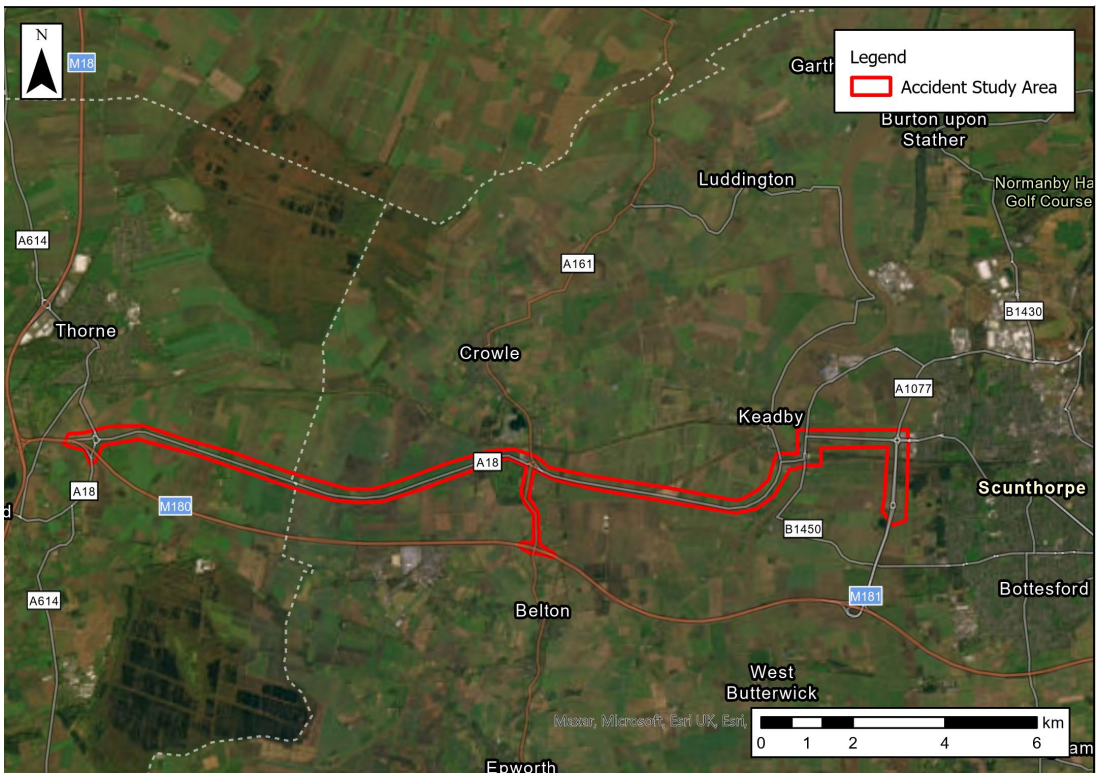

Plate 10A.7: PIA Study Area

10A.4.3 There have been a total of 88 collisions within the analysed data for the study period which covers a distance of approximately 14 miles and data

from 2017-2019 and 2022-2023. Of these, the majority (72) were recorded as 'slight' in severity, with 21 recorded as 'serious' and two as 'fatal' collisions. The year-on-year trend for overall PIA occurrence is also relatively consistent. **Table 10A.2** provides an overall summary by year of the accidents that have occurred within this period

Table 10A.2: Summary of Recorded Accidents (2017-2019, 2022-2023)

Year	Severity			Total
	Slight	Serious	Fatal	
2017	14	3	0	17
2018	13	8	0	21
2019	6	5	0	11
2022	16	4	2	22
2023	9	3	0	12
Total	58	23	2	83

10A.4.4 **Table 10A.3** provides an overall summary of the accidents by location/junction that have occurred within this period.

Table 10A.3: Summary of Recorded Accidents by Location (2017-2019, 2022-2023)

Location	Accident Severity				
	Slight	Serious	Fatal	Total	HGV Involved
Frodingham Grange Roundabout	20	7	0	27	7
A18 (between Tudworth Roundabout & A18 / A161 Junction)	5	7	0	12	5
A18 (between A18 / B1392	3	1	0	4	3

Location	Accident Severity				
	Slight	Serious	Fatal	Total	HGV Involved
and Frodingham Grange Roundabout)					
Tudworth Roundabout	5	2	0	7	3
A18 / A161 Junction	6	0	1	7	2
M180 Junction 2 (including slip roads)	6	2	0	8	0
A18 (between A18 / A161 and A18 / B1392)	3	0	0	3	1
M180 Junction 1 (including slip roads)	1	0	0	1	1
A18 / B1216 Junction	7	1	0	8	2
A161 (between M180 Junction 2 and A18)	6	2	0	8	5
M181/ A1077(M) Roundabout	2	0	1	3	0

10A.4.5 No accidents were recorded at the A18/ construction site access junction within the analysed period.

10A.4.6 There were five accidents that occurred within the study area over the five year study period that involved a pedal cyclist. Four were of slight severity and three of serious severity. Of the four slight severity accidents, one

occurred at the A18/ A161 junction in 2017 and involved a rear-end shunt between a car and cyclist. It should be noted that improvements to the junction were undertaken in 2019 comprising junction priority changes. Of the remaining slight severity accidents, one occurred on the A18 south of the B1392 in 2018 and involved a car passing a cyclist on its offside, though there was no impact. One occurred on the A18 Station Road south of the B1216 in 2017 and involved a car turning left and colliding with a cyclist and one occurred at the A18/ B1216 junction in 2018 involving a car turning right at the junction and colliding with a pedal cyclist. The serious accident occurred on the A18 Doncaster Road in 2016 and involved a car rear-ending a cyclist. The other accident occurred at the Frodingham Grange Roundabout in 2018 and involved a cyclist rear-ending a car that was waiting to proceed.

10A.4.7 There was one accident that occurred within the study area over the five year study period involving a pedestrian. The accident, which was of serious severity, occurred in 2017 at the Frodingham Grange Roundabout and involved a pedestrian crossing the carriageway and colliding with a car.

10A.4.8 In summary, the cause of the majority of accidents within the study area was driver error due to lack of awareness or loss of control as opposed to any deficiencies on the road links or design of the junctions.

10A.5 Proposed Development

Introduction

10A.5.1 The Proposed Development would comprise a high-efficiency combined cycle gas turbine (CCGT) electricity generating station with a capacity of up to 910MWe and associated buildings, structures and plant and other associated development defined in the Schedule 1 of the **Draft DCO** (**Application Document Ref. 3.1**) as Work No. 1-11 and shown on the **Works Plans** (**Application Document Ref. 2.3).**

10A.5.2 Access to the Site during both construction and operation will be via the existing perpendicular bridge (Mabey Bridge) and skew bridge construction access points off the A18, built for construction vehicles during construction of Keadby Wind Farm. No construction traffic will use the B1392 through Keadby.

10A.5.3 The Applicant would appoint one or more EPC contractors for the construction of the Proposed Development. An initial enabling works phase, including the replacement of Mabey Bridge and construction of the emergency access crossing, would be undertaken over a circa 9-month

period. Construction activities for the main works phase would then follow and are expected to be completed within approximately three years, followed by commissioning.

10A.5.4 It is currently anticipated that (subject to the necessary consents being granted and an investment decision being made), the earliest date that construction work would commence is around 2027 lasting 48 months (comprising nine months for Enabling Works and a 42 month main construction build). For the purposes of assessment, the latest construction start date of Q4 2034 has been considered for the main works phase, which it is anticipated would be preceded by an Early Preparation Works phase which include the Mabey Bridge replacement (Q1-Q3 2034). This provides a 'realistic' worst-case scenario for traffic assessment purposes.

10A.5.5 Core construction working hours for the Proposed Development would be 07:00 to 19:00 Monday to Friday (except bank holidays) and 08:00 to 13:00 on Saturday. However, it is likely that some construction activities may need to be undertaken outside of these core working hours.

10A.5.6 Where on-site works are to be conducted outside the core hours, they would comply with any restrictions agreed with the local planning authority, in particular regarding control of noise and traffic in accordance with the relevant requirements which would be secured by the **Draft DCO** (**Application Document Ref. 3.1**). Any such works will be minimised and will be carefully managed to reduce effects on local people.

10A.5.7 HGV deliveries would not be undertaken outside of core working hours, unless agreed with the local planning authority on a case by case basis.

10A.5.8 As with the construction of Keadby 2 Power Station, a Temporary Traffic Regulation Order (TTRO) is likely to be proposed by the appointed contractor(s) to reduce speed on the A18 in the vicinity of the Proposed Development access from the A18 during the construction phase. It is proposed that this will be secured at the appropriate time, prior to construction works, with North Lincolnshire Council as highway authority. No further works to the A18 are proposed at this stage.

10A.5.9 To facilitate construction of intake structure, it is proposed to use a temporary cofferdam projecting 10m from the north bank of the Stainforth and Keadby Canal with an additional 10m temporary working area beyond this (total area of 20m), which will reduce the navigable space by 10m to

20m. This reduction in width has been confirmed to be acceptable by the Canal and River Trust.

Car parking

10A.5.10 Operational car parking will be provided as part of the Proposed Development, once completed. This is anticipated to comprise:

- 68 standard car parking spaces, including six accessible parking spaces. Some of these spaces will be equipped with EV charging points, the exact number will be determined at the detailed design stage in consultation with SSE;
- 10 car parking spaces in the visitor parking area. This is anticipated to include four accessible parking spaces adjacent to the gate house. One car parking space (10% of the total) in this area will have an EV charging point; and
- An additional overflow car parking area comprising approximately 20 spaces, to be used during infrequent periods where there will be increased usage of the site (e.g. during outages).

10A.5.11 Cycle parking will be provided to operational employees. The exact quantum of cycle parking and its location will be developed at the detailed design stage.

10A.5.12 Parking will also be provided to accommodate construction workers during the construction programme. The level of parking provided will vary depending on the size of the construction workforces at the various points of the programme, taking into account the likely car occupancy and use of minibuses as discussed in Paragraph 10A.5.15. All car parking would be accommodated within construction site.

Construction Traffic Generation

10A.5.13 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.

10A.5.14 The estimated profile of workforce over the construction period for the Proposed Development is shown in **Table 10A.4** 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 10A.4: Profile of daily workforce throughout construction

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

Month of Construction	Daily workforce in the month
20	1,002
21	1,002
22	1,002
23	1,026
24	1,026
25	1,026
26	1,050
27	1,050
28	1,002
29	1,002
30	1,002
31	985
32	985
33	985
34	985
35	985
36	985
37	985
38	985
39	654
40	436
41	218
42	121

10A.5.15 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 2 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.

10A.5.16 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 10A.5**. 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. **Plate10A.8** shows the profile of construction workforce trips generation across the full construction programme.

Table 10A.5: 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

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
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
14	436	174	12	372
15	654	262	19	562
16	788	315	23	676
17	872	349	25	748
18	961	384	27	822
19	1,002	401	29	860
20	1,002	401	29	860
21	1,002	401	29	860
22	1,002	401	29	860
23	1,026	410	29	878
24	1,026	410	29	878
25	1,026	410	29	878
26	1,050	420	30	900
27	1,050	420	30	900
28	1,002	401	29	860
29	1,002	401	29	860

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
30	1,002	401	29	860
31	985	394	28	844
32	985	394	28	844
33	985	394	28	844
34	985	394	28	844
35	985	394	28	844
36	985	394	28	844
37	985	394	28	844
38	985	394	28	844
39	654	262	19	562
40	436	174	12	372
41	218	87	6	186
42	121	48	3	102

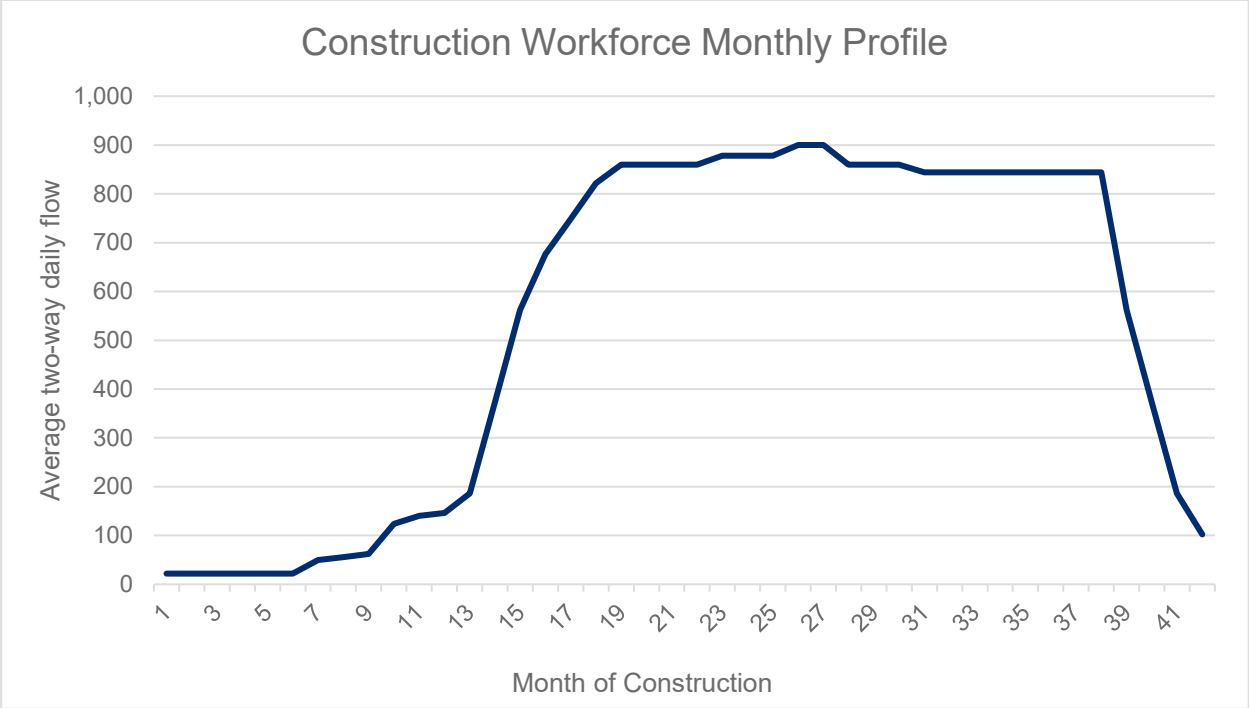

Plate10A.8: Average daily two-way construction workforce vehicle flow

10A.5.17 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 10A.6** and in **Plate 10A.9**.

Table 10A.6: Profile of daily (two-way) HGV movements throughout construction

Month of Construction	Daily HGV movements in the month
1	10
2	10

Month of Construction	Daily HGV movements in the month
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
21	60
22	60
23	60
24	120

Month of Construction	Daily HGV movements in the month
25	120
26	120
27	120
28	120
29	120
30	120
31	120
32	120
33	120
34	120
35	120
36	60
37	60
38	60
39	60
40	60
41	60
42	60

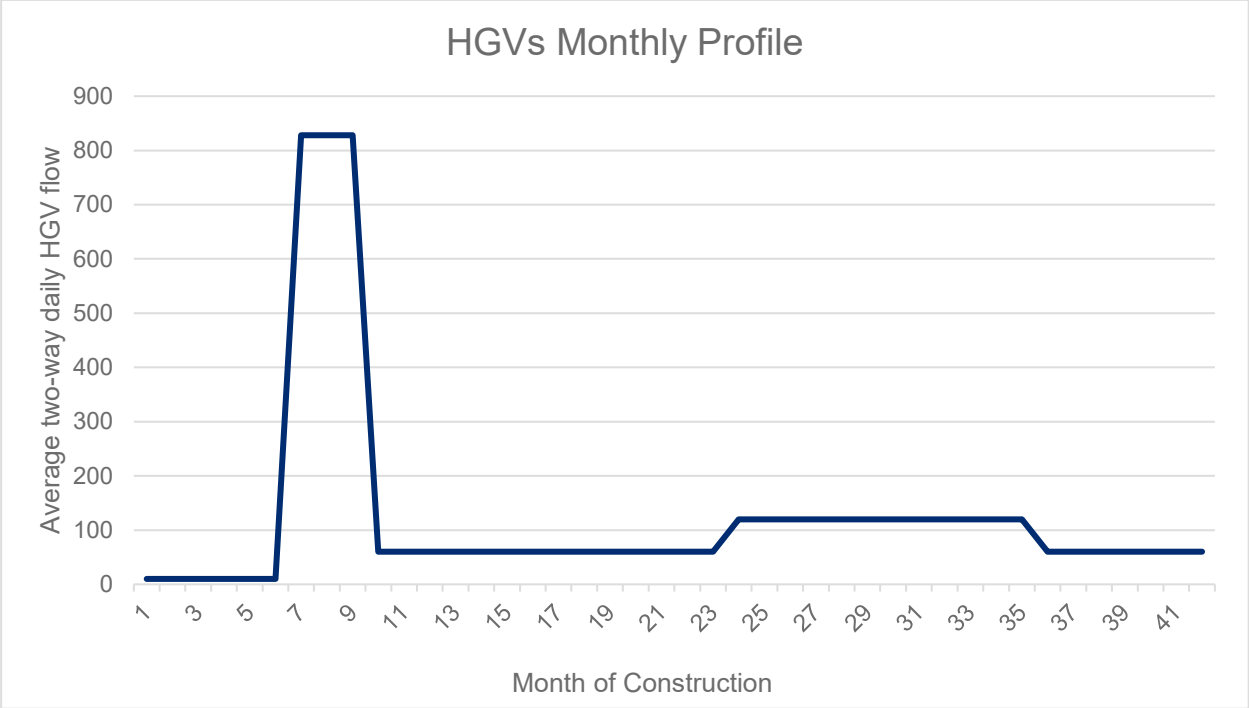

Plate 10A.9: Average daily two-way construction HGV flow

10A.5.18 The total construction traffic generation (workforce and HGVs) is shown in **Table 10A.7** and **Plate 10A.10.**

Table 10A.7: Profile of total daily (two-way) vehicle movements throughout construction

Month of Construction	Daily HGV movements in the month
1	32
2	32
3	32
4	32
5	32
6	32
7	878
8	884

Month of Construction	Daily HGV movements in the month
9	890
10	184
11	200
12	206
13	246
14	432
15	622
16	736
17	808
18	882
19	920
20	920
21	920
22	920
23	938
24	998
25	998
26	1,020
27	1,020
28	980
29	980
30	980

Month of Construction	Daily HGV movements in the month
31	964
32	964
33	964
34	964
35	964
36	904
37	904
38	904
39	622
40	432
41	246
42	162

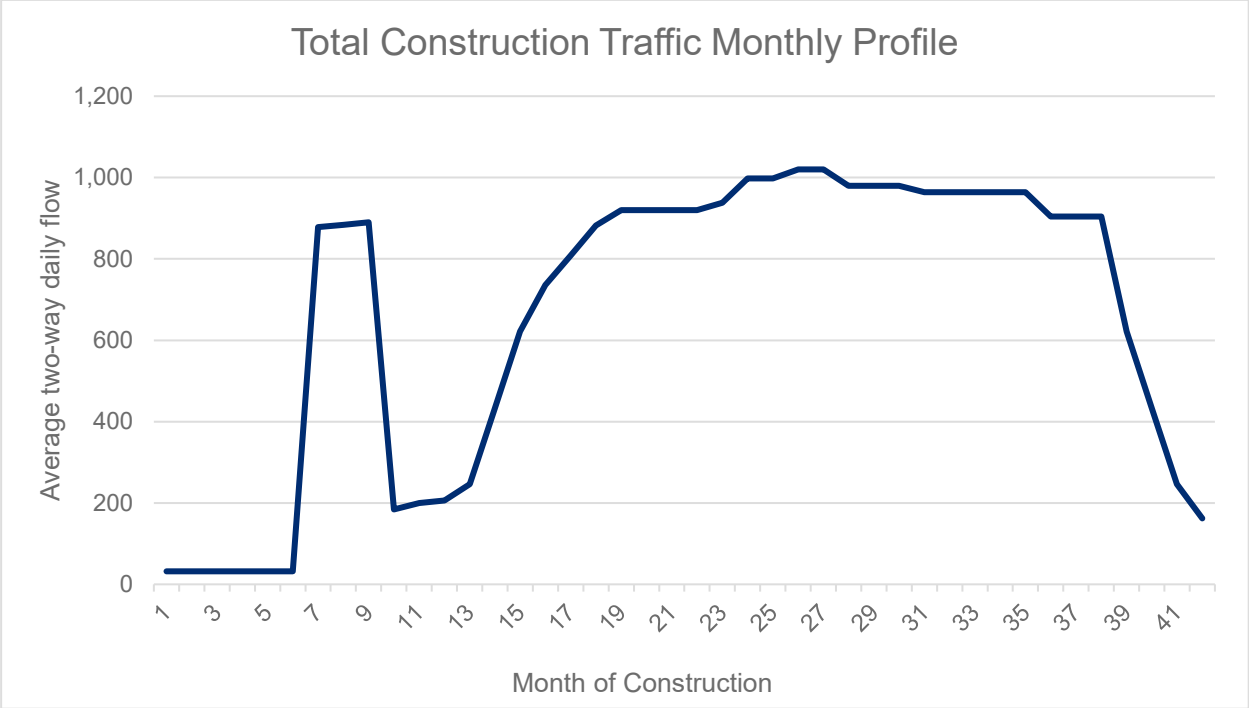

Plate 10A.10: Average daily two-way total construction traffic flow (workforce and HGVs)

Daily vehicle profile during the Peak Month

10A.5.19 Working hours on major construction sites tend to be long due to pressures of timescales and available light. Therefore, the arrival and departure of workers' vehicles tends to be spread over the peak periods, rather than all falling in the traditional network peak hours for a number of reasons as follows:

- To avoid congestion and delay; and
- To deliver the project in a compressed programme.

10A.5.20 Core construction working hours will be 07:00 to 19:00 Monday to Friday and 08:00 – 13:00 on Saturday. **Table 10A.8** sets out the percentage of daily inbound and outbound trips on an hour-by-hour basis and calculates total vehicles for the peak month of construction (Month 26 – 27) The arrival and departure profile is based on the profile used for Eggborough CCGT Power Station which gained DCO consent in September 2018 and

West Burton C Power Station which gained DCO consent in October 2020.

Table 10A.8: Daily vehicle (construction worker) profile during peak month of construction

Hour beginning	% of Daily Inbound	% of Daily Outbound	Arrivals	Departure
06:00	30%	0%	135	0
07:00	55%	0%	248	0
08:00	10%	0%	45	0
09:00	5%	0%	23	0
16:00	0%	10%	0	45
17:00	0%	15%	0	68
18:00	0%	70%	0	315
19:00	0%	5%	0	23

10A.5.21 The daily profile of HGV movement at the peak of construction is based on experience from other power station construction sites, with arrival and departure of HGV likely to be spread evenly over the day between 07:00 and 19:00 hours. At the peak of construction (i.e. the point in the programme with the highest combined HGV and construction work traffic generation), it is expected that there would be up to 120 two-way HGV

movements per day (60 in and 60 out) which equates to circa 5 inbound and 5 outbound HGV movements per hour.

10A.5.22 **Table 10A.9** summarises the expected profile of construction phase peak traffic levels.

Table 10A.9: Daily Construction Vehicle Profile (Peak Month of Construction)

Hour Beginning	Construction Worker Vehicles (Plant)		Construction HGVs	
	Arrival	Departure	Arrival	Departure
06:00	135	0	0	0
07:00	248	0	5	5
08:00	45	0	5	5
09:00	23	0	5	5
10:00	0	0	5	5
11:00	0	0	5	5
12:00	0	0	5	5
13:00	0	0	5	5
14:00	0	0	5	5
15:00	0	0	5	5
16:00	0	45	5	5
17:00	0	68	5	5
18:00	0	315	5	5
19:00	0	23	0	0
Total	**451**	**451**	**60**	**60**

Abnormal Indivisible Loads

10A.5.23 A number of AIL movements are expected during the construction programme. The exact number and size/ weight is not known at this stage and is based on specific construction methodologies and will be confirmed post consent. However, it is expected that the proposed construction methodology will favour modularisation with pre-assembly off-site supplemented by on-site construction.

10A.5.24 In order to provide an indicative estimated number of AIL movements to the Waterborne Transport Offloading Area (Railway Wharf), data from the construction of Keadby 2 Power Station has been reviewed. It is anticipated 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, twenty-five AIL shipments arrived at Railway Wharf (SSE, 2020) for Keadby 2 Power Station. On this basis, it is estimated that around 35-40 AIL movements could be required at Railway Wharf.

10A.5.25 The Highways England document 'Water preferred policy guidelines for the movement of abnormal indivisible loads' (Highways England, 2016), states that it is government policy to avoid road transport as far as possible by using alternative modes, such as water.

10A.5.26 It is anticipated that delivery of AIL to the Site will use the same routes as those used for the delivery of AIL associated with the construction of Keadby 2 Power Station. It is expected that the largest abnormal loads will be received at the Port of Immingham and transported down the River Trent by boat to the Waterborne Transport Off-loading Area (Railway Wharf), which is included within the Site boundary for the Application and shown on **ES Volume III Figure 3.3:** Indicative Parts of Site Plan (**Application Document Ref. 6.4**). 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 (see **Plate 10A.8**) ('Additional AIL Route') and via Keadby Power Station. Traffic management in the form of Stop/Go signs will be required to halt traffic along the B1392 in order to allow the abnormal loads to cross the B1392. 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 either the perpendicular construction access off the A18 and then North Pilfrey Bridge (see **Plate 10A.9**). Both routes are included within the indicative Site Boundary for the Application.

10A.5.27 AIL could also utilise the route from Ealand village via the A161, New Trent Road and Bonnyhale Road (see **Plate 10A.10**) which had consent for up to 10 AIL to be brought through the village during construction of

Keadby 2 Power Station. This route could also be used by mobile cranes accessing the site, if the crane weight exceeds the weight bridges along the access from the A18 can carry. As this is already an established route and no works are required for the purposes of the Proposed Development, this route is not included within the indicative order limits for the Application.

10A.5.28 The perpendicular and skewed access points, which form separate bridges to the north of the A18 both (one of which is the Mabey Bridge over Hatfield Waste Drain), have historically been used for transporting wind turbines and components to Keadby Wind Farm and were used for the delivery of construction materials and small abnormal loads associated with the construction of Keadby 2 Power Station.

10A.5.29 The load bearing capacity of the bridge using the skewed access from the A18 that would be used during construction would allow for a SV80 Vehicle (max gross weight 80 tonnes with a maximum basic axle load of 12.5 tonnes). This will only be used during the replacement of the Mabey bridge.

10A.5.30 The load bearing capacity of the existing Mabey Bridge will permit the following vehicle to use it:

- 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); and
- SV100 Vehicle (max gross weight of 100 tonnes with a maximum basic axle load of 16.5 tonnes).

10A.5.31 Mabey Bridge is proposed to be replaced for the Proposed Development in order to provide long term access to the Site, with a load bearing capacity matching North Pilfrey Bridge (see below). Plans and sections of the proposed replacement Mabey Bridge are provided as **Application Document Ref. 2.14.**

10A.5.32 North Pilfrey Bridge crosses the Stainforth and Keadby Canal and the Scunthorpe to Doncaster passenger rail line. The bridge was constructed in 2012 and has historically been used for transporting wind turbine components to Keadby Windfarm and is currently used for the delivery of construction materials and small abnormal loads associated with the

construction of Keadby 2 Power Station. The load bearing capacity of the bridge would permit the following vehicles to use it:

- 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).

10A.5.33 All three AIL routes are therefore already established and proven route options and are considered suitable for the transportation purposes required.

Plate 10A.11: AIL Route from Railway Wharf (Waterborne Transport Offloading Area), Keadby

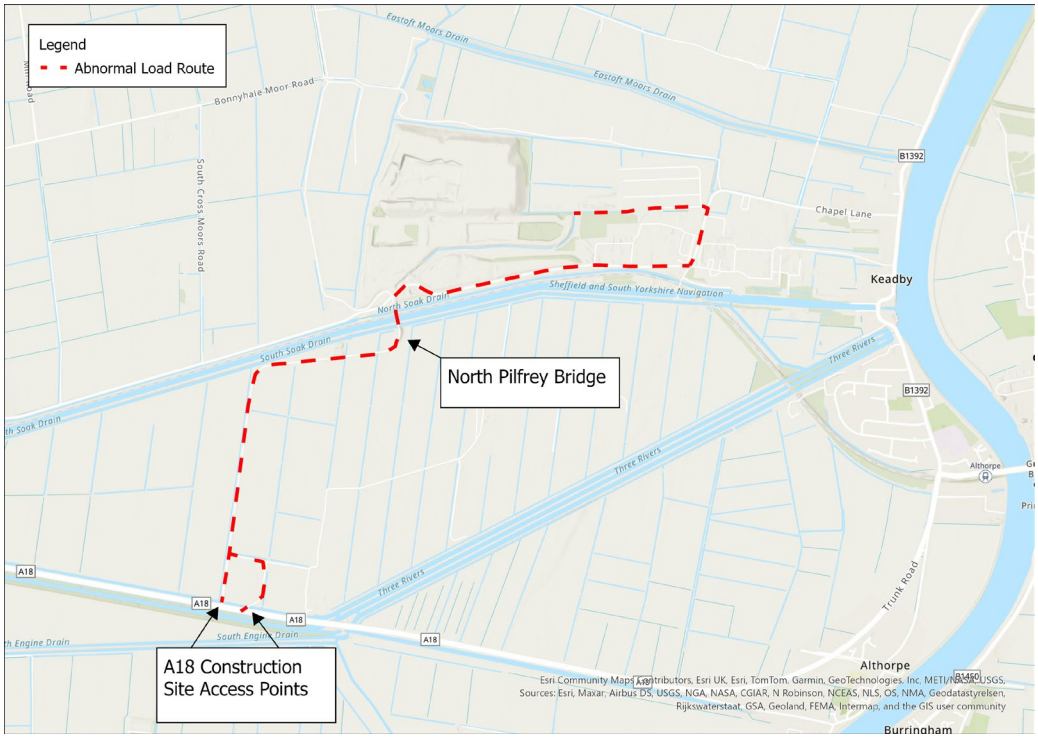

Plate 10A.12: AIL Route from A18 Proposed Development Site access

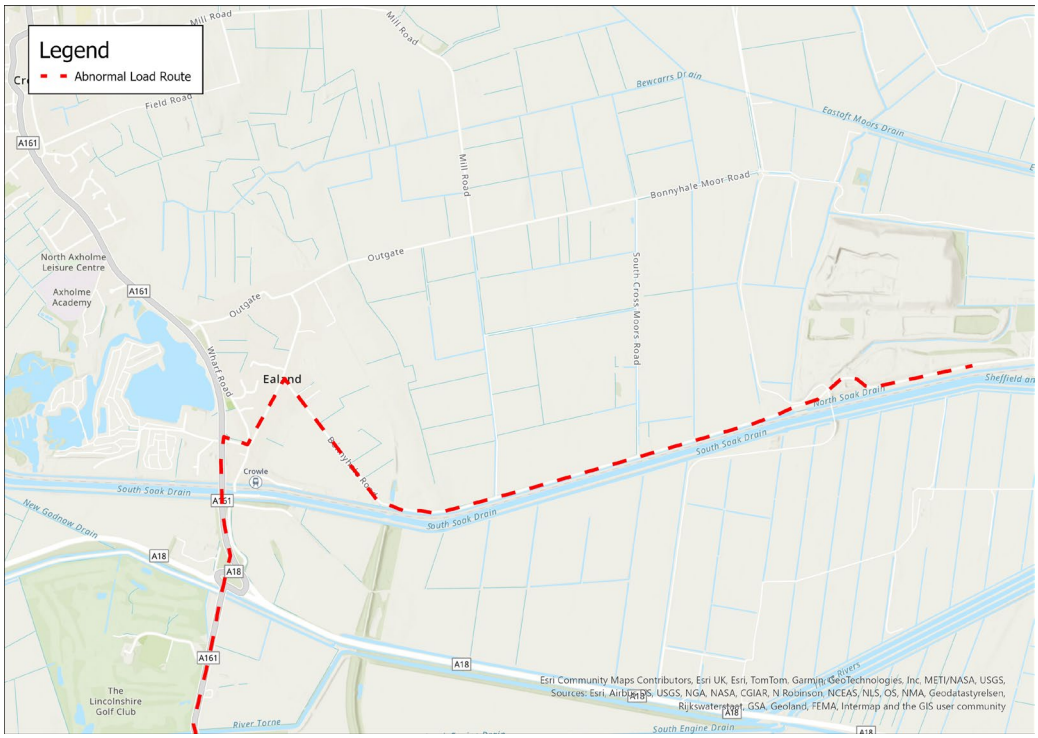

Plate 10A.13: Alternative proposed access route for certain abnormal loads (avoiding North Pilfrey Bridge)

Operational Traffic

10A.5.34 During the operational phase of the Proposed Development, up to circa 50 full-time permanent operational roles would be created. It is anticipated that staff would work a similar shift pattern to existing Keadby Power Station staff, likely working a two shift system 07:00 – 19:00 and 19:00 – 07:00. Administrative staff are anticipated to work an office-hour pattern between 08:30 and 18:00.

10A.5.35 There would also be additional HGV traffic of 15 HGVs per week generated by deliveries associated with day-to-day operations and maintenance of plant/ equipment. **Table 10A.10** summarises the expected profile of operational phase traffic levels.

Table 10A.10: Daily Operational Vehicle Profile

Hour Beginning	Operational Worker Vehicles		Operational HGV	
	Arrival	Departure	Arrival	Departure
06:00	12	0	3	0
07:00	13	0	4	0
08:00	13	0	4	0
09:00	12	0	4	0
10:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
13:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	12	0	3
17:00	0	13	0	4
18:00	0	13	0	4
19:00	0	12	0	4
Total	**50**	**50**	**15**	**15**

10A.5.36 Routine maintenance will be planned and scheduled via the maintenance management system with major overhauls occurring approximately once every two to five years, depending on the nature of plant operations in that period. These maintenance activities will require additional contractors to work on-site. The contractors will access the Site via the main entrance. During an outage, it could be expected that an additional 200 staff could

be on-site on any one day. Therefore, it is considered that the effects of operational traffic would be negligible and a detailed assessment of the operational phase of the development has not been undertaken within the Transport Assessment.

10A.5.37 Access to the Site, once operational, will be via the A18 access and crossing North Pilfrey Bridge. No access to the Site would be available off the B1392.

10A.5.38 Proposals for emergency vehicle access are described in **ES Volume I Chapter 4**: The Proposed Development (**Application Document Ref. 6.2**) and include:

- a northern emergency exit (both pedestrian and vehicular). A new private bridge crossing will be installed across the existing Drain 1 (Glew Drain) to allow for emergency vehicle access (single track, circa 3.5m wide) and will connect to Chapel Lane. Plans and sections of the proposed bridge are presented in **Application Document 2.15.** The emergency access will be gated, and under normal operation this gate will be closed and unmanned;
- The Main Site includes a main car park including muster point in the event of an emergency, a manned gatehouse and a control building which would be designed as a place of safety in the event of an emergency;
- an eastern emergency exit (pedestrian only). This is located adjacent to the northern perimeter fence and existing 400kV National Grid Substation; and
- the southerly route main access (pedestrian and two lane vehicular). This main access to the Main Site that would also be available for emergency purposes.

10A.5.39 The location of these access points is illustrated on **ES Volume III Figure 3.3**: Indicative Parts of the Site Plan (**Application Document Ref. 6.4**).

Decommissioning

10A.5.40 The activities involved in the decommissioning process for the Proposed Development are not yet known in detail, as it would have a design life of 25 years. At the end of operation, it is expected that the Proposed Development will have some residual life remaining, and an investment decision would then be made based on the market conditions prevailing at that time. If the operating life were to be extended, the Proposed Development would be upgraded in line with the legislative requirements

at that time. On this basis, decommissioning activities are currently anticipated to commence after 2058.

10A.5.41 There is expected to be some traffic movements associated with the removal (and recycling, as appropriate) of material arising from demolition and potentially the import of materials for land restoration and re-instatement. However, vehicle numbers are not expected to be any higher than those experienced during the construction period.

10A.6 Identification of Peak Hour for Assessment

10A.6.1 In order to identify the relevant time period for assessment, it is necessary to combine base plus committed development flows with Proposed Development flows to determine which hour in the peak periods display the highest combined flows. An overall network peak hour has been selected for the AM and PM Peaks using traffic data obtained from the two link counts on the A18 and the link count on the A161. This analysis as to how the peak hour has been selected is set out in **Table 10A.11** to **10A.13**.

Table 10A.11: Identification of peak hours for assessment: A18 (west of Proposed Development access/ Keadby 2 construction site entrance)

Hour Beginning	2036 Baseline	Development Traffic	Average weekday total two-way traffic
06:00	344	95	439
07:00	**798**	**184**	**982**
08:00	808	42	849
09:00	619	26	645
16:00	924	42	966
17:00	891	57	949
18:00	548	231	780
19:00	365	16	381

Table 10A.12: Identification of peak hours for assessment: A161 (between M180 Junction 2 and the A18)

Hour Beginning	2036 Baseline	Development Traffic	Average weekday total two-way traffic
06:00	291	75	367

Hour Beginning	2036 Baseline	Development Traffic	Average weekday total two-way traffic
07:00	**543**	**148**	**692**
08:00	583	35	618
09:00	456	23	479
16:00	**924**	**35**	**959**
17:00	891	48	939
18:00	548	186	734
19:00	365	13	378

Table 10A.13: A18 Station Road (immediately to the west of King George V Bridge)

Hour Beginning	2036 Baseline	Development Traffic	Average weekday total two-way traffic
06:00	443	40	483
07:00	**987**	**84**	**1,070**
08:00	1,152	23	1,175
09:00	936	17	953
16:00	**1,358**	**23**	**1,381**
17:00	1,265	30	1,295
18:00	868	104	971
19:00	609	7	615

10A.6.2 The tables above show that the AM Peak hour has been identified as 07:00 – 08:00 and the PM Peak hour as 16:00 – 17:00. The same peak hours will be assumed for the operational assessment.

10A.7 Distribution and Assignment

Construction Trip Distribution

10A.7.1 The distribution of workforce traffic to the network has been based on a gravity model and the populations of towns and cities within a 45 minute drive time of the Site.

10A.7.2 **Table 10A.14** shows the workforce distribution and the number of workers this equates to at the peak month of construction (Months 26 - 27). This is illustrated in **Plate 10A.14.**

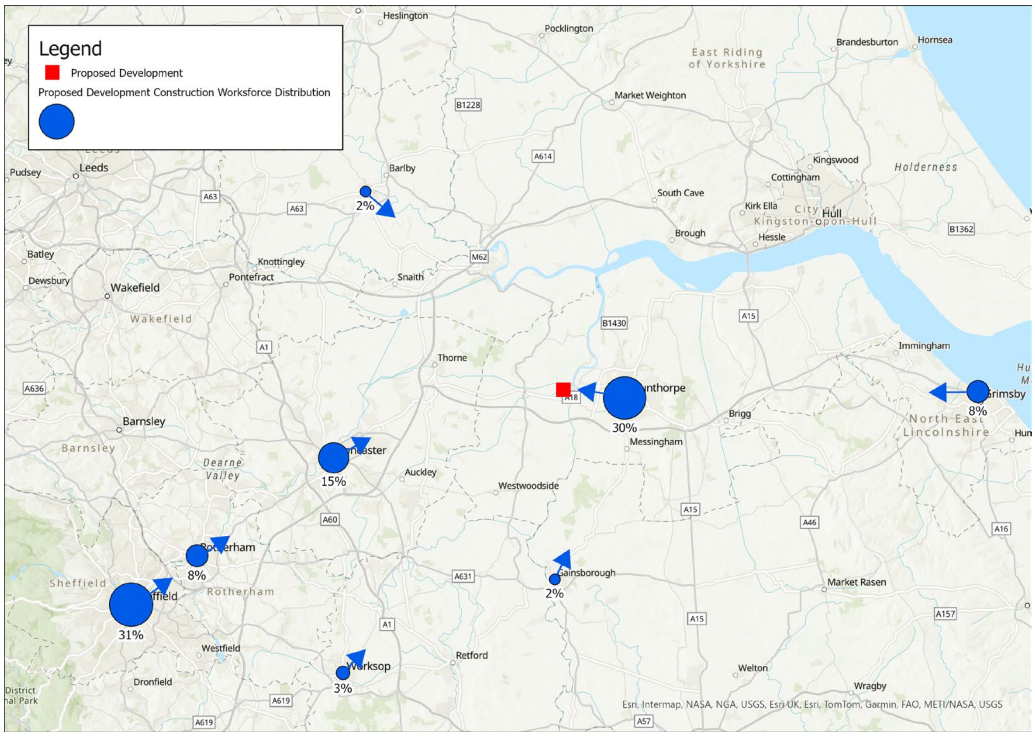

Plate 10A.14: Proposed Development Construction Workforce Distribution

Table 10A.14: Proposed Development Construction Workforce Distribution

Location	Population (2021 Census)	Distance to centre of location (miles)	Weighting Factor (1/distance)	Population by Weighting Factor	Percentage Distribution	Number of Workers (Peak Month of Construction, daily two way)
Sheffield	556,500	39	0.0256	14,269	31%	282
Doncaster	160,220	23	0.0435	6,966	15%	137
Grimsby	137,021	36	0.0278	3,806	8%	75
Rotherham	129,897	35	0.0286	3,711	8%	73
Scunthorpe	81,286	6	0.1667	13,548	30%	267
Worksop	45,118	35	0.0286	1,289	3%	25
Selby	27,898	30	0.0333	930	2%	18
Gainsborough	22,913	21	0.0476	1,091	2%	22

Construction Trip Assignment

10A.7.3 All construction worker vehicles associated with the construction of the Proposed Development would access the Site via the proposed main site access located on the A18.

10A.7.4 Five key routes have been identified in the vicinity of the Site that are most likely to be taken by construction workers travelling to and from the Site. These are shown in Annex A of this report and are as follows:

- Route 1: From the west via M180 Junction 2 turning left onto the A161 then right onto the A18;
- Route 2: From the west via M180 Jct 1, Tudworth Roundabout and continuing straight on A18;
- Route 3: From the south via A161 passing over the M180 then turning right onto the A18;
- Route 4: From the east via Frodingham Grange Roundabout and continuing straight on the A18; and
- Route 5: From the east via M180 Jct 2 turning right onto the A161 then right onto the A18.

10A.7.5 The assignment of the Proposed Development construction workforce to the network is shown in Annex B and is summarised in **Table 10A.15**.

Table 10A.15: Catchment area and route assignment for Proposed Development construction workforce

Route	Catchment Area	% of Catchment Area
Route 1: From the west via M180 Junction 2, A161, A18, site access	Sheffield Rotherham Doncaster Worksop Selby	45.2%
Route 2: From the west via M180 Junction 1, A18, site access	Sheffield Rotherham Doncaster Worksop	14.4%
Route 3: From the south via A161, A18, site access	Gainsborough	2.4%
Route 4: From the east via A18, site access	Scunthorpe	29.7%

Route	Catchment Area	% of Catchment Area
Route 5: From the east via M180 Junction 2, A161, A18, site access	Grimsby	8.3%

10A.7.6 All HGV construction traffic will arrive to and depart via 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 travel to/from the west and 20% would travel to/from the east. The routing of HGV between the construction site and the M180 will be controlled through the implementation of a HGV routing plan included as a measure within the Construction Traffic Management Plan (CTMP) which will be prepared by the appointed contractor. An **Outline CTMP** has been prepared to accompany the DCO Application (**Application Document Ref. 7.5**) the preparation of the final CTMP in accordance with the Outline CTMP, will be secured by a requirement of the **Draft DCO** (**Application Document Ref. 3.1**).

10A.7.7 The total construction vehicle trip generation for the AM and PM peak periods (06:00 – 10:00 and 16:00 – 20:00) associated with the construction of the Proposed Development during the peak month (Months 26-27) are provided in Section 10A.4.

Operational Trip Distribution and Assignment

10A.7.8 For the operational assessment, the route used by operational workers are not known at this stage. As such, it has been assumed conservatively all workers' route choice would simultaneously add trips to all the assessed road links. The HGVs will use the same routes that construction HGVs used. It is also assumed the 15 HGVs per week will access the site on the same day to provide a busiest case scenario.

10A.8 Growth Factors and Future Baseline

Growth Factors

10A.8.1 For the purposes of this assessment, the anticipated peak traffic generation during the construction period would occur in Q3 2036 on the basis the worst-case for traffic assessment purposes i.e. that construction

of the Proposed Development begins in Q2 2034.The assessment year for this TA, where the traffic impact would be greatest, is therefore 2036.

10A.8.2 Traffic growth factors for the area in which the Proposed Development is located and adjacent areas (which are immediately adjacent or areas within in which traffic will travel) have been obtained from TEMPRO Version 8 software. The areas considered include:

- MSOA 006 within North Lincolnshire District - this is the area within which the Proposed Development Site is located;
- MSOA 005 within the North Lincolnshire District – this area is immediately east of the River Trent and Keadby, and contains the A18 to the Frodingham Grange roundabout and the M181 to Junction 3 of the M180;
- MSOA 020 within the North Lincolnshire District – this area includes the A161 and Junction 2 of the M180; and
- MSOAs 001 and 008 within the Doncaster District – these areas are on the northern and southern boundaries of the A18 om the approach to the M18.

10A.8.3 The use of TEMPRO software is generally recognised as the industry standard tool for determining traffic growth factors to apply to base flows in order to estimate future year traffic flows.

10A.8.4 The TEMPRO software provides a local adjustment to the National Trip End Model to provide localised growth factors for geographical areas.

10A.8.5 The local growth factors for AM and PM to be applied to the Base Flows based on an A-road are shown in **Table 10A.16**. An average growth factor has been derived based on the geographical areas outlined in Paragraph 10A.8.2. Growth factors for a base year of 2022 and 2024 have been derived to reflect the base year of the data being used to inform the assessment.

Table 10A.16: Growth Factors applied to Baseline Traffic Flows (for A-Roads)

Year (from – to)	AM Peak	PM Peak	Daily (average day)
2022-2036	1.1014	1.0990	1.1012
2024-2036	1.0941	1.0922	1.0935
2022-2038	1.1114	1.1080	1.1105
2024-2038	1.1041	1.1012	1.1032

Future Baseline Traffic Flows

10A.8.6 Based on the growth factors outlined in Section 10A.6, the future baseline traffic flows for 2036 (the peak of construction of the Proposed Development) and 2038 (the year of commencement of operation of the Proposed Development) are set out in **Table 10A.17** and **Table 10A.18**.

Table 10A.17: 2036 Future Baseline Peak Hour Traffic Flows

Link	Link Description	AM Peak hour (07:00-08:00		PM Peak hour (16:00 – 17:00)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
1	A18 (west of the Proposed Development Site access)	631	44	814	41
2	A161 (between the A18 and the M180 Jct 2)	441	19	586	39
3	A18 Station Road (to the west of King George V Bridge)	964	43	1,220	45
4	A18 High Levels Bank (east of Tudworth Roundabout)	588	56	669	47
5	A18 Doncaster Road (between Station Road and Frodingham Grange Roundabout)	666	26	1,026	21

Table 10A.18: 2038 Future Baseline Peak Hour Traffic Flows

Link	Link Description	AM Peak hour (07:00-08:		PM Peak hour (16:00-17:00)	
		Total Vehicles	Total HGVs	Total Vehicles	Total HGVs
1	A18 (west of the Proposed Development Site access)	636	44	821	41
2	A161 (between the A18 and the M180 Jct 2)	445	19	591	39
3	A18 Station Road (to the west of King George V Bridge)	973	44	1,230	45
4	A18 High Levels Bank (east of Tudworth Roundabout)	594	57	674	47
5	A18 Doncaster Road (between Station Road and Frodingham Grange Roundabout)	672	26	1,034	21

10A.9 Committed Development

10A.9.1 The following committed developments have been identified that need to be incorporated into the future baseline and future year assessment, detailed in **ES Volume I Chapter 21:** Cumulative and Combined Effects (**Application Document Ref. 6.2**). These include:

- EN010116 - Energy Recovery Facility (ERF) converting up to 650,000 tonnes per annum of Refuse Derived Fuel (RDF)

- EN010148 - Tween Bridge Solar Farm - The project will comprise the construction, operation, management and decommissioning of a ground mounted solar photovoltaic (PV) electricity generating facility exceeding 50 megawatt (MW) output capacity, together with associated works including substation, energy storage and green infrastructure.
- EN020034 - A proposal to reinforce the 400kV high voltage power network between North Humber and High Marnham
- PA/SCR/2021/8 - Moors Solar Farm – EIA screening request relating to a proposed 49.9MW solar farm (Culham Renewables - Moors Solar Farm).
- PA/SCR/2021/7 - Pilfrey Solar Farm – EIA screening request relating to a proposed 49.9MW solar farm (Lidsey Renewables Ltd – Pilfrey Solar Farm).
- PA/2024/123 - Scunthorpe Electric Arc Furnace - Hybrid application comprising full planning permission for the construction of a new electric arc furnace and compressor building and outline planning permission for ancillary plant buildings and structures up to a maximum height of 72m associated with the new electric arc furnace (scale, appearance, landscaping and layout reserved for subsequent consideration).
- EN0710003 - The Humber Carbon Capture Pipeline – an onshore underground CO2 pipeline and associated above ground infrastructure to transport captured carbon dioxide from emitters in the Humber region (to be selected by UK Government as part of the Carbon Capture Usage and Storage Cluster Sequencing process) from Drax (in North Yorkshire) to Easington on the coast (within East Riding of Yorkshire) to connect with a secure offshore storage in the North Sea (with the offshore storage and associated transportation pipeline subject to separate consent).

10A.9.2 The anticipated traffic flows to be generated by these committed developments is set out in **Table 10A.19**.

Table 10A.19: Anticipated traffic flow of committed developments

Application number	Highway AM Peak Flow (veh)	Highway PM Peak Flow (veh)	Daily flow (veh)
EN010116	58	95	1,479, including 707 HGVs)

Application number	Highway AM Peak Flow (veh)	Highway PM Peak Flow (veh)	Daily flow (veh)
EN010148	No detailed assessment of the peak hour traffic impact is available in the public domain		198 (two-way) including 57 HGVs
EN020034	No specific traffic flow details are available in the public domain. However, the PEI Report indicates that there would likely be no significant effects on the A18 (on routes to be used by the Proposed Development) or on the A161 (north of the M180 Junction 2).		
PA/SCR/2021/8	9	9	-
PA/SCR/2021/7	9	9	-
PA/2024/123	No significant change in traffic flow is predicted during construction and operation.		
EN0710003	No detailed assessment of the traffic impact is currently available in the public domain.		

10A.9.3 None of these identified committed developments would generate any significant levels of traffic through the Proposed Development study area. However, any development traffic associated with them would be incorporated within background growth applied to the baseline flows.

10A.10 Impact Assessment

Introduction

10A.10.1 This section describes the assessment of the trips generated on the location highway for the construction and operational of the Proposed Development. As there are no changes proposed to the local highway network or access locations, no modelling has been undertaken to inform

the assessment. A summary of the impacts on the National Highways Strategic Road Network is also provided.

Peak Hour Trip Impacts

10A.10.2 The changes in the traffic flows on the identified links are shown in **Table 10A.20** and **Table 10A.21** for the AM and PM peak hours for the construction of the Proposed Development and in **Table 10A.22** and **Table 10A.23** for the operation of the Proposed Development for the AM and PM peak hours.

10A.10.3 The analysis shows that for the peak of construction, traffic flows on the A18 (to the west of the Proposed Development Site access) and the A161 (between the A18 and the M180 Junction 2) would increase by 29.2% and 33.7% respectively in the AM peak hour. Given that this level of construction traffic would only be sustained for two months of the programme and would be lower at all other times, this is deemed acceptable. During the same period, the percentage of HGVs on these would increase by 22.9% and 52% respectively. However, the absolute increase is only 10 HGVs.

10A.10.4 During the PM peak hour, the maximum increase in traffic during this period of the construction of the Proposed Development would be 6% on the A161 (between the A18 and the M180 Junction 2).

10A.10.5 Increases in traffic generated by the Proposed Development would be less than 3% on all links during the operation of the Proposed Development for both the AM and PM peak hours. The maximum increase in HGV traffic would be 19.3% on the A161 (between the A18 and the M180 Junction 2), but this equates to an absolute increase of only 4 HGVs.

Table 10A.20: 2036 AM Peak Hour Construction Traffic Impact

Link No.	Link Description	% Increase					
		Total veh.	Total HGV	Total veh.	Total HGV	Total veh.	Total HGV
1	A18 (west of the Proposed Development Site access)	631	44	184	10	29.2%	22.9%
2	A161 (between the A18 and the M180 Jct 2)	441	19	148	10	33.7%	52.0%
3	A18 Station Road (to the west of King George V Bridge)	964	43	84	-	8.7%	0.0%
4	A18 High Levels Bank (east of Tudworth Roundabout)	588	56	46	-	7.8%	0.0%
5	A18 Doncaster Road (between Station Road and Frodingham Grange Roundabout)	666	26	84	-	12.5%	0.0%

Table 10A.21: 2036 PM Peak Hour Construction Traffic Impact

Link No.	Link Description	% Increase					
		Total veh.	Total HGV	Total veh.	Total HGV	Total veh.	Total HGV
1	A18 (west of the Proposed Development Site access)	814	41	42	10	5.1%	24.5%

Link No.	Link Description	% Increase					
		Total veh.	Total HGV	Total veh.	Total HGV	Total veh.	Total HGV
2	A161 (between the A18 and the M180 Jct 2)	586	39	35	10	6.0%	25.9%
3	A18 Station Road (to the west of King George V Bridge)	1,220	45	23	-	1.9%	0.0%
4	A18 High Levels Bank (east of Tudworth Roundabout)	669	47	16	-	2.5%	0.0%
5	A18 Doncaster Road (between Station Road and Frodingham Grange Roundabout)	1,026	21	23	-	2.3%	0.0%

Table 10A.22: 2036 AM Peak Hour Operational Traffic Impact

Link No.	Link Description	% Increase					
		Total veh.	Total HGV	Total veh.	Total HGV	Total veh.	Total HGV
1	A18 (west of the Proposed Development Site access)	636	44	13	4	2.0%	8.5%
2	A161 (between the A18 and the M180 Jct 2)	445	19	13	4	2.8%	19.3%
3	A18 Station Road (to the west of King George V Bridge)	973	44	13	-	1.3%	0.0%

Link No.	Link Description	% Increase					
		Total veh.	Total HGV	Total veh.	Total HGV	Total veh.	Total HGV
4	A18 High Levels Bank (east of Tudworth Roundabout)	594	57	13	-	2.1%	0.0%
5	A18 Doncaster Road (between Station Road and Frodingham Grange Roundabout)	672	26	13	-	1.9%	0.0%

Table 10A.23: 2036 PM Peak Hour Operational Traffic Impact

Link No.	Link Description	% Increase					
		Total veh.	Total HGV	Total veh.	Total HGV	Total veh.	Total HGV
1	A18 (west of the Proposed Development Site access)	821	41	13	4	1.5%	9.1%
2	A161 (between the A18 and the M180 Jct 2)	591	39	13	4	2.1%	9.6%
3	A18 Station Road (to the west of King George V Bridge)	1,230	45	13	-	1.0%	0.0%
4	A18 High Levels Bank (east of Tudworth Roundabout)	674	47	13	-	1.9%	0.0%

Link No.	Link Description	% Increase					
		Total veh.	Total HGV	Total veh.	Total HGV	Total veh.	Total HGV
5	A18 Doncaster Road (between Station Road and Frodingham Grange Roundabout)	1,034	21	13	-	1.2%	0.0%

Impact on the Strategic Road Network

10A.10.6 Consideration has also been given to the impact on the Strategic Road Network (SRN), operated by National Highways. This includes the M180 and the M181. Based on the distribution set out in Section 10A.6, it is not anticipated that there would be any trips undertaken on the M181 and through Junction 3 of the M180.

10A.10.7 Trips would be undertaken in the M180 to the east and west from Junction 2 of the M180. These are set out in **Table 10A.24**, which shows the eastbound and westbound trips in each direction to/from Junction 2.

Table 10A.24: SRN Trip Generation

Location (on the M180)	Direction	AM peak hour	PM peak hour
M180 (east of Junction 2)	Eastbound	0	4
	Westbound	21	0
M180 (west of Junction 2)	Eastbound	117	5
	Westbound	5	25

10A.10.8 The level of additional traffic generated on the M180 is not deemed significant and therefore the construction of the Proposed Development would not have an impact on the operation of the M180.

10A.10.9 The level of traffic generated by the operation of the Proposed Development is also not deemed significant and will not impact the operation of the M180.

10A.11 Measures to Minimise Impact of Development

Overview

10A.11.1 A number of impact avoidance, mitigation and monitoring measures have been identified to minimise the impact of the Proposed Development on the surrounding road network during construction.

Construction Worker Travel Plan

10A.11.2 A Travel Plan is a management tool designed to minimise the negative impact of travel and transport on the environment by reducing congestion and improving air quality.

10A.11.3 The aim of the Construction Workers' Travel Plan (CWTP) will be to identify measures and establish procedures to encourage construction workers to adopt modes of transport which reduce reliance on single occupancy private car use. Measures will include promoting car sharing and crew buses.

10A.11.4 An **Outline CWTP** has been prepared to accompany the DCO Application (**Application Document Ref. 7.6**). The appointed contractor will be required to prepare the final CWTP in accordance with this Outline CWTP, secured by a Requirement of the **Draft DCO** (**Application Document Ref. 3.1**).

Construction Traffic Management Plan

10A.11.5 The contractor will be required to prepare a CTMP which will be in accordance with the **Outline CTMP** (**Application Document Ref. 7.5**) and which will identify measures to control the routing and impact that HGV will have on the local road network during construction. It is proposed that all construction HGV will be required to arrive and depart the Proposed Development Site to the west via the M180 Junction 2, the A161 and the A18. A programme of monitoring is recommended to assess the effectiveness of the measures proposed.

10A.12 Conclusions

Summary

10A.12.1 This Transport Statement has been prepared to support an application for Development Consent for a new high-efficiency CCGT electricity

generating station, which would be constructed on land at, and within the vicinity of, the existing Keadby Power Station.

10A.12.2 Traffic counts were undertaken in July and September 2024 to inform the assessment at a number of locations in the vicinity of the Proposed Development, including the A18 and the A161. This was supplemented by data provided for the A18 Doncaster Road for October 2022.

10A.12.3 Growth rates for the North Lincolnshire District and neigh have been obtained from TEMPRO software. The use of TEMPRO software is generally recognised as the industry standard tool for determining traffic growth factors to apply to base flows in order to estimate future year traffic flows.

10A.12.4 Whilst a number of committed developments have been identified in the vicinity of the Site, none of these identified committed developments would generate any significant levels of traffic through the study area. However, any development traffic associated with them would be incorporated within background growth applied to the baseline flows.

10A.12.5 A realistic worst-case profile of construction generation throughout the 42 month construction programme has been produced and the peak month identified. The typical daily profile within the peak month has been calculated based on experience at other major power station construction sites.

10A.12.6 The assignment of traffic to the network has taken two forms. Firstly, construction HGV traffic has been assigned to/ from the west of the Proposed Development Site via the A18 and A161 and onwards to the M180 Junction 2. The construction workers assignment has been based on the geographic split of population within a 45 minute drive-time of the construction site.

10A.12.7 In order to identify the correct time period for junction capacity assessments, base flows were combined with construction development flows to determine which hour in the peak periods displayed the highest combined flows. This identified the peak hours for assessment to be 07:00 – 08:00 hours and 16:00 – 17:00 hours.

Impact Assessment

10A.12.8 The impact assessment shows that the impacts of the peak of construction traffic on Proposed Development would not be significant, given that the peak traffic flows would only be experienced for two months of the construction programme. The largest changes in traffic flows would be

experienced on the A18 (to the west of the main Site access) and the A161 (between the A18 and Junction 2 of the M180).

10A.12.9 There would also be a negligible impact on the M180.

Mitigation

10A.12.10 In order to manage and mitigate the impact of construction traffic, a CWTP and CTMP would be implemented by the contractor and would be in place throughout the construction period. An **Outline CWTP** and **Outline CTMP** are provided as part of the DCO Application (**Application Document Ref. 7.5 and Application Document Ref. 7.6**).

Conclusion

10A.12.11 In summary it is concluded that the traffic and transportation impacts associated with the Proposed Development are temporary and relatively minor and would therefore not result in severe highway capacity or safety problems.

10A.13 References

- Department for Transport Circular 01/2022 (2022) *The Strategic Road Network and the Delivery of Sustainable Development*. Available online: https://www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development/strategic-road-network-and-the-delivery-of-sustainable-development [Last accessed 14.08.25]