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TABLES

10.0 TRAFFIC AND TRANSPORT

10.1 Introduction

10.1.1 This chapter of the Preliminary Environmental Information (PEI) Report addresses the potential effects of the construction, operation (including maintenance) and decommissioning of the proposed low carbon Combined Cycle Gas Turbine (CCGT) Generating Station ('the Proposed Development') at the Keadby Power Station site on traffic and transport. The assessment considers:

- the present-day and future baseline conditions during construction and at opening;
- the effects of construction traffic on the local road network as a result of the Proposed Development; and
- the effects of operational traffic on the local road network as a result of the Proposed Development.

10.1.2 The assessment of cumulative traffic and transport effects associated with the Proposed Development and other committed developments in the vicinity are described in **Appendix 10A**: Transport Assessment in PEI Volume II and in **Chapter 19**: Cumulative and Combined Effects.

10.2 Legislation, Planning Policy and Guidance

10.2.1 This section outlines the planning policy of relevance to traffic and transport. An overview of all relevant planning policy is provided in **Chapter 7**: Legislative Context and Planning Policy Framework, 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.

Planning Policy Context

10.2.2 The National Policy Statement (NPS) EN-1 was published in 2011 (Department for Energy and Climate Change (DECC), 2011). Section 5.13 outlines the planning policy for traffic and transport, including guidance on traffic and transport assessment as part of the Environmental Impact Assessment (EIA). The most relevant paragraphs for this chapter are paragraphs 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."

10.2.3 In terms of decision making, Section 5.13 of the NPS states that the 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 nationally significant infrastructure project. 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 requirements to a development consent order where there is likely to be substantial HGV traffic.

10.2.4 Section 2.2 of the NPS for Fossil Fuel Electricity Generation Infrastructure EN-2 (DECC, 2011) outlines the planning policy for traffic and transport, specifically in respect of fossil fuel generating stations such as the Proposed Development, focussing on accessibility issues.

10.2.5 The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2019) sets out the Government's planning policies for England.

10.2.6 Section 9 of the NPPF, Promoting Sustainable Transport, outlines the important role that the planning system has in enabling sustainable development stating in paragraph 103:

"Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health."

10.2.7 In determining planning applications, paragraph 109 states that:

"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."

10.2.8 Paragraph 111 states that all developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.

Local Planning Policy

10.2.9 The statutory development plan for the area currently comprises the following documents:

- North Lincolnshire Core Strategy (North Lincolnshire Council, 2011a) - adopted June 2011;
- Employment and Land Allocations (North Lincolnshire Council, 2017) - adopted March 2016; and
- Saved Policies of the North Lincolnshire Local Plan (Local Development Frameworks Government Office for Yorkshire and The Humber, 2007) - adopted May 2003, saved September 2007.

10.2.10 It is considered that these documents may be 'important and relevant' as defined by EN-1. The following policies are considered relevant to the Proposed Development.

10.2.11 Core Strategy Policy CS25 describes that the council will support and promote a sustainable transport system in North Lincolnshire that offers a choice of transport modes and reduces the need to travel through spatial planning and design and by utilising a range of demand and network management tools.

10.2.12 Saved policies of North Lincolnshire Local Plan that are relevant to the Proposed Development include:

- T2 – Access to Development which states that larger developments should be served adequately by:
  - i) being readily accessible by a choice of transport modes; and
  - ii) existing public transport services and infrastructure; or
  - iii) additions or extensions to such services linked directly to the development; and
  - iv) the existing highway network;
- T5 - Green Travel Plans which states that organisations that attract a large number of visitors will be encouraged to draw up Green Travel Plans;
- T14 - The North Lincolnshire Strategic Road Network (NLSRN) which notes traffic will be concentrated onto the NLSRN roads where its main purpose is to carry traffic of more than local significance and that developments, which compromise the function of the NLSRN in traffic and safety terms, will not be permitted;
- T15 – Highway Improvements which states that where new highway infrastructure is being developed, or is included as an element of a development proposal, the design of the highway should take into account safety and environmental factors;
- T23 - Water Freight which aims to ensure transfer of bulk goods from sea to inland makes optimum use of railways, rivers, canals and pipelines/conveyor belts where appropriate; and
- Policy T24 – Road Freight which states that the environmental impact of moving freight by road will be reduced by:
  - concentrating lorries onto the North Lincolnshire Strategic Road Network; and
  - banning heavy goods vehicles from sensitive areas; and
  - encouraging the development of rail freight facilities; and
  - encouraging the use of the waterways'.

10.2.13 North Lincolnshire Local Transport Plan 2011 – 2026 also sets out a programme for a wide range of improvements to local transport over the period 2011 to 2026. The objectives of the plan include:

- facilitating economic growth by targeting transport improvements in key development areas and along key strategic network corridors;
- reducing transport related carbon dioxide emissions and protect and enhance the natural and built environment through sustainable transport solutions;
- improving transport safety and security relating to death or injury from transport, in order to contribute to safer and stronger communities;
- providing equal opportunities through improvements in accessibility to key local hubs and services by sustainable modes of transport;
- enhancing people's health and wellbeing through the promotion of healthy modes of travel; and
- providing a high quality integrated transport system that contributes towards long term sustainable regeneration.

Other Guidance

Planning Practice Guidance

10.2.14 Planning Practice Guidance titled 'Travel plans, transport assessments and statements in decision taking' published in March 2014 (DCLG, 2014) has been used to inform this assessment.

Guidelines for Environmental Assessment of Road Traffic

10.2.15 The Guidelines for the Environmental Assessment of Road Traffic published in 1993 by the Institute of Environmental Assessment (IEA) (IEA, 1993) 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

10.2.16 Circular 02/2013 published in September 2013 by the Department for Transport 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. This guidance has been used to inform **Appendix 10A**: Transport Assessment (PEI Report Volume II) which accompanies this chapter.

The Strategic Road Network: Planning for the Future

10.2.17 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 offers advice and information regarding the information it expects to see within a planning proposal. This guidance has been used to inform **Appendix 10A**: Transport Assessment (PEI Report Volume II) which accompanies this chapter.

Water Preferred Policy Guidelines for the Movement of Abnormal Loads

10.2.18 The 'Water preferred policy guidelines for the movement of abnormal loads,' published in 2012 by Highways England sets out guidance recognising that where practical, economic and environmentally desirable, the largest abnormal loads should be moved by inland and/ or coastal water to reduce the impact caused by moving these loads by road. This guidance document provides details of the water preferred policy for the movement of abnormal loads and guidance to help those wishing to move an abnormal load determine whether their load should be moved by water or road.

10.3 Assessment Methodology and Significance Criteria

Overview

10.3.1 The environmental impact of the traffic predicted to be generated by the Proposed Development has been assessed with reference to the Guidelines for the Environmental Assessment of Road Traffic (IEA 1993) and other guidance as detailed in Section 10.2. 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.

10.3.2 Any likely significant environmental effects relating to noise and vibration and emissions to air, generated by traffic associated with the Proposed Development are considered in the relevant chapters of this PEI Report (i.e. **Chapter 8**: Air Quality and **Chapter 9**: Noise and Vibration).

Consultation

10.3.3 The consultation undertaken with statutory consultees to inform this chapter, including a summary of comments raised via the formal EIA Scoping Opinion (**Appendix 1B** – PEI Report Volume II) and in response to consultation with stakeholders of a Transport Assessment Scoping Report is summarised in Table 10.1.

Table 10.1: Consultation Summary Table

Consultee or Organisation	Date and nature of consultation	Summary of Response	How comments have been addressed in this Chapter
Secretary of State	June 2020 (Scoping Opinion)	No estimate of operational traffic volumes is provided, but a detailed assessment of this matter is proposed to be scoped out subject to agreement with the relevant highways authorities on the scope of the Transport Assessment. Having regard to the characteristics of the site, the Proposed Development, the receiving environment and the anticipated magnitude of the impacts, the Inspectorate is content for this matter to be scoped out of the ES	The level of operational traffic has been quantified within the Transport Assessment (refer to **Appendix 10A** in PEI Report Volume II). The impacts of operational traffic have not been assessed in this chapter, as agreed through Scoping.
		The Scoping Report does not explain the reasoning in support of the chosen study area. The ES should provide a clear justification as to why the study area chosen is sufficient to address the extent of the likely impacts resulting from the Proposed Development. The Applicant should make effort to agree the study areas with relevant consultation bodies including, NELC and Highways England. If agreement is reached with either body, evidence should be included in the ES.	To define the study area, a network of road links has been identified and then tested against Rules 1 and 2 of the GEART guidelines. Details are provided in Section 1.3 of this chapter. The study area for assessment has been agreed with Highways England and North Lincolnshire Council through consultation on the TA Scoping Report.
		The ES should assess impacts resulting from the routing of construction vehicles via the access route from the A18. The assessment should address issues relating to the capacity of the bridge crossings at Stainforth and Keadby canal and the Scunthorpe to Doncaster passenger rail line where significant effects are likely to occur.	Details are provided within the Transport Assessment (see **Appendix 10A** in PEI Report Volume II).

Consultee or Organisation	Date and nature of consultation	Summary of Response	How comments have been addressed in this Chapter
North Lincolnshire Council	June 2020 (Scoping Opinion)	All construction traffic should access the site via the A18, not the B1392.	This is noted and agreed as the transport route to Site. Details are provided within the Transport Assessment (**see Appendix 10A** in PEI Report Volume II).
Doncaster Metropolitan Borough Council	August 2020 (TA Scoping Opinion)	The approach contained within the Transport Scoping Note is acceptable.	This is noted.
Highways England	August 2020 (TA Scoping Opinion)	It is considered that AECOM will need to consider the AIL routing implications for M180 Junction 2 within the documentation prepared as part of the DCO application to enable Highways England to take a view on the implications at the strategic road network (SRN).	A number of AIL will need to be brought into the Proposed Development Site over the construction period for the Proposed Development. It is expected that the larger abnormal loads will be delivered by barge along the River Trent to the Waterborne Transport Offloading Area at Railway Wharf and transported into the Proposed Development Site via the additional Abnormal Indivisible Loads (AIL) Haul Route within the Proposed Development Site (refer to **Figure 3.2** in PEI Report Volume III). It is expected that the smaller abnormal loads will be transported by road from Immingham Dock via the M180 to Junction 2, leaving the westbound off-slip and travelling north on the A161 then east on the A18 or continuing north on the A161 to Ealand and then via New Trent Street and Bonnyhale Road. Detailed consideration will be given to the AIL route during detailed design once final details of the size, number and origin of loads are

Consultee or Organisation	Date and nature of consultation	Summary of Response	How comments have been addressed in this Chapter
			known. During construction, the Applicant will implement a Construction Traffic and Routing Management Plan to manage construction traffic including AIL. It is proposed that this will be secured by a Requirement of the draft DCO with the plan agreed by Highways England and the local highway authority.
		Request for the timings of deliveries throughout the week and the shift patterns that the permanent staff are likely to be working on to ensure that a robust assessment of the operational element of the proposed development can be undertaken.	This is noted. Details provided within the Transport Assessment (see **Appendix 10A** in PEI Report Volume II).
		The distribution and route assignment appear to be an appropriate distribution given the location of the development and the surrounding area.	This is noted.
		No reference is made to the use of count data on the SRN, which leads CH2M to the conclusion that the SRN will not be assessed as within the DCO application. As such, justification will be required from AECOM as to why this is the case.	A review of Highways England's Webtris database (https://webtris.highwaysengland.co.uk/#) provides count data on the M180 to the west of Junction 2. Count data extracted for August 2018 shows the average two-way weekday traffic flow to be 44,883 vehicles. At the peak of construction of the Proposed Development, an additional 598 two-way vehicles per day are expected on the M180 to the west of Junction 2. This represents a very low percentage increase on the M180 (equating to 1.3% of total traffic). This temporary effect of construction traffic would

Consultee or Organisation	Date and nature of consultation	Summary of Response	How comments have been addressed in this Chapter
			occur during the peak 2 months of a 36 month build programme for the Proposed Development; it is therefore considered that no further assessment of effects on the SRN is necessary and this has now been agreed with Highways England via their advisors CH2M Hill (September 2020).
		The transport documentation prepared as part of the DCO application should be compliant with DfT Circular 02/2013.	A future year assessment scenario of 2031 (ten years after the submission of the application - expected in Q1 2021) will be assessed to take into account the anticipated worst-case peak of construction traffic forecast at the latest start date in the available construction programme, considering a consent with a 7 year duration. The appointed contractor will be required to prepare a Construction Traffic Management Plan (CTMP) and Construction Workers' Travel Plan (CWTP) and this will be secured by a Requirement of the draft DCO. These plans will be in accordance with the Framework CTMP and CWTP to be prepared and submitted with the DCO Application to manage the traffic impact of the Proposed Development. The Transport Assessment (**Appendix 10A** in PEI Report Volume II) is therefore compliant with Circular 02/2013.

Consultee or Organisation	Date and nature of consultation	Summary of Response	How comments have been addressed in this Chapter
		It is considered by CH2M that AECOM should liaise with the local authority on such matters and providing a list of committed developments is agreed with them, the CH2M would support this.	An initial list of committed developments has been identified during scoping in consultation with the local authority and updated for this PEI Report. The list will continue to be reviewed and updated as the application progresses. It is agreed that AECOM will liaise with the local authority on such matters.
Highways England	September 2020 (TA Scoping Opinion)	Highways England consider your approach is reasonable. However, with regard the temporary construction impact at the SRN, some further detail of the peak period impacts would be beneficial to aid your review with regard the safe and efficient operation of the SRN.	This is noted.
North Lincolnshire Council	September 2020 (TA Scoping Opinion)	The proposed approach to the TA is acceptable.	This is noted.

Extent of Study Area

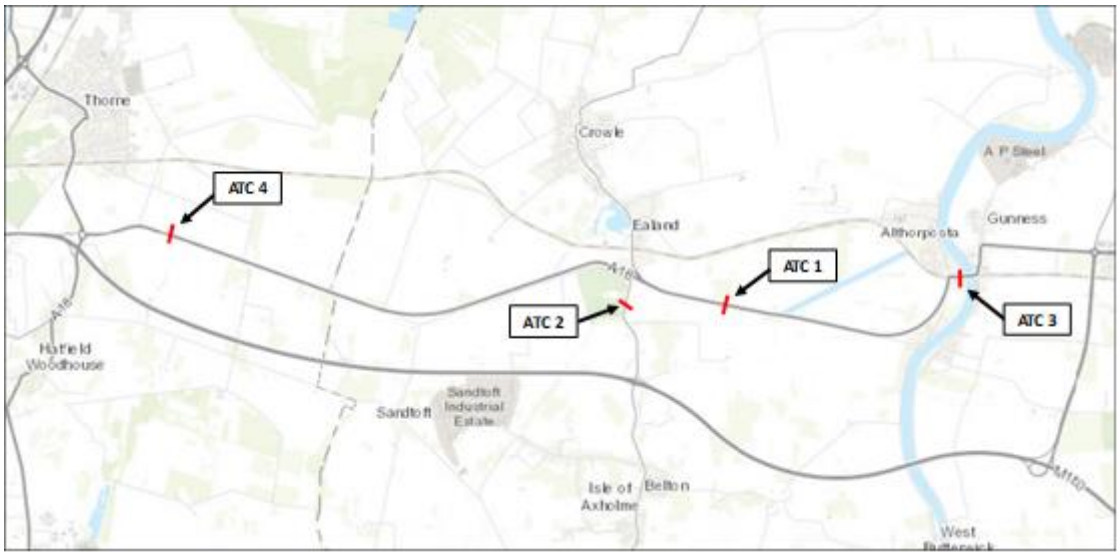
10.3.4 The study area for this assessment has been defined by reference to the 'Guidelines for the Environmental Assessment of Road Traffic' (IEA 1993). The guidelines set out two rules as follows:

- Rule 1 – include highway links where traffic flows are predicted to increase by more than 30% (or where the number of Heavy Goods Vehicles (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%.

10.3.5 To define the study area, a network of road links has been identified and then tested against Rules 1 and 2. The road links that have been considered in determining if the above rules are satisfied, and which form the study area, are listed below and shown on **Diagram 10-1** below (reproduced from **Appendix 10A**: Transport Assessment in PEI Report Volume II) i.e.:

- A18 (west of construction site access to Keadby 2 Power Station);
- A161 (between M180 Jct 2 and the A18);
- A18 Station Road (immediately to the west of King George V Bridge); and
- A18 High Levels Bank (east of Tudworth Roundabout).

Diagram 10-1: Highway Links within Study Area



Sensitivity of Receptors

10.3.6 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 it. Vulnerable users may include elderly residents and children. It is also necessary to consider footpath and cycle route networks that cross the roads within the study area.

10.3.7 A desktop exercise has been undertaken to classify the sensitivity of the routes within the Study Area. The classification of the link sensitivity is based on professional judgement. For example, if the route passes a school, care home or similar it would have a higher sensitivity due to the presence of vulnerable users. Similarly, if the route went through the middle of a town or village, it would have a higher sensitivity than if there was limited frontage development in the study corridor. Table 10.2 below identifies the links, the assigned sensitivity rating and the justification:

Table 10.2: Sensitivity of Receptors

Link No.	Link Description	Link Sensitivity	Rationale
1	A18 (west of construction site entrance to Keadby 2 Power Station)	Very Low	The A18 between the construction site entrance and the A161 passes through open country. It is a single carriageway road and is subject to the 60mph national speed limit for single carriageway roads. There are no pedestrian footways or frontage development along the road.
2	A161 (between the A18 and M180 Jct 2)	Very Low	The A161 is a single carriageway road passing through open country and is subject to the 60mph national speed limit. No footways are provided on either side of the carriageway. Frontage development is limited to a garden nursery and farm outbuildings.
3	A18 Station Road (west of King George V Bridge)	Low	The A18 Station Road is a single carriageway road and is subject to a 30mph speed limit. The road is suburban in nature with footways provided on either side of the carriageway.
4	A18 High Levels Bank (east of Tudworth Roundabout)	Very Low	The A18 between the junction with the A161 and Tudworth Roundabout passes through open country. It is a single carriageway road and is subject to the 60mph speed limit for single carriageway roads. There are no pedestrian footways with little frontage development along the road.

10.3.8 Traffic impacts on the M180 have not been assessed due to development traffic representing a very low percentage of total traffic on the M180, which does not trigger the rule threshold guidelines.

10.3.9 No Proposed Development construction or operational traffic is proposed to use the existing Keadby 1 Power Station access through the village of Keadby, so no road links in the village are included as receptors.

Assessment Methods

10.3.10 The assessment methodology adopted in this chapter, as contained in the Guidelines for the Environmental Assessment of Road Traffic (IEA 1993), is recognised as the industry standard methodology for the assessment of traffic and highway impacts. The guidelines outline the issues and the respective changes in volume and composition of traffic regarded as necessary before each issue results in traffic and transport impacts.

10.3.11 The following assessment scenarios have been assessed:

- construction phase (subject to the necessary consents being granted and an investment decision being made, construction of the Proposed Development could potentially start as early as Quarter 3 (Q3) 2022, however, given background traffic growth, a worst-case for assessment purposes is a scenario where construction commences later in the programme. 2029 has therefore been assumed as the year for commencement of construction in this chapter, with a peak of construction in 2031);
- opening Year (for the purposes of assessment in this chapter, 2032); and
- decommissioning (it is envisaged that the Proposed Development would have an operational life of circa 25 years. Taking into account the assessed opening year, decommissioning activities within this chapter are assumed to commence after 2057).

10.3.12 The following environmental effects are susceptible to changes as a result of the Proposed Development.

- **Severance:** Severance occurs in a community when a major artery separates people from places and other people. Severance occurs from difficulty of crossing a road or where the road itself creates a physical barrier. Severance can be caused to pedestrians or motorists. The Guidelines for the Environmental Assessment of Road Traffic (IEA 1993) suggest that changes in total traffic flow of 30%, 60% and 90% result in slight, moderate and substantial changes in severance respectively.
- **Pedestrian Amenity:** Pedestrian amenity is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition, pavement width and separation between vehicles and pedestrians. The impact manifests itself in fear and intimidation, exposure to noise and vehicle emissions. The Guidelines for the Environmental Assessment of Road Traffic (IEA 1993) suggest that a doubling or halving of total traffic flow or the HGV composition could lead to perceptible negative or positive impacts upon pedestrian amenity.

- **Fear and Intimidation:** The volume of traffic and its HGV composition are the factors that contribute to fear and intimidation. In the absence of thresholds set out in the Guidelines for the Environmental Assessment of Road Traffic (IEA 1993), this PEI Report considers that changes in total traffic flow of 30%, 60% and 90% are considered to result in slight, moderate or substantial impacts.
- **Highway Safety:** Highway safety is assessed by the frequency and severity of injury accidents that are attended by the police and recorded in official accident statistics. Intensification of use or changes in the composition of traffic has the potential to have an effect on collision rates. The examination of recent collision statistics on routes within the study area will highlight any hotspots that need further examination.
- **Driver Delay:** The use of industry standard junction capacity modelling programs provides a methodology to quantify junction delay. Driver delay is only likely to be significant where the existing study area highway network is at or close to capacity.
- **Hazardous Loads:** Assessed based on the estimated number and composition of such loads. Where the number of movements is considered to be significant, a risk analysis should be undertaken to illustrate the potential for an accident to happen and the likely effect of such an event.

Significance Criteria

10.3.13 Using the information set out above, the magnitude of traffic impacts is defined in Table 10.3.

Table 10.3: Sensitivity of Receptors

Type of Impact	Magnitude of Impact			
	Very Low	Low	Medium	High
Severance	Change in total traffic flow of <30%	Change in total traffic flow of 30% to 60%	Change in total traffic flow of 60% to 90%	Change in total traffic flow of >90%
Pedestrian Amenity	Change in traffic flow (or HGV Component) <50%	Change in traffic flow (or HGV Component) of 51% to 100%	Change in traffic flow (or HGV Component) of 101% to 150%	Change in traffic flow (or HGV Component) of >151%
Fear and Intimidation	Change in total traffic flow of <30%	Change in total traffic flow of 30% to 60%	Change in total traffic flow of 60% to 90%	Change in total traffic flow of >90%
Highway Safety	Magnitude of impact derived using professional judgment informed by the frequency and severity of collisions within the study area and the forecast increase in traffic.			
Driver Delay	Magnitude of impact derived using professional judgment informed by the increase in vehicle delay and whether a junction is at, or close to capacity.			
Hazardous Loads	Based on the probability of a personal injury collision, categorised as fatal or serious, involving a hazardous load occurring.			

10.3.14 By combining the receptor sensitivity with the magnitude of impact using the assessment matrix shown in Table 10.4, traffic effects are classified as negligible, minor, moderate or major (adverse or beneficial).

Table 10.4: Classification of Effects

Type of Impact	Sensitivity / Importance of Receptor			
	High	Medium	Low	Very Low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very Low	Minor	Negligible	Negligible	Negligible

10.3.15 Only moderate and major effects are considered to be significant.

Sources of Information / Data

10.3.16 As set out in detail in **Appendix 10A**: Transport Assessment (PEI Report Volume II), a series of 7-day automatic traffic counts (ATC) were undertaken at the following locations to provide a baseline for comparison on the road links:

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

10.3.17 Counts on Links 1 and 2 were undertaken between Wednesday 8th November and Tuesday 14th November 2017. The count on Link 3 was undertaken between Wednesday 13th May and Tuesday 19th May 2015. The count on Link 4 was undertaken in 2018 and obtained from Department for Transport Road Traffic Statistics website (roadtraffic.dft.gov.uk).

10.3.18 Although counts on Links 1, 2 and 3 are 3 years or older, due to the Covid 19 pandemic, it has been agreed with North Lincolnshire Council Highways during scoping that these are the best representative data available for the purposes of this assessment.

10.3.19 In addition to the ATC counts, the impact of the Proposed Development has been examined at the junction of the A18 and the construction site access for the overall network morning (AM) and evening (PM) peak hours using the Link 1 count data.

Use of Rochdale Envelope

10.3.20 The traffic and transport assessment has been undertaken with reference to the Rochdale Envelope. The construction assessment has been based on the worst-case assumption of activities not commencing until 2029, assuming that consent is granted in Q3 2022 and is valid for up to seven years. Consequently, the results presented in this assessment are representative of earlier assessment years and the overall effect of the Proposed Development may be less than that presented, as background traffic

is expected to increase year on year. Use of the Rochdale Envelope therefore does not change the conclusions of the impact assessment and does not result in any additional significant traffic effects being identified. It is considered that a worst-case scenario has been assessed in line with the Rochdale Envelope approach.

10.4 Baseline Conditions

Existing Baseline

Site Location

10.4.1 The Proposed PCC Site will be located within the wider Keadby Power Station site, approximately 5km to the west of the town of Scunthorpe adjacent to the village of Keadby.

10.4.2 Access to the Proposed Development Site during both construction and operation will be via the existing perpendicular and skewed construction access points off the A18, built for construction vehicles during the building of the Keadby Wind Farm and currently used by construction vehicles associated with the Keadby 2 Power Station. A Temporary Traffic Regulation Order (TTRO) is currently in place for the A18 in the vicinity of the Keadby 2 Power Station construction site entrance to reduce the speed limit to 40mph.

10.4.3 The skewed 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; alternative abnormal loads access is also proposed via a barge offloading point on the River Trent and by road via Ealand and Bonnyhale Road. The access road continues towards the Stainforth and Keadby Canal, crossing the canal and existing Scunthorpe to Doncaster passenger railway line on the North Pilfrey Bridge. 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 PCC Site along existing private access roads.

10.4.4 The A18 continues westwards from the Proposed Development 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.

10.4.5 The A18 continues to the west to join the M180 Junction 1 via the Tudworth roundabout.

10.4.6 To the east of the access to the Proposed Development 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.

10.4.7 The existing main site access to Keadby Power Station is taken from the B1392, named Station Road in the vicinity of the site, although this would not be used for access to the Proposed Development 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.

10.4.8 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.

10.4.9 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.

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

10.4.11 Chapel Lane runs to the east of the Proposed PCC 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 the build period for the Proposed Development. However, Chapel Lane will provide a connection to the emergency vehicle access which will route to the north of the Proposed PCC site. 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 Proposed PCC Site, the width ranges between approximately 4.8m and 6.3m.

Existing Traffic Flows

10.4.12 The following highway links form the agreed highway network of interest for this assessment:

- A18 to the west of the Proposed Development Site access/ existing access for Keadby 2 Power Station construction vehicles;
- A161 between the A18 and the M180 Jct 2;
- A18 Station Road to the west of King George V Bridge; and
- A18 High Levels Bank (east of Tudworth Roundabout).

10.4.13 Baseline 24 hour annual average daily traffic (AADT) two-way link flows in 2020 for the agreed study area have been derived by applying Tempro growth factors for the area in which the Proposed Development is located (MSOA 006 within North Lincolnshire District) and are provided in Table 10.5.

Table 10.5: 2020 Baseline Traffic Flows (24-hour AADT)

Link	Link Description	Total Vehicles	Total HGVs
1	A18 (west of the Proposed Development Site access / existing access for Keadby 2 Power Station construction vehicles)	8,132	707
2	A161 (between the A18 and the M180 Jct 2)	5,622	704
3	A18 Station Road (to the west of King George V Bridge)	14,896	962
4	A18 High Levels Bank (east of Tudworth Roundabout)	6,693	920

Baseline Accident Record

10.4.14 Personal Injury Accident (PIA) data has been obtained from the Crashmap website for the five year period 2015 to 2019 for the study area, which includes the A18 from its junction with Tudworth Roundabout to its junction with Frodingham Grange Roundabout and the A161 to its junction with the M180. The study area also includes Junctions 1 and 2 of the M180 including slip roads.

10.4.15 There has been a total of 83 personal injury accidents within the analysed data for the study period. Of these, the majority (63) were recorded as 'slight' in severity, with 20 recorded as 'serious'. The year-on-year trend for overall PIA occurrence is also relatively consistent. Table 10.6 summarises the accidents that have occurred over the specific period.

Table 10.6: Summary of Recorded Accidents (2015 – 2019)

Location	Accident Severity				
	Slight	Serious	Fatal	Total	HGV Involved
Frodingham Grange Roundabout	16	7	0	23	3
A18 (between Tudworth Roundabout & A18 / A161 Junction)	7	4	0	11	4
A18 (between A18 / B1392 and Frodingham Grange Roundabout)	5	4	0	9	2
Tudworth Roundabout	7	1	0	8	1
A18 / A161 Junction	8	0	0	8	1
M180 Junction 2 (including slip roads)	6	1	0	7	3

Location	Accident Severity				
	Slight	Serious	Fatal	Total	HGV Involved
A18 (between A18 / A161 and A18 / B1392)	5	2	0	7	0
M180 Junction 1 (including slip roads)	3	1	0	4	1
A18 / B1216 Junction	4	0	0	4	0
A161 (between M180 Junction 2 and A18)	3	0	0	3	0

10.4.16 Only one accident of slight severity occurred in close proximity to the A18/construction site access and involved two cars. This accident occurred in May 2016 before the start of construction of Keadby 2 Power Station and therefore the accident is not connected with this junction.

10.4.17 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.

Future Baseline

10.4.18 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 Q3 2022 over a period of circa three years. As the Development Consent Order (DCO) would be valid for seven years after receipt and could be started at any time, it is necessary to derive a realistic worst-case future assessment year.

10.4.19 Baseline traffic flows on the road network are projected to increase year on year. For the purposes of this assessment and to represent a realistic worst-case scenario, a 36-month build programme starting in Q3 2029 and ending in Q3 2032 has been chosen.

10.4.20 Future year baseline traffic flows for the assessment year of 2031 for the peak of construction have been derived by applying the national standard programme Trip End Model Presentation Program (TEMPRO) to derive traffic growth factors, as indicated in Table 10.7. These growth factors have been taken into account when comparing the baseline and future traffic scenarios.

Table 10.7: TEMPRO traffic growth factors (average day)

YEAR	GROWTH FACTOR
2020 - 3031	1.1287

10.4.21 Future year baseline scenarios are not detailed for 2032 (opening) due to the very low traffic flows generated by the operation of the Proposed Development. Therefore, a quantitative assessment of operational traffic has not been considered necessary, as the vehicle numbers generated would be considerably lower than those that would be

experienced during the construction period. This was agreed with stakeholders through the Scoping Opinion.

10.4.22 Future year baseline traffic flows for the assessment year of 2031 peak of construction are presented in Table 10.8.

Table 10.8: 2031 Baseline Traffic Flows (24-hour AADT)

Link	Link Description	Total Vehicles	Total HGVs
1	A18 (west of the Proposed Development Site access/ existing construction site access for Keadby 2 Power Station)	9,179	798
2	A161 (between the A18 and the M180 Jct 2)	6,346	795
3	A18 Station Road (to the west of King George V Bridge)	16,813	1,086
4	A18 High Levels Bank (east of Tudworth Roundabout)	7,554	1,038

10.4.23 The assessment has had regard to the traffic generated by 'committed' developments, in accordance with the methodology for assessing potential cumulative effects with other schemes, as detailed in **Chapter 19:** Cumulative and Combined Effects (PEI Report Volume I); as follows:

- PA/2019/1904 – erection of 30 affordable residential dwellings, Old Railway Sidings, Althorpe;
- PA/2017/1513 – erection of 27 residential dwellings, Land off A18, Althorpe;
- PA/2017/464 – erection of 14 residential dwellings, Old Railway Sidings, Althorpe;
- PA/2017/824 – erection of 29 dwellings, Seven Lakes Industrial Estate, Ealand;
- PA/2019/1088 – erection of 88 dwellings, land West of Turslane Drive, Scunthorpe;
- PA/2019/1807 – erection of 11 Industrial Units, Hebden Road, Scunthorpe;
- PA/2020/660 – mixed use development, land off Jack Brownsword Way, Scunthorpe;
- PA/2020/1207 – erection of 110 dwellings, land west of Greengarth, Yaddlethorpe;
- PA/2020/1333 – erection of 144 dwellings, land off Burringham Road, Scunthorpe;
- PA/2019/568 – erection of 29 dwellings, Silver Street, Winteringham;
- PA/2019/943 – erection of 14 dwellings, Eastcroft, Crowle;
- PA/2019/1904 – erection of 30 dwellings, Althorpe;
- PA/2020/211 – erection of 12 dwellings, Bottesford Road, Scunthorpe;
- PA/2020/362 – erection of 15 lodges and 3 glamping pods, Poles Bank, Wroot; and

- PA/2020/1417 – erection of 10 dwellings, Westgate Road, Belton.

10.4.24 Vehicle movements associated with these committed developments identified in **Chapter 19:** Cumulative and Combined Effects would not generate any significant levels of traffic through the Site study area, resulting in a negligible impact on the local highway network. As such, any development traffic associated with them would be incorporated within background growth applied to the 2020 baseline flows.

10.4.25 It is noted that the Planning Inspectorate has requested that the Applicant consider the effects associated with the Little Crow Solar Park NSIP located approximately 10km to the south-east of the Proposed Development. An Application has not yet been submitted to the Planning Inspectorate in relation to this proposed NSIP. However, on the basis of the distance from the Proposed Development and available information provided on the Planning Inspectorate website, including the Scoping Opinion which states that '*Appendix 2.1 states that a maximum of 25 Annual Average Daily Traffic Movements (AADT) is expected during the construction phase period*', it is not considered that this NSIP requires consideration as none of the traffic is anticipated to flow through the Proposed Development Site study area and the traffic volumes are low.

10.5 Development Design and Impact Avoidance

10.5.1 As set out in **Chapter 4**: The Proposed Development, there are areas for which there is currently variability in the design that could affect the assessment. However, the Rochdale Envelope defined for building sizes and plant design do not affect this assessment and is therefore not considered further.

10.5.2 As with the construction of Keadby 2 Power Station, traffic movements will be controlled during the Proposed Development construction phase in order to minimise potential impacts on the surrounding road network, namely construction HGVs arriving or departing the Proposed Development Site would travel to/ from the west via the A18, A161 and onwards to the M180 Junction 2.

10.5.3 As with the construction of Keadby 2 Power Station, it is anticipated that TTRO would be sought via the DCO to reduce speed on the A18 in the vicinity of the Proposed Development access from the A18.

10.5.4 In addition to the above, the Applicant will implement a range of good practice mitigation measures during the construction phase to minimise traffic impacts upon local highways, including:

- implementation of the CWTP which includes measures and procedures to encourage construction workers to adopt modes of transport which reduce reliance on single occupancy private car use. A Framework CWTP will be provided with the Application;
- liaison with the appointed contractor for the potential to implement construction worker minibuses and car sharing options (considered as part of the CWTP);
- implementation of the CTMP to include measures to control the routing and impact of HGVs on the local road network during construction. A routing plan would be provided within the Framework CTMP submitted with the Application, which HGV

drivers would be required to adhere to. The CTMP would be controlled by a Requirement of the draft DCO; and

- during the commissioning (and operational) phase, working with suppliers to ensure that all relevant materials (including chemicals) bought to the Proposed Development Site that are classified as hazardous (refer to **Chapter 4**: The Proposed Development) are transported in compliance with applicable regulations including the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (CDG Regs) (as amended). This will include, for example:
  - consignments being marked with the familiar "Emergency Action Codes"; and
  - including a telephone number for advice in the event of an emergency.

10.5.5 Once the Proposed Development is operational, up to circa 50 permanent operational roles would be created. Due to the very low traffic flows this would generate, and the proposed use of the new operational access off the A18, rather than via the existing Keadby Power Station entrance, no additional impact avoidance measures are proposed in respect to operational personnel.

10.5.6 Chemicals and wastes transported to/ from the Proposed Development Site, where they are deemed to be hazardous, will be transported in fit for purpose vehicles and will comply with existing legal and regulatory duties. Regulation of hazardous loads is currently via the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) (United Nations, 2019). ADR sets out the requirements for the classification, packaging, labelling, and certification of dangerous goods. It also includes specific vehicle and tank requirements and other operational requirements. The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 apply ADR in Great Britain.

10.5.7 Decommissioning would be expected to require 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. To minimise the impacts of decommissioning upon local highways, it is anticipated that a Decommissioning Traffic Management Plan (DTMP) would be prepared prior to demolition activities commencing to control the routing and impact of HGVs. This would be secured by a requirement of the draft DCO.

10.6 Likely Impacts and Effects

Construction

10.6.1 Access to and from the Proposed Development Site for construction workers would be via the existing construction site entrance for Keadby 2 Power Station, located off the A18. The feasibility of upgrading the junction by undertaking carriageway improvements which may include a turning lane is currently under consideration. Both the perpendicular and skew bridges are subject to inspection and may need to be upgraded (refer to **Chapter 4**: The Proposed Development).

10.6.2 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 Q3 2022 or at the latest Q3 2029 lasting 36 months. For the purposes of assessment, the latest construction start date of Q3 2029 has been

considered in order to represent a 'realistic' worst-case scenario for traffic assessment purposes.

10.6.3 It is expected that the construction workforce could peak at circa 1,300 workers per day in months 20 - 21 (i.e. Q1 2031). A profile of the anticipated daily workforce each month through the construction period is provided in **Appendix 10A**: Transport Assessment (PEI Report Volume II).

10.6.4 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.

10.6.5 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. Any such works will be minimised and will be carefully managed to reduce effects on local people.

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

10.6.7 Based on the methodology contained within the Transport Assessment (**Appendix 10A** in PEI Report Volume II), the weekday construction worker shift is likely to generate approximately 558 vehicular trips (one-way) during the AM arrival and PM departure periods at the peak of construction.

10.6.8 HGVs delivering construction materials would access the Proposed Development Site from the existing Keadby 2 construction site entrance located off the A18, with all HGVs arriving and departing to/ from the west via the A18, A161 and onwards to the M180 Junction 2. The volume of HGVs associated with construction of the Proposed Development on the network is predicted to be at its maximum of 624 daily two-way vehicle movements (312 in and 312 out) during the first two months of construction, associated with the potential cut and fill of the top layer of ground within the Proposed PCC Site Area to improve the geotechnical condition of the ground. During the remainder of the construction period it is estimated there will be a maximum of 60 HGV trips (one-way) in months 18 – 29 (which includes the peak of construction) and 30 HGV trips (one-way) for the remainder of construction.

10.6.9 Combining construction workforce vehicle movements with construction HGV movements over the entire construction programme shows the overall peak to occur in Months 20 and 21 when 1,236 two-way vehicle movements are anticipated (1,116 two-way car / van movements and 120 two-way HGV movements per day).

10.6.10 A number of AIL movements are expected to be required during the construction programme.

10.6.11 It is anticipated that delivery of AIL to the Proposed Development Site will use the same routes as those currently being 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 barged down the River Trent to the Waterborne Transport Offloading Area at Keadby Railway Wharf, which will be included within the indicative order limits for the Application (refer to **Figure 3.2** in PEI

Report Volume III). The components will then be transported to the Proposed Development Site crossing the B1392 onto the temporary haul road that runs to the east of PD Port Services. 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.

10.6.12 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 Proposed Development Site either via the existing construction access road off the A18 and passing over North Pilfrey Bridge, or utilising Bonnyhale Road via Ealand; both these routes were used for the delivery of abnormal loads into the Keadby 2 construction project.

10.6.13 All three AIL routes are therefore already established route options and are considered suitable for the transportation purposes required. Should improvements to any of the AIL routes be necessary, these routes are included within the indicative order limits for the Application (refer to **Figure 3.2** in PEI Report Volume III).

10.6.14 Table 10.9 summarises the expected profile of construction phase peak traffic levels (see the Transport Assessment in **Appendix 10A** (PEI Report Volume II) for further details).

Table 10.9: Daily Construction Vehicle Profile (Peak Month of Construction)

Hour Beginning	Construction Worker Vehicles		Construction HGVs	
	Arrival	Departure	Arrival	Departure
06:00	167	0	0	0
07:00	307	0	5	5
08:00	56	0	5	5
09:00	28	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	56	5	5
17:00	0	84	5	5
18:00	0	390	5	5
19:00	0	28	0	0
Total	**558**	**558**	**60**	**60**

10.6.15 Based on the vehicle assignment contained within the Transport Assessment (**Appendix 10A**, PEI Report Volume II), Table 10.10 summarises the likely changes in link flows within the agreed study area for the assessment year 2031, peak of construction. HGV traffic has been assigned to the most direct route to the strategic network which is the M180 Junction 2 via the A18 and the A161. The construction workers assignment has been based on the geographic split of population within a 45 minute drive-time of the Proposed Development Site.

Table 10.10: 2031 Base + Peak of Construction Daily Two-Way Traffic Flows

Link No.	Link Description	Baseline Flow		Construction Traffic		Percentage Increase	
		Total veh.	Total HGV	Total veh.	Total HGV	Total veh.	Total HGV
1	A18 (west of the construction site access for Keadby 2)	9,179	798	901	120	9.8%	15.0%
2	A161 (between the A18 and the M180 Jct 2)	6,346	795	734	120	11.6%	15.1%
3	A18 Station Road (to the west of King George V Bridge)	16,813	1,086	335	0	2.0%	0.0%
4	A18 High Levels Bank (east of Tudworth Roundabout)	7,554	1,038	168	0	2.2%	0.0%

10.6.16 The assessment matrix (Table 10.3) has been used to assess the transportation effects associated with construction traffic at the peak of construction by combining the receptor sensitivity with the magnitude of impact.

Severance

10.6.17 The predicted change in total traffic associated with Proposed Development construction activities is considerably less than 30% on each link road (very low impact). Therefore, the severance effect would be negligible (not significant).

Pedestrian Amenity

10.6.18 The change in total traffic (or HGV component) is considerably less than 50% on each link road (very low impact). Therefore, the effect for pedestrian amenity would be negligible (not significant).

Fear and Intimidation

10.6.19 The change in total traffic is considerably less than 30% on each link road (very low impact). Therefore, the effect on fear and intimidation would be negligible (not significant).

Highway Safety

10.6.20 Accident data for the most recent five years has been acquired for the study area and is summarised in Section 10.4. The statistics provide information on the location and severity of each Personal Injury Accident (PIA). Given that the level of increase in traffic flow resulting from the Proposed Development on road links is negligible, the effect on highway safety is considered negligible (not significant).

Driver Delay

10.6.21 The performance of a junction is judged by the ratio of flow to capacity (RFC). As a general guide, a junction operating below a threshold of 0.85 is considered to operate within its design capacity. Junction modelling has been undertaken at the A18 / construction site access (the results of which are provided in the Transport Assessment (**Appendix 10A** in PEI Report Volume II for the AM and PM peak hours (07:00 – 08:00 and 16:00 – 17:00). This demonstrates that the junction would operate within its design capacity at the peak of construction (Q1 2031). Junction modelling, therefore, indicates that the driver delay effect of the Proposed Development would be negligible (not significant).

Overview

10.6.22 In summary, the effects of Proposed Development construction traffic on all road links and junctions within the study area are considered to be negligible, and therefore not significant.

Opening and Operation

10.6.23 During the operational phase of the Proposed Development, up to circa 50 permanent operational roles would be created. Conservatively assuming a car occupancy of one, this could equate to an additional circa 50 cars accessing the Proposed Development Site per day (100 vehicle movements).

10.6.24 There would also be additional HGV traffic generated by deliveries associated with operations and maintenance plant/ equipment.

10.6.25 Fuel (natural gas) would be delivered by pipeline therefore, there would be no vehicular movements associated directly with the transport of gas to the Proposed Development Site.

10.6.26 With regard to the delivery and removal of hazardous loads associated with the CCP Plant, the IEMA guidance notes that some developments may involve the transportation of dangerous or hazardous loads by road and that, where this is likely to occur, an ES should clearly outline the estimated number and composition of such loads. Where the number of movements is considered to be significant, a risk analysis is required to illustrate the potential for an accident to happen and the likely effect of such an event.

10.6.27 The full details for the expected hazardous substances and related quantities to be delivered and removed from the Proposed Development Site during the operational phase are not yet known but preliminary information has been compiled and it is estimated that there would be circa 1 HGV per day delivering chemicals and up to 5 HGV per day coming to remove waste (mainly acid wash effluent). On this basis the

number of movements is not considered to be significant against the assessment screening criteria and based on the baseline road traffic volumes on the primary route to Site and therefore no further assessment is required. Legal compliance measures are outlined in Section 10.5 to ensure the appropriate carriage of hazardous goods to and from the Proposed Development Site.

10.6.28 Due to the very low traffic flows which would result once the Proposed Development is operational (for the purposes of this assessment, assumed to be 2032), the vehicle numbers generated would be considerably lower than those anticipated during the construction period. Taking this into account, and the development design and impact avoidance measures proposed, the overall traffic effects during Proposed Development operation would be negligible (not significant).

Decommissioning

10.6.29 Decommissioning would be expected to require 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 higher than those experienced during the Proposed Development construction period.

10.6.30 Current baseline data collected for the purposes of this assessment would not be valid at the year of Proposed Development decommissioning (i.e. for the purposes of this assessment after circa 2057). However, as it is unlikely that baseline traffic figures on local roads would reduce appreciably over the next 35 - 40 years, it is considered that the percentage increase in traffic due to Proposed Development decommissioning would be negligible. Therefore, overall the effects of decommissioning traffic would be no greater than that of the construction traffic as detailed herein. Effects are, therefore, anticipated to be not significant.

10.7 Mitigation and Enhancement Measures

10.7.1 The assessment as presented herein indicates that the Proposed Development is not anticipated to generate any significant traffic-related effects. Therefore, no secondary mitigation measures additional to those as indicated in Section 10.5 are considered to be necessary.

10.8 Limitations or Difficulties

10.8.1 Detailed construction information is not yet available as the construction contractor has not yet been appointed. Therefore, this assessment draws upon the experience and assessments undertaken for other similar projects. It is considered that the assumptions made have resulted in the assessment being robust.

10.9 Summary of Likely Significant Residual Effects

10.9.1 The additional traffic due to Proposed Development construction activities would result in small, temporary increases of traffic flows, including HGVs, on the roads leading to the Proposed Development Site. In line with the significance criteria presented herein and in the Transport Assessment (**Appendix 10A** in PEI Report Volume II), the effects of construction traffic on all road sections and junctions are anticipated to be negligible and thus not significant. Notwithstanding, a number of

traffic management measures would be implemented during the Proposed Development construction phase to minimise traffic impacts upon the local road network (refer to Section 10.5).

10.9.2 The generation of traffic during Proposed Development operation would be minimal when compared to the construction phase. Therefore, Proposed Development operational phase traffic effects are also considered to be negligible and thus not significant.

10.9.3 The generation of traffic during the decommissioning phase is expected to involve 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, the effects of decommissioning traffic would be no greater than that of the construction traffic and are, therefore, anticipated to be negligible and thus not significant. Notwithstanding, a Decommissioning Traffic Management Plan (DTMP) would be implemented during the decommissioning phase to control the impact and routing of HGVs.

10.9.4 The results presented in this chapter of the PEI Report are preliminary. Engineering design, modelling and technical assessment will continue and if required, the impact assessment will be updated to accompany the Application.

10.10 References

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

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