CONTENTS

TABLES

7. TRAFFIC AND TRANSPORTATION

7.1 Introduction

7.1.1 This chapter of the Preliminary Environmental Information (PEI) Report addresses the potential effects of the proposed Open Cycle Gas Turbine (OCGT) power station (hereafter referred to as the 'Proposed Development') on traffic and transportation.

7.2 Legislation and Planning Policy Context

Planning Policy Context

7.2.1 This section outlines the planning policy relating to traffic and transport. A full overview of all relevant planning policy is covered in Chapter 5: Planning Policy, which also sets out the primacy of National Policy Statements (NPS) in decision-making on nationally significant infrastructure projects (NSIPs) such as the Proposed Development.

National Planning Policy

7.2.2 Section 5.13 of the National Policy Statement (NPS) EN-1 (Department for Energy and Climate Change (Ref 7-1) outlines the planning policy for traffic and transport, including guidance on the carrying out of the relevant parts of the Environmental Impact Assessment (EIA). The most relevant paragraphs for the transport assessment are 5.13.2 to 5.13.4 which state:

> *"5.13.2 The consideration and mitigation of transport impacts is an essential part of Government's wider policy objectives for sustainable development as set out in Section 2.2 of this NPS.*
>
> *5.13.3 If a project is likely to have significant transport implications, the applicant's ES (see Section 4.2) should include a transport assessment, using the NATA/WebTAG139 methodology stipulated in Department for Transport guidance, or any successor to such methodology. Applicants should consult the Highways Agency and Highways Authorities as appropriate on the assessment and mitigation.*
>
> *5.13.4 Where appropriate, the applicant should prepare a travel plan including demand management measures to mitigate transport impacts. The applicant should also provide details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts."*

7.2.3 In terms of the Secretary of State's decision making; Section 5.13 of the NPS states that the IPC (Infrastructure Planning Commission, now Secretary of State) should ensure that the Applicant has sought to mitigate the impacts on the surrounding road infrastructure that may occur as a result of a new energy NSIP. Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the Secretary of State should consider requirements to mitigate the adverse impacts on transport networks arising from the development and could include:

- Demand management measures;
- Water-borne or rail transport, where cost effective; and
- Attaching conditions to a planning consent where there is likely to be substantial Heavy Goods Vehicles (HGV) traffic.

7.2.4 Section 2.2 of NPS EN-2 (Ref 7-2) outlines the planning policy for traffic and transport specifically in respect of fossil fuel generating stations such as the Proposed Development. The relevant paragraphs for the transport assessment are 2.2.5 and 2.2.6 which state:

> *"2.2.5 New fossil generating stations need to be accessible for the delivery and removal of construction materials, fuel, waste and equipment, and for employees.*
>
> *2.2.6 Government policy encourages multi-modal transport and materials (fuel and residues) may be transported by water or rail routes where possible. Applicants should locate new fossil generating stations in the vicinity of existing transport routes wherever possible. Although there may in some instances be environmental advantages to rail or water transport, whether or not such methods are viable is likely to be determined by the economics of the scheme. Road transport may be required to connect the site to the rail network, waterway or port. Any application should therefore incorporate suitable access leading off from the main highway network. If the existing access is inadequate and the applicant has proposed new infrastructure, the IPC should satisfy itself that the impacts of the new infrastructure are acceptable as set out in Section 5.13 of EN-1."*

National Planning Policy Framework

7.2.5 The National Planning Policy Framework (NPPF) was updated in July 2018 (Ref 7-3). The document sets out the Government's planning policies for England and how these are expected to be applied. The NPPF is a matter which the Secretary of State is likely to consider "important and relevant" in determining the application for a Development Consent Order (DCO).

7.2.6 The NPPF refers explicitly to the five guiding principles of sustainable development in the Government's document '*Securing the Future*':

- Living within the planet's environmental limits;
- Ensuring a strong, healthy and just society;
- Achieving a sustainable economy;
- Promoting good governance; and
- Using sound science responsibly.

7.2.7 The NPPF (paragraphs 102–111) states that the transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how to travel. The policy states that local authorities should support a pattern of

development, which (where reasonable to do so), facilitates the use of sustainable modes of transport. Plans and decisions should ensure that developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.

7.2.8 The NPPF recommends that a Transport Statement (TS) or Transport Assessment (TA) should support all developments that generate significant amounts of movement and that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

Local Planning Policy

North Lincolnshire Council Core Strategy

7.2.9 NLC adopted the Core Strategy on 29th June 2011, as part of a folder of Development Plan Documents (DPD) that forms the Local Plan. The Core Strategy sets out the long term vision for North Lincolnshire. The Core Strategy is part of the development plan for North Lincolnshire and is a matter which the Secretary of State is likely to consider "important and relevant" in determining the application for a DCO.

7.2.10 Chapter 9 'Delivering Greater Economic Success in North Lincolnshire' comments that:

> *"Investment interest in the South Humber Bank Strategic Employment Site is key to the delivery of the site. To emphasise the importance of investment it should be noted that South Humber Gateway investment indications regarding freight ferry, ports and logistics and rail from 2005 to 2008 amounted to £420 million. Projected investment indications from 2008 to 2013 amount to just over £2 billion in relation to power and energy generation from biomass and gas firing, enhanced freight ferries, manufacturing, petro-chemicals, ports and logistics, as well as improved rail and road access."*

7.2.11 Chapter 15 'Transport and Communication – Connecting North Lincolnshire' comments that:

> *"The Northern Way Growth Strategy also recognises that the South Humber ports and the undeveloped South Humber Bank strategic employment sites are served by motorways with surplus capacity. In ensuring the future development of the ports, access by rail and road via the A160 will need to be improved to accommodate additional growth."*

Other Guidance

Planning Practice Guidance

7.2.12 Planning Practice Guidance titled 'Travel plans, transport assessments and statements in decision-taking' was published in March 2014 (Ref 7-4) on the Government planning guidance planning portal and has been used to inform the transport assessment. The PPG will be updated in due course to reflect any policy changes in the 2018 updated NPPF. If the PPG transport advice is updated prior to determination of the DCO, this section will be updated to reflect that.

Guidelines for the Environmental Assessment of Road Traffic

7.2.13 The Guidelines for the Environmental Assessment of Road Traffic (Ref 7-5) were published in 1993 by the Institute of Environmental Assessment (now the Institute of Environmental Management & Assessment (IEMA)). The guidelines provide a basis for a comprehensive and consistent approach to the appraisal of traffic and transport impacts. Extensive reference has been made to these guidelines throughout the preparation of this chapter.

Department for Transport Circular 02/2013: The Strategic Road Network and the Delivery of Sustainable Development

7.2.14 Circular 02/2013 was published in September 2013 by the Department for Transport (Ref 7-6) which sets out the way in which Highways England will engage with the development industry to deliver sustainable development and, thus, economic growth, whilst safeguarding the primary function and purpose of the strategic road network and has been used to inform the transport assessment.

The Strategic Road Network: Planning for the Future

7.2.15 The Strategic Road Network: Planning for the Future 'A guide to working with Highways England on Planning Matters' published by Highways England in September 2015 (Ref 7-7) offers advice and information regarding the information it expects to see within a planning proposal and has been used to inform the transport assessment.

Planning Policy Guidance (PPG) 13: Transport

7.2.16 Department for Communities and Local Government publication (2011) Planning Policy Guidance (PPG) 13: Transport (Ref 7.8) states that the bicycle is the ideal mode of transport for journeys under 8km. PPG13 also states that cycling "has a clear potential to substitute for short car trips, particularly those under five kilometres, and to form part of a longer journey by public transport.". Whilst PPG 13 has now been superseded by the National Planning Policy Framework (NPPF) it is still recognised as providing good guidance.

7.2.17 The Statistical release by the Department of Transportation: Walking and Cycling Statistics, England: 2016, dated January 2018; states that the average length of a cycle journey is 3.5 miles (5.6km).

7.3 Assessment Methodology and Significance Criteria

Overview

7.3.1 The environmental impact of the development generated traffic has been assessed with reference to the IEMA guidelines (Ref 7-5). In accordance with guidance, issues including severance, driver delay, pedestrian amenity and delay, accidents and safety associated with the Proposed Development have been investigated and are reported below.

7.3.2 Any likely significant environmental effects relating to noise and vibration and air pollution, generated by traffic from the Proposed Development are considered in the relevant technical chapters of this PEI Report.

Extent of Study Area

7.3.3 The study area scope of this assessment has been defined by reference the above guidelines. The guidelines set out two rules as follows:

- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGVs is predicted to increase by more than 30%); and
- Rule 2: include any other specifically sensitive areas where the traffic flow (or HGV component) are predicted to increase by more than 10%.

7.3.4 Based on the above the criteria the road links that have been considered in determining if the above rules are satisfied are listed below:

- Rosper Road;
- Humber Road;
- Marsh Lane;
- A160 Humber Road; and
- A160 / A180 interchange.

7.3.5 In considering the above road links, and taking account of the scoping request comments, the following junctions are also included:

- Rosper Road / Marsh Lane
- Humber Road / Manby Road / A160 roundabout
- A160 / Habrough Road roundabout

Assessment of Sensitivity

7.3.6 The sensitivity of a road or the immediate area through which it passes can be defined by the type of user groups who may use them. Vulnerable users will include elderly residents and children. It is also necessary to consider footpath and cycle route networks that use or cross the roads within the study area.

7.3.7 A desktop exercise has been undertaken to classify the sensitivity of the routes within the study area. Table 7.1 below identifies the links, the assigned sensitivity rating and the justification:

Table 7.1: Sensitivity of Receptors

Link no.	Link description	Link Sensitivity	Rationale
1	Rosper Road (North of Marsh Lane)	Very Low	Rosper Road north of Marsh Lane is single carriageway with no footways and no cycleways. There are no residential properties and the adjacent land uses are industrial to the west and open fields to the east. Pedestrian and cycle activity is very low.

Link no.	Link description	Link Sensitivity	Rationale
2	Rosper Road (South of Marsh Lane)	Very Low	Rosper Road south of Marsh Lane is single carriageway with no footways and no cycleways. There are no residential properties and the adjacent land uses are industrial to the west and open fields to the east. Pedestrian and cycle activity is very low.
3	Marsh Lane	Low	Marsh Lane is not forecast to be used by any construction or operational traffic and therefore not considered further for traffic impact. Marsh Lane is single carriageway with no footways and no cycleways. There is one residential property along the frontage (330m east of the Marsh Lane / Rosper Road junction). The remaining adjacent land uses are open fields to the north and south. Pedestrian and cycle activity is very low. A car storage facility is proposed to the north.
4	A1173 Manby Road	Low	Running south-eastwards from Manby Roundabout, Manby Road is a dual carriageway for around 1.5k with a central reserve and street lighting present. There are no pedestrian footways or cycle facilities and very little frontage development. After the first 1.5km Manby Road narrows to a single carriageway road with general industrial and business frontages and a 40mph speed limit. It is a bus route and footways are provided along the single carriageway section.
5	A160 Humber Road	Low	Between Manby roundabout and the A180 interchange, the A160 is dual carriageway with grade separated junctions. There are no pedestrian or cycle facilities. For around 560m through South Killingholme there is a residential area just to the north of the road.
6	A180	Very Low	The A180 is a high standard dual carriageway with grade separated junctions. There are hardshoulders present in both directions and a central reserve barrier. There are no pedestrian or cycle facilities. There is no frontage development along the whole route.

Assessment of Magnitude

7.3.8 The magnitude of traffic impacts is a function of the existing traffic volumes, the percentage increase due to the Proposed Development and the changes in type of traffic. The IEA guidelines (Ref 7-3) identify thresholds for impact magnitude on severance and mitigation based on percentage changes in traffic levels. The magnitude of impacts arising from the percentage increase in traffic volumes (taken as being either the traffic flow including all vehicles or the heavy goods vehicles traffic flow, whichever is higher) is categorised as follows:

- Major: Above 90% increase in existing traffic/HGV levels;
- Moderate: Between 60% and 90% increase in existing traffic/HGV levels;
- Minor: Between 30% and 60% increase in existing traffic/HGV levels; and
- Negligible: Fewer than 30% increase in existing traffic/HGV levels.

Assessment of Significance

7.3.9 In assessing impact using the criteria set out above, consideration has also been given to the composition of the traffic on the road network under both existing and predicted conditions. For example, cars and light goods vehicles (LGVs) have less impact on traffic and the road system than HGVs. The effect of a change in traffic levels of any given road segment or junction is generally assessed by considering the residual capacity of the network under existing conditions and the sensitivity of that road to change.

7.3.10 Where there is a high degree of residual capacity, the network may readily accept and absorb an increase in traffic, and therefore (depending on the sensitivity of the network in relation to its users as set out above), the significance of effect may be said to be low. Conversely, where the existing traffic levels are high compared to the road capacity, there is little spare capacity and therefore the significance of effect of any change in traffic levels may be high.

7.3.11 The significance of potential effects has been assessed based on the categories of sensitivity and magnitude (identified in accordance with the IEMA guidelines approach outlined previously) as shown in Table 7.2. The sensitivity to change is based on the criteria set out in Table 7.1 above. The Magnitude of Impact is based on the criteria outlined above.

Table 7.2: Assessment of Significance of Effects Matrix – Transport

Magnitude of Impact	Sensitivity to Change in Traffic Levels			
	High	Medium	Low	Very Low
Substantial	Major	Major	Moderate	Negligible
Moderate	Major	Moderate	Minor	Negligible
Slight	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

Key Parameters for Assessment

7.3.12 The key parameters for the transport assessment are to quantify the additional traffic from the Proposed Development on the surrounding highway network and assess the effect of the increases in accordance with the IEMA guidelines on Traffic Impact. The IEMA guidelines identified that: “Previous research has identified that the most discernible environmental impacts of traffic are noise, severance, pedestrian delay and intimidation”.

Sources of Information/Data

7.3.13 Traffic Counts were undertaken in September 2018 at the following locations to provide up to date traffic flow information on the surrounding roads and junctions

- Rosper Road;

- Humber Road;
- Rosper Road / Marsh Lane T-Junction; and
- A160 Humber Road / Manby Road Roundabout.

7.3.14 In addition to the above counts previous traffic flows were available on Rosper Road from July 2016 and up to date 2018 traffic flows on the A160 and A180 were obtained from Highways England's WebTRIS database.

7.4 Consultation

7.4.1 A summary of the consultation responses specific to transport and access that have been received to date is provided in Table 7.3 below.

Table 7.3 - Consultation Summary Table

Consultee	Date and method of consultation	Summary of consultee comments	Response
Secretary of State	July 2018 Scoping Opinion	The Scoping Report anticipates that during operation the Proposed Development will require up to 15 operational staff which will generate a small number of trips. Having regard to the low number of trips generated during operation it is unlikely that significant traffic and transport environmental affects will arise. Therefore the Inspectorate is content that this matter can be scoped out of the ES. However, the Scoping Report is not clear as to the approach with regards to the assessment of cumulative effects from traffic and transport during operation and this matter is discussed below.	Noted
		The ES should explain and justify the extent of the road network identified for assessment and explain if any local roads have been excluded and provide a justification why. The ES should include a figure depicting the study area used to inform the assessment. The Applicant should make effort to agree the study area with relevant consultation bodies (e.g. local highways authorities and Highways England). The ES should include information regarding the sensitive receptors e.g. description, location, and the criteria used to determine the sensitive receptors.	Included as part of this assessment
		If the Proposed Development presents likely significant effects to non-motorised users this should be assessed within the ES.	Noted

Consultee	Date and method of consultation	Summary of consultee comments	Response
Secretary of State	July 2018 Scoping Opinion	The timespan of the peak construction period should be stated within the ES. The ES should justify the use 900 one way movements per day as the baseline within the assessments in order to assess the worst case scenario.	Justification included as part of this Chapter.
		The criteria used to determine the magnitude and significance of impacts should be concisely described and justified within the ES. In addition, the Applicant should also consider appending the full Transport Assessment (TA) to the ES and not just include 'the salient points' within the ES Traffic and Transport chapter.	Included as part of this assessment in Section 7.3. The TA will be appended to the final ES
		The Applicant's attention is drawn to the Inspectorate's Advice Note 17: Cumulative Effects Assessment, which sets out the recommended approach to such assessments.	Included as part of this PEI Report in Chapter 17 'Cumulative and Combined Effects'.
		The ES should clearly explain how the traffic movements have been estimated, which models have been used, and if any assumptions been made. Furthermore, the Inspectorate recommends the Applicant use relevant guidance to inform the assessment.	Noted and included in Sections 7.7.
		The assessment in the ES should be based on a confirmed construction traffic route and it should be clear how the route relates to the sensitive receptors that will be assessed. The assessment should also include the receptors; A160/ Rosper Road junction, the 160/ Harborough Road junction, and the A160/ A180 junction, due to the likelihood of construction traffic surpassing the 30 two-way trip threshold outlined within the Guidance on Transport Assessments and Highways England's consultation response.	Noted and included within the scope of the assessment.
		The ES should explain the relationship with the information contained in the TA. Details of the datasets, including times, dates and locations of surveys and any limitations should be included in the ES along with a justification to support the approach taken.	Included as part of this assessment in Section 7.5.
		Having regard to the proximity of the Proposed Development to existing rail and port infrastructure the Applicant should assess the feasibility of utilising other forms of transport to supply materials to and from the Proposed Development. If other forms of transport are relied upon the significant effects associated should be assessed in the ES.	Noted

Consultee	Date and method of consultation	Summary of consultee comments	Response
Highways England	Letter 18th June 2018	Justification will be required by VPI in advance of the submission of the Transport Assessment and Environmental Statement not to include issues relating to operational traffic of the development proposals.	The operational staff numbers have been provided in Section 7.8.
Highways England	Letter 18th June 2018	It is considered that the Transport Assessment should robustly assess the impact of the construction phase – and potentially the operational phase – of the development proposals. As a minimum, the study area should include the A160 /Rosper Road junction, the A160 / Harbrough Road junction and the A160 / A180 junction, paying due cognisance to the '30 two-way trips' threshold in Guidance on Transport Assessments as a starting point for discussion when identifying further junctions at the SRN for inclusion. In addition, the Transport Assessment should be compliant with DfT Circular 02/2013.	Noted and the suggested scope of highway network has been fully covered within this assessment.

7.5 Baseline Conditions

Existing Baseline

Highway Network

Rosper Road

7.5.1 Rosper Road runs approximately north-south immediately east of the Proposed Development Site. It is a single carriageway road running in a northerly direction from its junction with the A160. It serves the South Humber Bank development area which is bounded by East Field Road, Chase Hill Road and Rosper Road.

7.5.2 Adjacent to the site Rosper Road has the following characteristics:

- Single carriageway, generally flat and straight;
- No footways on either side;
- No street lighting;
- National Speed Limit (60mph); and
- No pedestrian or cycle facilities.

Rosper Road / Humber Road / A160 / A1173 Manby Road Junction

7.5.3 Rosper Road joins the A160 approximately 700m south of the Main OCGT Power Station Site at a newly improved gyratory system linked to the existing (and recently improved) roundabout (the Manby Road roundabout) at the eastern terminus of the

dual carriageway section of the A160. The improvement scheme introduced a one way system around a gyratory layout which provides significantly more capacity for vehicles turning into and out of Humber Road / Rosper Road. The junction improvement scheme was implemented recently by Highways England and the Traffic Forecasting Report produced by the Highways Agency (now Highways England) for the scheme allows for significant growth and development up to 2041. The junction improvements have therefore been designed to accommodate high traffic growth as well as new development over the next 23 years.

A1173 Manby Road

7.5.4 Running south-eastwards from Manby Roundabout, A1173 Manby Road is a dual carriageway for around 1.5k with a central reserve and street lighting present. There are no pedestrian footways or cycle facilities and very little frontage development. The A1173 links Manby roundabout in the north with the A180 to the south. After the first 1.5km Manby Road narrows to a single carriageway road with general industrial and business frontages and a 40mph speed limit. It is a bus route and footways are provided along the single carriageway section.

A160 Humber Road West

7.5.5 The A160 west of Rosper Road links the South Humber Gateway to the strategic road network and is a primary freight route. From the Manby Road roundabout, the A160 runs westwards for 4.3km before joining the A180 at a grade separated junction. The A160 has recently been improved as part of a Highways England corridor improvement scheme which included widening to dual carriageway, a new Habrough Road roundabout junction with a new link to the north. The A160 along this section has the following characteristics:

- Dual carriageway with a metre hardstrip;
- Recent new roundabout improvement scheme at the Habrough Road Junction.
- Streetlighting present;
- No footways to either side;
- National Speed Limit (70mph); and
- No pedestrian or cycle facilities.

Humber Road (East)

7.5.6 Humber Road east of the Manby Road roundabout junction leads to Immingham Docks and other developments in the area. This section of Humber Road has the following characteristics.

- Single Carriageway Road;
- Streetlighting present;
- No footways to either side;

- National Speed Limit (60mph); and
- No pedestrian or cycle facilities

A180 and A180 / A160 Interchange

7.5.7 The A180 links the M180 to the west with Grimsby to the east. The A160 joins the A180 at a grade separated Brocklesby Interchange about halfway along the A180 and runs northwards and then north-eastwards towards Killingholme and Immingham. The A180 has the following characteristics:

- Dual Carriageway Road;
- No Streetlighting present;
- No footways to either side;
- National Speed Limit (70mph); and
- No pedestrian or cycle facilities

Existing Traffic Flows

7.5.8 A summary of the results of the traffic counts outlined in para. 7.3.13 are given below in Tables 7.4 to 7.7 below.

Table 7.4 – Rosper Road (North of Marsh Lane) 2016 Baseline Flows

Count	Two-Way Traffic Flow			
	No. of Total Vehicles	% of 5 Day AAWT	No. of HGV's	% HGV's
7 day mean	5,010	83.0%	1,533	30.6%
5 day AAWT	6,038	100.0%	1,815	30.1%
AM Peak	636	10.5%	112	17.6%
PM Peak	546	9.0%	139	25.5%
12 Hour	4,698	77.8%	1,496	31.8%

Table 7.5 – Rosper Road (South of Marsh Lane) 2016 Baseline Flows

Count	Two-Way Traffic Flow			
	No. of Total Vehicles	% of 5 Day AAWT	No. of HGV's	% HGV's
7 day mean	5,145	83.3%	1,510	29.35%
5 day AAWT	6,178	100.0%	1,880	30.43%
AM Peak	639	10.3%	120	18.78%
PM Peak	567	9.2%	129	22.75%
12 Hour	4,836	78.3%	1,543	31.91%

7.5.9 Average Annual Daily Traffic (AADT) flows include both weekends and weekdays. Average Annual Weekday Traffic (AAWT) includes only working week days (Monday to Friday) and is generally slightly higher than AADT flows.

Table 7.6 – A160 Humber Road (just west of Manby Roundabout) - 2018 Baseline Flows

Count	Two-Way Traffic Flow			
	No. of Total Vehicles	% of 5 Day AAWT	No. of HGV's	% HGV's
7 day mean	10,348	81.96%	4,441	42.9%
5 day AAWT	12,626	100.00%	5,671	44.9%
AM Peak	1,086	8.60%	487	44.8%
PM Peak	1,073	8.50%	483	45.0%
12 Hour	7,931	62.81%	3,331	42.0%

Table 7.7 – A180 (just west of A15/A18 Interchange) - 2018 Baseline Flows

Count	Two-Way Traffic Flow			
	No. of Total Vehicles	% of 5 Day AAWT	No. of HGV's	% HGV's
7 day mean	31,322	86.9%	8,952	28.6%
5 day AAWT	36,025	100.0%	11,491	31.9%
AM Peak	3,340	9.3%	1,045	31.3%
PM Peak	3,061	8.5%	971	31.7%
12 Hour	25,209	70.0%	6,891	27.3%

Road Safety

7.5.10 The Personal Injury Accident (PIA) record Road safety collision statistics have been obtained from the Crashmap website (www.crashmap.co.uk). The data obtained relates to those collisions that resulted in a personal injury and which were reported to the police. This data (known as STATS19 statistics) are generally recognised to be the most complete record of road collisions occurring on the local highway network. For the avoidance of doubt, as is normal practice STATS19 statistics do not include collisions resulting in "damage-only" to vehicles.

7.5.11 Each collision resulting in a personal injury is classed as either 'Slight', 'Serious' or 'Fatal' by the police depending on the most serious injury resulting from the collision (i.e. a collision resulting in two 'Slight' injuries and one 'Serious' injury would be classed as a 'Serious' collision).

7.5.12 A summary of the recorded accidents is provided below in Table 7.8 below. The data covers the five year period from 1st January 2013 to 31 December 2017. Accidents on the links and at the junctions have been summarised separately.

Table 7.8 – Personal Injury Accident Record

Link / Junction	Slight	Serious	Fatal	Total
Links				
Rosper Road	0	0	0	0
Eastfield Road	0	0	0	0
Chase Hill Road	0	0	0	0
A160 between Manby Roundabout and Eastfield Road	1	0	0	1
Junctions				
Junction- Eastfield Road Humber Road / A160 Junction	2	0	0	2
A160 / A1173 Manby Road / Humber Road Roundabout	2	1	0	3
A160 / Eastfield Road	1	0	0	1
TOTAL	***6***	***1***	***0***	***7***
AVERAGE per YEAR	***(1.2)***	***(0.2)***	***(0)***	***(1.4)***

Source: www.crashmap.co.uk

7.5.13 The accident record shows that there have been no recorded personal injury accidents on the length of Rosper Road adjacent to the site.

7.5.14 It should be noted that the accident record in Table 7.8 pre-dates the A160/Rosper Road junction improvement scheme which was opened in Spring 2017. It is likely that the improvement scheme will have improved road safety at the Humber Road / A160 junction where two slight accidents occurred in 2013.

7.5.15 In summary there have been no recorded PIAs along Rosper Road and there are no accident blackspots identified on the surrounding roads that give cause for concern.

Pedestrian Facilities

7.5.16 There are a limited opportunities for travelling to the Proposed Development on foot as it is located further than 2km from any significant residential areas. There are also no footways or streetlighting on Rosper Road.

Cycle Facilities

7.5.17 The roads surrounding the site are generally flat and there are no significant obstacles for cyclists. Within the 5km and 8km recommended cycle distances from the site centre are the following key origins / destinations:

- South Killingholme;
- North Killingholme;
- East Halton;
- Immingham;
- Habrough;
- Habrough Rail Station; and
- Ulceby Rail Station.

7.5.18 In summary the Proposed Development is located in a reasonably accessible location for cyclists.

Bus Facilities

7.5.19 There are limited opportunities for travelling to the site via bus. Rosper Road is not a bus route and the nearest bus stops are 2.7km away in South Killingholme (Town Street) and 2.6km away in Immingham (Manby Road).

Rail Facilities

7.5.20 Rail Stations are located at Habrough (6.1km away) and Ulceby (6km away). Both stations operate regular services to:

- Grimsby Town eastbound;
- Barton-on-Humber (Northern) westbound;
- Newark North Gate (East Midlands Trains); and
- Doncaster and Manchester Airport (First TransPennine Express).

7.6 Future Baseline

Traffic Growth

7.6.1 Traffic flow data available for the local roads are limited to the traffic counts previously described.

7.6.2 In the absence of any reliable long-term data, traffic growth has been calculated using TEMPRO V7.2 and the National Traffic Model dataset for North Lincolnshire District.

7.6.3 Appropriate growth factors applied to the baseline traffic year (i.e. 2016 and 2018) and the estimated peak construction year of 2021 and opening year of 2022 for the Proposed Development are indicated in Table 7.9 below. These growth factors have been taken into account when comparing the baseline and future traffic scenarios.

Table 7.9 - TEMPRO (v7.2) - Traffic Growth (North Lincolnshire District)

Year	Vehicle Type	Growth Factor
2016–2021 Peak of Construction	All	1.0809
2018-2021 Peak of Construction	All	1.0475
2016-2022 Start of Operation	All	1.0997
2018-2022 Start of Operation	All	1.0657

7.7 Development Design and Impact Avoidance

7.7.1 A number of traffic management measures will be implemented to minimise any traffic increases as a result of the Proposed Development. These include a Construction Traffic Management Plan (CTMP) and Construction Worker Travel Plan (CWTP) which would be secured by a requirement in the draft DCO.

7.7.2 The CTMP will identify measures to control the routing and impact that construction HGVs will have on the local road network during construction. It is proposed that all construction HGVs will be required to arrive and depart the site towards the A160 via Rosper Road and Humber Road. Other measures could include:

- The requirement for any HGV arriving or departing the Proposed Power Plant Site and other parts of the Site to travel to/from the south along Rosper Road to Humber Road;
- HGV routing plan communicated to all drivers during their induction;
- Local signage strategy;
- Limiting construction delivery hours to 07:00 – 19:00;
- Management of abnormal load deliveries;

7.8 Likely Impacts and Effects

Construction

7.8.1 The entire site preparation and construction programme is anticipated to take approximately 18 months from commencement to commissioning. Table 7.10 presents the indicative construction and commissioning programme applicable to the Proposed Development.

Table 7.10 Indicative Construction Programme

	2021				2022			
	1	2	3	4	1	2	3	4
OCGT Site Preparation								
Main civil works								
Plant installation								
Gas and electrical connections								
Commissioning								

7.8.2 The construction period for the Proposed Development is currently anticipated to commence in early 2021 with a view to being fully operational by the end of 2022 (subject to obtaining necessary approvals).

7.8.3 As a worst case scenario, this chapter has assessed the impact from the construction phase of the Proposed Development assuming all material will be delivered; and all waste materials removed by road

7.8.4 Transportation of construction materials to and from the Proposed Development will be via the existing trunk and local networks. The following major roads are likely to be utilised:

- Rosper Road;
- Humber Road;
- A1173 Manby Road (towards the south east)
- A160; and
- A180/M180

It is assumed that all HGV movements will ultimately arrive and depart via these routes in accordance with a proposed Construction Traffic Management Plan.

7.8.5 Construction vehicle numbers and working hours have been estimated and are consistent with experience at developments of a similar type and scale. The working hours proposed for the Proposed Development are 24 hour with HGV deliveries typically from 0700 to 1900 Mondays to Saturdays. The peak construction traffic is forecast to occur in late 2021 based on a Q1 2021 start date. Table 7.11 below summarises the construction phase peak traffic levels. At the peak of construction in 2021 it is forecast that a maximum of around 150 construction personnel would be on the Power Station site in any one day. It should be noted that the majority of construction workers would arrive between 0600-0700 hours and depart between 1800-1900 hours for the shift start/end times.

Table 7.10 - Peak Period Construction Traffic Flows

Hour beginning	Construction HGVs		Construction Staff Cars/LGVs	
	Arrival	Departure	Arrival	Departure
00:00	0	0	0	0
01:00	0	0	0	0
02:00	0	0	0	0
03:00	0	0	0	0
04:00	0	0	0	0
05:00	0	0	0	0
06:00	0	0	24	1
07:00	3	1	21	1
08:00	2	2	7	2
09:00	3	2	5	2
10:00	3	3	5	4
11:00	2	3	4	5
12:00	3	2	4	4
13:00	3	3	3	3
14:00	2	3	5	7
15:00	2	2	1	7
16:00	2	2	2	11
17:00	1	2	2	12
18:00	0	1	2	22
19:00	0	0	0	2
20:00	0	0	0	1
21:00	0	0	0	1
22:00	0	0	0	0
23:00	0	0	0	0
Total	26	26	85	85

7.8.6 Using the base AAWT traffic flows given in the Baseline data above, growthed to 2021, the percentage traffic impact on the surrounding roads as a result of the power station construction traffic is shown below in Table 7.12. Cumulative development assessments are covered in the Cumulative & Combine Chapter (Chapter 16) of this PEIR Report.

Table 7.11 - Percentage Impact on surrounding roads due to additional construction traffic (2021)

Link description	2021 Base AAWT Traffic	2021 Base HGVs	2021 With CCGT Const. Traffic AAWT	2021 With CCGT Const. Traffic HGV	Diff. Total Veh.	% Impact Total vehs.	Diff HGV	% Impact HGV
Rosper Road North of Marsh	6,526	2,004	6,722	2,056	196	3.0%	52	2.6%

Link description	2021 Base AAWT Traffic	2021 Base HGVs	2021 With CCGT Const. Traffic AAWT	2021 With CCGT Const. Traffic HGV	Diff. Total Veh.	% Impact Total vehs.	Diff HGV	% Impact HGV
Lane								
Rosper Road South of Marsh Lane	6,681	2,010	6,877	2,062	196	2.9%	52	2.6%
Marsh Lane	230	9	230	9	0	0.0%	0	0.0%
A160 just West of Manby Roundabout	13,226	5,940	13,318	5,972	92	0.7%	31	0.5%
A180 - west of A160 Interchange	37,736	7,044	37,828	7,076	92	0.2%	31	0.4%
Manby Road - SE of Manby Roundabout	11,164	2,479	11,267	2,500	103	0.9%	21	0.8%

7.8.7 The table shows that the percentage increase in traffic resulting from the temporary construction traffic would be below 5% on all links. This is well below the thresholds for significant impact detailed in Section 7.3 above.

7.8.8 A summary of the environmental effects as described in Section 7.3 above is provided below.

Effects on Severance

7.8.9 It is evident that the change in total traffic associated with temporary construction traffic construction is less than 30% on all links. The overall effect is therefore considered negligible (not significant) in accordance with the significance criteria outlined in Section 7.3 above.

Pedestrian Amenity

7.8.10 It is identified in the IEMA Guidelines for the Environmental Assessment of Road Traffic, that pedestrian amenity is affected where traffic flows are halved or doubled. It is evident that the change in total traffic (or HGV component) associated with construction is well below 100% and the overall effect is considered negligible (not significant).

Fear and Intimidation

7.8.11 The change in total traffic associated with construction is less than 30% (negligible impact) on all links and the overall effect is considered negligible (not significant).

Accidents and Safety

7.8.12 There have been zero personal injury accidents on Rosper Road in the last five years. As such increases in traffic associated with construction will result in a negligible (not significant) effect.

7.8.13 On other links used by construction traffic there has only been one single personal injury accident on the A160 in the last five years. Considering the traffic flows over this period (13,226 AAWT) and the length of the link (1.3 km) it is considered that the increase in traffic of less than 1% will result in a negligible (not significant) effect.

Driver Delay

7.8.14 Highways England suggests that the threshold for detailed traffic assessment relates to those developments which generate 30 two-way peak hour vehicle trips. When assessed against the existing traffic levels in Table 7.12 above it can be seen that during construction there would be a negligible traffic impact on the surrounding highway network during the morning and evening peak periods.

Operation, Maintenance and Planned Outages

7.8.15 Once operational there will be a maximum of approximately 15 permanent staff roles. Depending on the degree of integration with the existing VPI CHP plant and VPI Energy Park 'A', these may be new jobs or roles undertaken by personnel from the existing VPI CHP plant. Conservatively, assuming a car occupancy of 1, this equates to 15 cars per day (30 two-way vehicle movements spread over the day).

7.8.16 In addition, there will be a small amount of HGV traffic generated by deliveries of operational and maintenance plant and equipment. However this is expected to equate to a maximum of 3 HGVs per day. Fuel for the new power station will be natural gas imported to the Site via pipeline and there will be no vehicular movements associated directly with the transport of gas to the Site. Small quantities of back-up diesel would be delivered by road if refilling of storage tanks was required.

7.8.17 During planned outages for servicing and maintenance, additional specialist staff may be required to travel to the site for a period of up to a few months. However the numbers would be significantly less than the construction staff numbers.

7.8.18 Due to the very low traffic flows which result once the Proposed Development is first operational in 2022, the vehicle numbers generated will be significantly lower than experienced during the construction period and not exceed the HE threshold of 30 2-way vehs./hr. on any links. The overall effects during operation, maintenance and planned outages are therefore considered to be negligible adverse (not significant).

Decommissioning

7.8.19 The activities involved in the decommissioning process for the proposed power plant are not yet known in detail, as it has a design life of around 40 years and an operational life that will extend beyond that date to circa 40 years. There would be 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.

7.8.20 Current baseline data collected for the purposes of this assessment will not be valid at the year of decommissioning, which is currently unknown. However, as it is unlikely that baseline traffic figures on local roads will reduce over the next 40 years or more, it is considered that the percentage increase in traffic due to decommissioning would be negligible, and that overall the effects of decommissioning traffic would be no greater than that of the construction traffic detailed above. Effects are therefore assessed as likely to be not significant.

7.9 Mitigation and Enhancement Measures

7.9.1 The assessments have demonstrated that, for both the construction and operational phases of the Proposed Development, there will be no impacts of significance to any of the roads within the study area.

7.9.2 The existing site is rail connected. The feasibility and viability of the use of rail will be considered by the contractor during detailed design and when the source of construction materials is known, but for the purposes of this assessment a 'worst case' assumption is made whereby all materials are assumed to be delivered by road.

7.9.3 There is no water facility available at the site which could accommodate deliveries by barge, however the site is well located close to Immingham and Killingholme docks and use of these docks for delivery of construction material would minimise road travel. The use of the docks will be considered by the contractor during the detailed design.

7.9.4 The Applicant is committed to the implementation of sustainable transport solutions for the Proposed Development. During the construction phase, the Applicant will apply the following mitigation measures in respect of the local highways:

- Pedestrian and cycle access routes to/from the Site will be identified and communicated to employees during construction. Appropriate facilities will be provided on the site for the safe storage of cycles;
- Local bus connections to the Site will be identified and communicated to all construction employees;
- The Applicant will liaise with construction personnel for potential to implement staff minibuses and car sharing options;
- The Contractor will be required to prepare a Construction Traffic Management Plan (CMTP) to identify appropriate and safe routes to and from site including the options listed above such as pedestrian and cycle access; and
- A Construction Staff Travel Plan aimed at reducing the volume of construction staff trips to the Site, especially during peak hours will be implemented (a Travel Plan Framework will be included within the final ES).

7.9.5 With regard to HGV movements and construction traffic, all construction vehicles will be required to use only the approved access routes to the Site in accordance with the CTMP.

7.10 Limitations or Difficulties

7.10.1 The full Transport Assessment, which will support the DCO application, has not yet been completed, though the outcomes are anticipated to be in line with the assessment within this chapter. There are no impacts and effects yet to be determined, though it should be recognised that various design decisions may lead to changes in the assumptions used. Where this is the case changes will be highlighted in the final ES and the reasons for them.

7.11 Residual Effects and Conclusions

7.11.1 Residual effects are those predicted following consideration of any proposed mitigation measures. No additional mitigation measures to those outlined above are proposed given that all effects are predicted to be of negligible significance. Table 7.13 below outlines the traffic and travel mitigation measures and the residual significance of effects.

Table 7.12 – Summary of Residual Effects

Effect	Traffic and Travel Measures (see 7.8)	Residual Effect
Construction Phase		
Severance and intimidation on all roads associated with construction traffic (normal loads)	Traffic and Travel measures (see 7.8)	Negligible
Delay, health and safety issues and severance associated with abnormal loads	Traffic and Travel measures (see 7.8)	Negligible
Operation Phase		
Severance and intimidation on all roads associated with operational traffic	Traffic and Travel measures (see 7.8)	Negligible
Decommissioning Phase		
Severance and intimidation on all roads associated with decommissioning traffic	Traffic and Travel measures (see 7.8)	Negligible

7.11.2 Peak hour traffic increases during both the morning and evening highway network peak periods are considered to be Negligible.

7.11.3 The additional traffic due to the power station construction activities will result in small, temporary increases of traffic flows, including HGVs, on the observed roads leading to the Site. In line with the significance criteria presented earlier in this chapter the impacts of construction traffic on all road sections and junctions are

considered to be of **Negligible adverse effect and not considered to be significant**.

7.11.4 The generation of traffic, taking into account Travel Plan measures such as car sharing, cycling and public transport is likely to be minimal and have an insignificant impact on the local highway network. During the operational phase of the Proposed Development, the potential effects are considered to be of **Negligible adverse effect and not considered to be significant**.

7.11.5 Whilst assessments have demonstrated that, for both the construction and operational phases, there will be no impacts of any significance to any of the road sections assessed, a number of traffic management measures will be implemented to further minimise any traffic increases as a result of the Proposed Development. These include a Construction Traffic Management Plan (CTMP) and Construction Worker Travel Plan (CWTP) which would be secured by a requirement in the draft DCO to minimise the impacts of construction traffic.

7.11.6 The CTMP will identify measures to control the routing and impact that construction HGVs will have on the local road network during construction. It is proposed that all construction HGVs will be required to arrive and depart the site via Rosper Road, Humber Road and Manby Road roundabout. Other measures could include:

- HGV routing plan communicated to all drivers during their induction;
- Local signage strategy;
- Limiting construction delivery hours to 07:00 – 19:00;
- Management of abnormal load deliveries;

7.12 References

Ref 7-1 Department for Energy and Climate Change (2011) *National Policy Statement for Energy (EN-1)*

Ref 7-2 Department for Energy and Climate Change (2011) *National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2).*

Ref 7-3 Ministry of Housing, Communities and Local Government (2018) *National Planning Policy Framework*

Ref 7-4 Ministry of Housing, Communities and Local Government (2014) Planning Practice Guidance, (2014) *Travel Plans, Transport Assessment and Statements.* [Available at: https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements accessed October 2018]

Ref 7-5 Institute of Environmental Management & Assessment (IEMA) (1993) *Guidelines for the Environmental Assessment of Road Traffic.*

Ref 7-6 Department for Transport (2013) *Circular 02/2013 – The Strategic Road Network and the Delivery of Sustainable Development*

Ref 7-7 Highways England (2015) *The Strategic Road Network: Planning for the Future – A guide to working with Highways England on Planning Matters*

Ref 7-8 Department for Communities and Local Government (2011) *Planning Policy Guidance 13: Transport*