

Table of Contents

16.	Traffic and Transport.....	16-1
16.1	Introduction.....	16-1
16.2	Legislation and Planning Policy Context.....	16-1
16.3	Assessment Methodology and Significance Criteria.....	16-4
16.4	Baseline Conditions.....	16-15
16.5	Development and Impact Avoidance	16-21
16.6	Likely Impacts and Effects	16-22
16.7	Mitigation Measures	16-30
16.8	Residual Effect Assessment	16-30
16.9	References	16-31

Pictures

Picture 16-1:	Study Area	16-6
---------------	------------------	------

Tables

Table 16-1:	Sensitivity Criteria.....	16-7
Table 16-2:	Sensitivity of Receptors	16-8
Table 16-3:	Traffic and Transport Assessment Framework – Magnitude of Impacts	16-11
Table 16-4:	Classification of Effects.....	16-11
Table 16-5:	Consultation Summary Table.....	16-13
Table 16-6:	2019 Baseline Traffic Flows.....	16-15
Table 16-7:	TEMPRO Traffic Growth Factors (average day)	16-18
Table 16-8:	2024 Baseline Traffic Flows (24 Hour AADT)	16-18
Table 16-9:	2024 Baseline Traffic Flows (24 Hour AADT)	16-19
Table 16-10:	Committed Development Flows (24 Hour AADT)	16-20
Table 16-11:	2024 Future Baseline (24 Hour AADT)	16-20
Table 16-12:	2024 Future Baseline (24 Hour AADT)	16-21
Table 16-13:	Daily Construction Vehicle Profile (Peak Month of Construction) ...	16-23
Table 16-14:	2024 Base + Committed and Proposed Peak Construction Development Two-Way AADT Traffic Flows	16-26
Table 16-15:	2024 Base & Growth + Committed + Proposed Peak Pipeline Construction Development Two-Way Traffic flows.....	16-29

16. Traffic and Transport

16.1 Introduction

- 16.1.1 This chapter of the Preliminary Environmental Information (PEI) Report addresses the potential effects of the Proposed Development on traffic and transport.
- 16.1.2 This chapter is supported by Figures 16-1 to 16-3 (PEI Report, Volume II and Appendix 16A: Transport Assessment (PEI Report, Volume III)).

16.2 Legislation and Planning Policy Context

- 16.2.1 This section outlines the planning policy relating to traffic and transport. A full overview of all relevant planning policy is covered in Chapter 7: Legislative Context and Planning Policy (PEI Report, Volume I), which also sets out the primacy of National Policy Statements (NPS) in decision-making on NSIP such as the Proposed Development.

National Planning Policy

National Policy Statement for Energy (NPS EN-1)

- 16.2.2 The National Policy Statement (NPS) (Department of Energy and Climate Change (DECC), 2011a) was published in 2011. Section 5.13 of the NPS outlines the planning policy for traffic and transport, including guidance on undertaking relevant parts of the EIA (which has been taken into account in producing the PEI Report). 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.”

- 16.2.3 In terms of the Secretary of State’s decision making, Section 5.13 of the NPS states that the Infrastructure Planning Commission (now the 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 additional measures to mitigate the adverse impacts on transport networks arising from the development, which could include:

- demand management measures;
- water-borne or rail transport, where cost effective; and
- including relevant requirements within the DCO where there is likely to be substantial HGV traffic.

National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (NPS EN-2)

- 16.2.4 Section 2.2 of NPS EN-2 (DECC, 2011b) 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

- 16.2.5 The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2019) sets out the Government's national planning policies for England.
- 16.2.6 The NPPF 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 numbers of vehicle movements are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised.
- 16.2.7 The NPPF recommends that a Transport Statement (TS) or Transport Assessment (TA) should support all developments that generate significant numbers of vehicle movements and that development should only be



prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

Local Planning Policy

Redcar and Cleveland Local Transport Plan 2011 – 2021

16.2.8 The Redcar and Cleveland third Local Transport Plan, 2011 - 2021 (LTP3) was adopted by RCBC in March 2011 and builds upon the core strategy and the Teesside Local Enterprise Partnership Statement of Transport Ambition by setting five main goals for city and regional networks, namely:

- reduce carbon emissions;
- support economic growth;
- promote quality of opportunity;
- contribute to better safety, security and health; and
- improve quality of life and a healthy natural environment.

16.2.9 The following four policies have been identified as being critical in achieving the goals of the LTP3 and are considered to be of particular relevance to the consideration of the Proposed Development's potential transport impacts:

- PEG2 – manage the demand for travel, in particular during peak periods. The package of measures will include car parking restraint and enforcement; providing informed travel choices; considerate land use planning;
- PEG4 – address localised congestion issues, in particular through the development of Workplace Travel Plans (WTP) and through localised traffic management schemes;
- PEG5 – manage freight transport in the borough to provide reliability of journey times and minimise adverse environmental impacts; and
- SSH1 – improve road safety in the borough through a combination of education, encouragement, engineering and enforcement initiatives.

Other Guidance

Planning Practice Guidance

16.2.10 The Government's Planning Practice Guidance 'Travel Plans, Transport Assessments and Statements in Decision-taking' was first published in March 2014 on the Government planning guidance planning portal (Department for Communities and Local Government, 2014) and has been used to inform the transport assessment.

Guidelines for the Environmental Assessment of Road Traffic

16.2.11 The Guidelines for the Environmental Assessment of Road Traffic (GEART) were published in 1993 by the Institute of Environmental Assessment (IEA). 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

- 16.2.12 Circular 02/2013 was published in September 2013 by the Department for Transport 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

- 16.2.13 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 and has been used to inform the transport assessment.

16.3 Assessment Methodology and Significance Criteria

Overview

- 16.3.1 A scoping exercise is currently being held with RCBC, Stockton Borough Council (SBC) and Highways England to agree the appropriate scope and methodology for traffic and transport assessment. This is discussed within Appendix 16A: Transport Assessment (PEI Report, Volume III) with scoping responses included within Annex 16A.0 (Appendix 16A: Transport Assessment, PEI Report, Volume III).
- 16.3.2 The environmental impact of traffic generated by the Proposed Development has been assessed with reference to the GEART. 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. For the purposes of this chapter no allowance has been made for the delivery of construction materials by rail (in order to assess the 'worst case' construction road traffic impact), but the Contractor will review options for the use of rail and water when sourcing construction materials. The Contractor will also review the use of rail travel for construction staff accessing the site using the existing Redcar British Steel railway station.
- 16.3.3 Any likely significant environmental effects relating to noise and vibration and air pollution, generated by traffic from the Proposed Development are considered in Chapter 8: Air Quality, Chapter 11: Noise and Vibration and Chapter 24: Cumulative and Combined Effects (PEI Report, Volume I).

Key Parameters for Assessment

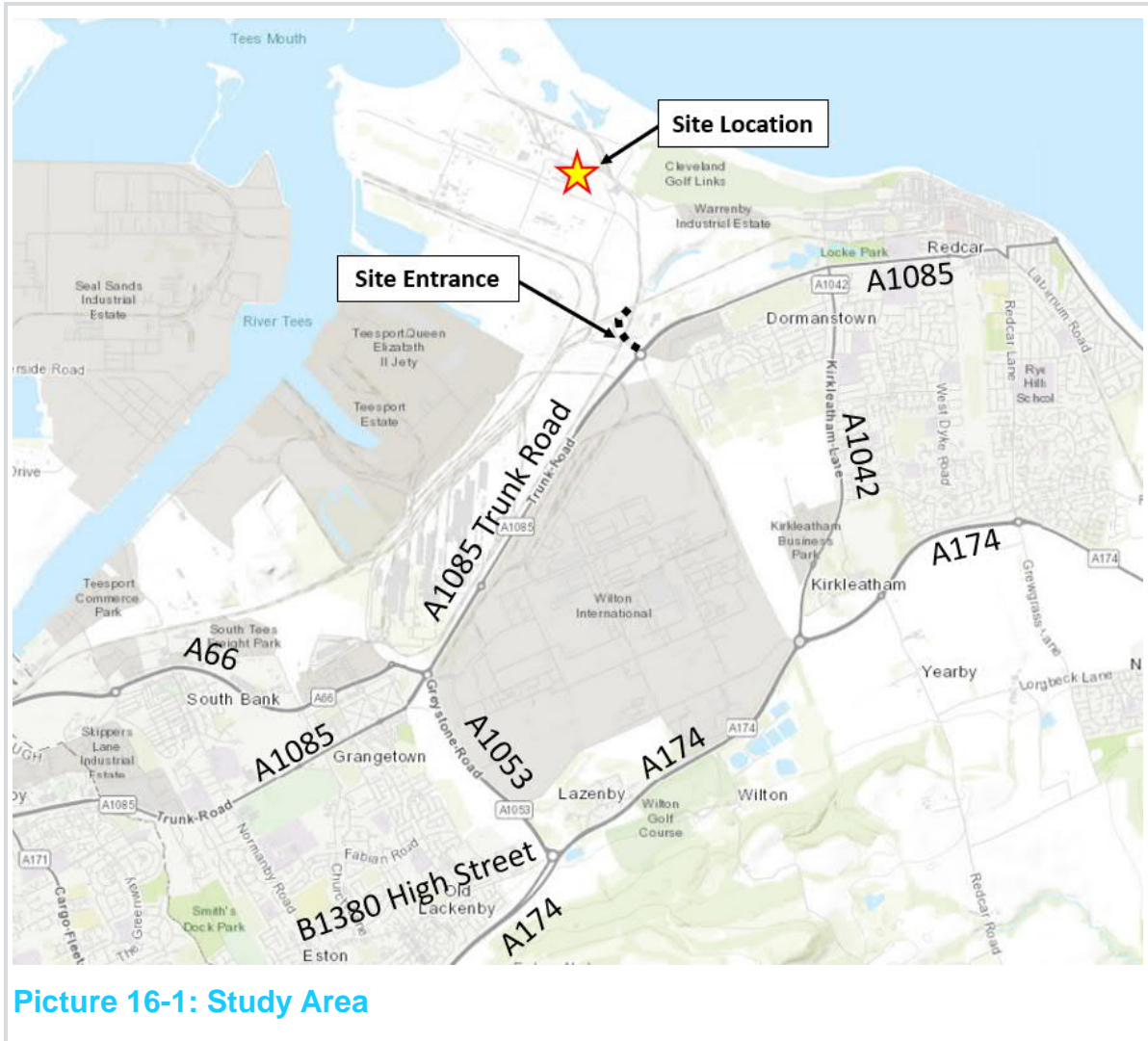
Site Location

- 16.3.4 The Power, Capture and Compressor site (PCC) is accessed from the A1085 Trunk Road, a dual carriageway road running north-east to south-west between Redcar and the A1053 Tees Dock Road. The road is subject to the



national speed limit. Travelling south-west from the site access, the A1085 Trunk Road provides a link to the A1053 Tees Dock Road which in turn connects to the A174 to the south and the A66 to the north. The A1053 Tees Dock Road and A174 are part of Highways England's core network.

- 16.3.5 Access routes to the Natural Gas Connection Corridor and CO₂ Gathering Network are proposed from the A1085, A1053, A178, and the unnamed road to Seal Sands.
- 16.3.6 The maximum and minimum parameters adopted for building sizes within the Rochdale Envelope defined for the Proposed Development do not have any material impact on vehicle numbers accessing the PCC and therefore are not considered further in this assessment. Similarly, where flexibility is to be retained in the application, any changes are unlikely to have a material difference on the volumes of traffic accessing the PCC during construction or the Natural Gas Connection and CO₂ Gathering Network.
- 16.3.7 The Study Area scope of this assessment has been defined by reference to the GEART. These guidelines set out two rules for this:
- Rule 1 – include highway links where traffic flows are predicted to increase by more than 30% (or where the number of HGV 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%.
- 16.3.8 The road links for the PCC that have been considered in determining if the above rules are satisfied, and which form the Study Area, are listed below and shown on Picture 16-1.



Picture 16-1: Study Area

- A1085 Trunk Road (east of PCC entrance);
- A1085 Trunk Road (west of PCC entrance);
- A1042 Kirkleatham Lane;
- A1085 Trunk Road (south of British Steel Lackenby entrance);
- A1085 Broadway;
- A66 (west of A1053);
- A1053 Greystone Road;
- B1380 High Street; and
- A174 (west of Greystones roundabout).



16.3.9 In addition, the following road links have been considered in relation to the Natural Gas Connection Corridor and CO₂ Gathering Network north of the Tees:

- A1046 Port Clarence Road;
- A178 Seaton Carew Road; and
- Unnamed Road serving Seal Sands.

16.3.10 Figure 16-1: Traffic Study Area (PEI Report, Volume II) shows the Study Area, the PCC and the Site boundary.

Sensitivity of Receptors

16.3.11 Parties considered to be ‘affected’ by increases in traffic comprise those living close to the roads where traffic flows are expected to change along with road users such as pedestrians. Equally, the proximity or separation of affected parties from the road and the associated traffic composition influences the sensitivity of the receptor. In terms of driver delay, the closer a junction is to capacity, the more sensitive it is to change.

16.3.12 There are no commonly agreed definitions of sensitivity to changes in traffic flow and in line with IEA guidelines professional judgement is required. Table 16-1 provides a broad guide which has been used to determine the sensitivity of receptors and users of the road network affected by the proposals.

Table 16-1: Sensitivity Criteria

Sensitivity	Description
High sensitivity	Large population located close to the road with a few receptors of greatest sensitivity including schools, colleges, accident blackspots and roads without footways that are used by pedestrians
Medium sensitivity	Moderate population located away from the road with traffic flow. Sensitive receptors including congested junctions, shopping areas with roadside frontage, unsegregated cycleways, community centres, parks, nature reserves and recreation facilities
Low sensitivity	Sparse population located close to the road and receptors with some sensitivity to traffic flow including public open space, nature conservation areas, heritage, tourist attractions and residential areas with adequate footway provision
Very low sensitivity	Sparse population located away from the road and receptors with low sensitivity to traffic flows and those sufficiently distanced from affected roads and junctions

16.3.13 A desktop exercise has been undertaken to classify the sensitivity of the routes within the study area. Table 16-2 below identifies the links, the assigned sensitivity rating and the justification.

Table 16-2: Sensitivity of Receptors

Link	Link Description	Link Sensitivity	Rationale
1	A1085 Trunk Road (east of PCC entrance)	Low	The road is a dual carriageway and is subject to a de-restricted speed limit reducing to 40 mph prior to the junction with Ennis Road. There is no frontage development along the route until reaching the junction with the A1042. A shared footway/cycleway is provided either side of the carriageway which is street lit.
2	A1085 Trunk Road (west of PCC entrance)	Low	The road is a dual carriageway and is subject to a de-restricted speed limit. There is no frontage development along the route. A shared footway/cycleway is provided either side of the carriageway which is street lit.
3	A1042 Kirkleatham Lane	High	The two-lane single carriageway is subject to a 30 mph speed limit with residential properties on either side and is street lit. Pedestrian footways are provided either side of the carriageway separated by a grass verge. On-road cycle lanes are provided either side of the carriageway. The road passes Outwood Academy Redcar 800 m to the south of the A1085 Trunk Road.
4	A1085 Trunk Road (south of British Steel Lackenby entrance)	Low	The road is a dual carriageway and is subject to a de-restricted speed limit. There is no frontage development along the route. A shared footway/cycleway is provided either side of the carriageway which is street lit.
5	A1085 Broadway	Medium	The two-lane single carriageway is subject to a 30 mph speed limit with residential properties on either side and is street lit. On-road cycle lanes are provided either side of the carriageway. Pedestrian footways are provided either side of the carriageway separated by the cycle lane and on-street parking bays.
6	A66 (west of A1053)	Low	The road is a dual carriageway and is subject to a 50 mph speed limit. Any frontage development is industrial in nature.
7	A1053 Greystone Road	Low	The road is a dual carriageway and is subject to a de-restricted speed limit. There is no frontage development along the route. There are no pedestrian or cycle facilities along the route.
8	B1380 High Street	Low	The two-lane single carriageway is subject to a 30 mph speed limit with a pedestrian footway provided on the northern side of the carriageway. The route passes a cluster of residential properties on the north side of the carriageway.
9	A174 (west of Greystone roundabout)	Low	The road is a dual carriageway and is subject to a de-restricted speed limit. There is no frontage development along the route. There are no pedestrian or cycle facilities along the route.
10	A1046 Port Clarence Road (to the Natural Gas Connection Corridor and CO ₂ Gathering Network)	High	The two-lane single carriageway is subject to a 30 mph speed limit and is street lit. A shared footway/cycleway is provided either side of the carriageway. Residential properties are located on the north side of the carriageway but are located a good distance back from the highway. High Clarence Primary School is located on this road.

Link	Link Description	Link Sensitivity	Rationale
11	A178 Seaton Carew Road (to the Natural Gas Connection Corridor and CO ₂ Gathering Network))	Low	The two-lane single carriageway is subject to a de-restricted speed limit. No footways are provided along the route. There is no frontage development along the route which passes through open country.
12	Unnamed Road serving Seal Sands (to the Natural Gas Connection Corridor and CO ₂ Gathering Network).	Low	The two-lane single carriageway is subject to a 40 mph speed limit and is street lit. No footways are provided either side of the carriageway. The road provides access to a number of petro-chemical facilities; therefore, any frontage is industrial in nature.

Assessment Methods

16.3.14 The assessment methodology adopted in this chapter, as contained in the GEART 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.

16.3.15 The following assessment scenarios have been considered:

- construction phase (assuming a worst-case) that construction commences in 2022 with a peak of construction in 2024);
- opening Year (for the purposes of assessment in this chapter, 2026); and
- decommissioning (2051-2056).

16.3.16 The following environmental effects are likely to be susceptible to changes as a result of the Proposed Development:

Severance

16.3.17 Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. The term is used to describe a complex series of factors that separate people from places and other people. Severance may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the road itself. It can also relate to quite minor traffic flows if they impede pedestrian access to essential facilities. Severance effects could equally be applied to residents, motorists, cyclists or pedestrians.

16.3.18 GEART suggests that changes in total traffic flow of 30%, 60% and 90% are considered to be slight, moderate and substantial respectively.

Pedestrian Amenity

16.3.19 Pedestrian amenity is broadly defined as the relative pleasantness of a journey, and is considered to be affected by traffic flow, traffic composition and pavement width and separation from traffic. GEART suggests that a threshold of a doubling of total traffic flow or the HGV component may lead to a negative impact upon pedestrian amenity.



Pedestrian Delay

16.3.20 Pedestrian delay generally results where traffic flows are sufficient to increase the time taken in crossing roads, or indeed result in pedestrians altering their route to avoid heavily trafficked roads or to use formal crossing facilities. Studies (referred to in the IEMA guidelines) have shown that pedestrian delay is perceptible or considered significant above a lower delay threshold of 10 seconds, for a link with no crossing facilities. A 10 second pedestrian delay in crossing a carriageway broadly equates to a two-way link flow of approximately 1400 vehicles per hour.

Fear and Intimidation

16.3.21 Pedestrians can experience fear and intimidation related to traffic, whereby the volume, speed, HGV composition and the proximity to people can increase the levels of fear and intimidation experienced. Whilst GEART recognises that there is an absence of commonly agreed thresholds, it does suggest that average traffic flows over 18 hours of 600 – 1,200, 1,200 – 1,800 and 1,800+ could result in moderate, great and extreme impacts, although noting other factors such as the proximity to traffic, speed and pavement width also need to be considered.

Highway Safety

16.3.22 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 the routes within the study area will highlight any hotspots that need further examination.

Driver Delay

16.3.23 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.

Significance Criteria

16.3.24 Using the information set out above, the magnitude of impacts is defined as set out in Table 16-3.

Table 16-3: Traffic and Transport Assessment Framework – Magnitude of Impacts

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% - 60%	Change in total traffic flow of 60% - 90%	Change in total traffic flow of >90%
Pedestrian amenity	Changes in traffic flow (or HGV component) less than 50%	Changes in traffic flow (or HGV component) of 51% to 100%	Changes in traffic flow (or HGV component) of 101% to 150%	Change in traffic flow (or HGV component) of >151%
Pedestrian delay	Two-way traffic flow <1,400 vehicles per hour	A judgement based on the road links with two-way traffic flow exceeding 1,400 vehicles per hour in context of the individual characteristics		
Fear and intimidation	Average traffic flows over 18 hours of less than 600 vehicles/hour or 1,000 HGVs over 18 hours	Average traffic flows over 18 hours between 600 –1,200 vehicle/hour or more than 1,000 – 2,000 HGVs over 18 hours	Average traffic flows over 18 hours of more than 1,200 vehicles/hour or more than 2,000 HGVs over 18 hours	
Highway safety	Magnitude of impact derived using professional judgment informed by the frequency and severity of recorded 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			

16.3.25 By combining the receptor sensitivity with the magnitude of impact using the assessment matrix shown in Table 16-4, the effects are classified as negligible, minor, moderate or major (adverse or beneficial).

Table 16-4: Classification of Effects

Magnitude 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

16.3.26 Only moderate and major effects are considered to be ‘significant’ for the purposes of EIA; minor and negligible effects are ‘not significant’.

Sources of Information / Data

16.3.27 As set out in further detail in Appendix 16A: Transport Assessment (PEI Report, Volume III), a series of 7-day automated traffic counts (ATCs) were undertaken between 19th November 2019 and 25th November 2019 to provide an up to date baseline for the roads listed below. Traffic flows for the A1053 Greystone Road and A174 were obtained from Highways England's Webtris database for the month of September 2019.

- A1085 Trunk Road (east of PCC entrance);
- A1085 Trunk Road (west of PCC entrance);
- A1042 Kirkleatham Lane;
- A1085 Trunk Road (South of British Steel Lackenby Entrance);
- A1085 Broadway;
- A66 (west of A1053);
- A1053 Greystone Road;
- B1380 High Street;
- A174 (west of Greystone roundabout);
- A1046 Port Clarence Road;
- A178 Seaton Carew Road; and
- Unnamed Road serving Seal Sands.

16.3.28 In addition to the ATC counts, it was agreed with the Local Highway Authority and Highways England that the impact of the Proposed Development would be examined at the following junctions on the local highway network for the overall network morning (AM) and evening (PM) peak hours:

- MCC 1: A1085/West Coatham Lane/PCC access roundabout;
- MCC 2: A1085/A1053 roundabout; and
- MCC 3: A1053/A174 /B1380 roundabout.

16.3.29 The junction surveys were undertaken on Tuesday 19 November 2019 between the hours of 06:00 – 10:00 and 16:00 – 20:00. Further information is provided in Appendix 16A: Transport Assessment (PEI Report, Volume III). A plan showing the location of the traffic counts is included as Figure 16-3: Traffic Count Locations (PEI Report, Volume II).

16.3.30 In order to establish the peak hours for assessment, the total flows arriving at each individual junction have been calculated for each hour so that the peak hour can be identified.

Consultation

16.3.31 A summary of the consultation responses specific to traffic and transport that have been received are provided in Table 16-5 below.

Table 16-5: Consultation Summary Table

Consultee	Date and nature of consultation	Summary of consultee comments	Summary of response/ how comments have been addressed
Secretary of State	April 2019 (Scoping Opinion)	<p>The ES should confirm and justify that there is no discernible increase to operational traffic movements. If this can be demonstrated, the Inspectorate agrees that a detailed assessment of operational traffic can be scoped out.</p> <p>Any temporary closures and/or diversions of PRow should be identified within the ES.</p> <p>Consideration should be given to both motorised and non-motorised road users. Where significant effects to road users are likely, the ES should assess driver delay, road safety, pedestrian delay, pedestrian amenity, driver stress, severance, accidents and safety and hazardous loads.</p> <p>The ES should clearly explain how traffic movements have been predicted and what models and assumptions have been used to inform the assessment in the ES. Anticipated numbers of vehicle movements should be set out (including vehicle type, peak hour and daily movements).</p> <p>The Traffic and Transport and Cumulative Effects aspect chapters should clearly explain the approach adopted to estimate traffic growth as it appears in the TA. The explanation should include reference to appropriate software such as the Department for Transport's TEMPRO software, where relevant. This should be kept under review should any other development come forward which may trigger the need to update the previous traffic modelling work.</p> <p>The Inspectorate welcomes the Applicant's commitment to consult with RCBC and Highways England on the scope of the TA. The Applicant is also advised to</p>	<p>Full details provided within the TA (see Appendix 16A: Transport Assessment (PEI Report, Volume III)).</p> <p>Temporary closures of a small number of PRowS may be required during construction of the connections corridors (see Chapter 5: Construction Programme and Management (PEI Report, Volume I) This is noted.</p> <p>No hazardous loads are expected to site and is therefore not considered in this Traffic and Transport Chapter.</p> <p>Full details provided within the TA (see Appendix 16A: Transport Assessment (PEI Report, Volume III)).</p> <p>Full details provided within the TA (see Appendix 16A: Transport Assessment (PEI Report, Volume III)).</p> <p>The Transport Assessment Scoping Report has been issued to RCBC, STBC and the HA. A response is currently awaited.</p>

Consultee	Date and nature of consultation	Summary of consultee comments	Summary of response/ how comments have been addressed
		<p>make effort to agree the scope with STBC, given that a large proportion of the connection works would be located along existing roads within the borough.</p>	
		<p>The Applicant is advised to consider Section 2.5 of the GEART guidelines when identifying receptors which are sensitive to changes in traffic conditions. The Inspectorate advises that these should include nature conservation sites, residential receptors and non-motorised road users where significant effects are likely to occur.</p>	<p>This is noted. Full details provided in Table 16-1 of this Traffic and Transport Chapter.</p>
		<p>The ES should clearly define the study area used for the assessment and explain the approach taken to do so which should be influenced by the extent of likely impacts. The ES should include a plan to depict the study area.</p>	<p>Details are provided in Section 16.3 of this report</p>
		<p>The Inspectorate advises the Applicant to make effort to agree the need for and scope of any site-specific traffic surveys. The ES should contain details of any traffic surveys undertaken, including times, dates and locations.</p>	<p>The survey details are included in Appendix 16A: Transport Assessment (PEI Report, Volume III)</p>
		<p>The Inspectorate welcomes the Applicant's proposal to produce plans such as a Construction Worker Travel Plan and a Construction Traffic Management Plan. A draft/outline of these plans should be provided with the DCO application and should contain sufficient detail to give confidence as to their efficacy. It should be clear how the implementation of such a plan would be secured in the DCO.</p>	<p>A Construction Worker Travel Plan and a Construction Traffic Management Plan are provided in Appendixes 16B: Construction Worker Travel Plan and 16C: Framework Construction Traffic Management Plan (PEI Report, Volume III). See Chapter 5: Construction Programme and Management (PEI Report, Volume I).</p>
		<p>The ES should identify where roads and railways would be crossed by the Proposed Development and detail the crossing methodology that would be utilised.</p>	
		<p>The ES should confirm the worst case number of abnormal loads required and the types of vehicles required. Any mitigation measures required to facilitate the delivery of abnormal loads should be detailed in the ES and any resultant likely significant effects assessed. The Applicant should consider whether utilisation of the existing river and rail connections for transportation of abnormal loads could represent an environmentally better outcome rather than road transport.</p>	<p>See Appendix 16A: Transport Assessment (PEI Report, Volume III)</p>

16.4 Baseline Conditions

Existing Traffic Flows

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

- A1085 Trunk Road (east of PCC entrance);
- A1085 Trunk Road (west of PCC entrance);
- A1042 Kirkleatham Lane;
- A1085 Trunk Road (south of British Steel Lackenby entrance);
- A1085 Broadway;
- A66 (west of A1053);
- A1053 Greystone Road;
- B1380 High Street;
- A174 (west of Greystone Roundabout);
- A1046 Port Clarence Road;
- A178 Seaton Carew Road; and
- Unnamed Road serving Seal Sands.

16.4.2 Baseline 24-hour annual average daily traffic (AADT) two-way link flows are provided in Table 16-6 below.

Table 16-6: 2019 Baseline Traffic Flows

Link No.	Link Description	Total Vehicles	Total HGVs	% HGVs
1	A1085 Trunk Road (east of PCC entrance)	12,274	1049	8.5%
2	A1085 Trunk Road (west of PCC entrance)	14,387	1275	8.9%
3	A1042 Kirkleatham Lane	11,791	762	6.5%
4	A1085 Trunk Road	16,058	2012	12.5%
5	A1085 Broadway	8,093	521	6.4%
6	B1380 High Street	9,835	826	8.4%
7	A66, 140 m east of Whitworth Road	19,865	3662	18.4%
8	A1046 Port Clarence Road, 20 m north of Beech Terrace	7,612	896	11.8%

Link No.	Link Description	Total Vehicles	Total HGVs	% HGVs
9	A178 Seaton Carew Road, 535 m north of Huntsman Drive	7,814	998	12.8%
10	Unnamed Road, 725 m east of A178 Seaton Carew Road	4,206	860	20.4%
11*	A1053 Greystone Road	14,387	1,392	9.7%
12*	A174 (west of Greystone roundabout)	31,758	1,936	6.1%

*Webtris Data

Personal Injury Accidents

- 16.4.3 An examination of the routes within the study area has been undertaken to identify 'collision clusters.' Collision cluster sites are considered to be sensitive to significant changes in traffic flows and could therefore potentially be impacted by the project.
- 16.4.4 The criteria adopted for identifying potential collision clusters within the study area for both urban and rural areas are:
- a rural collision cluster site is one at which there have been four or more personal injury collisions within a 100 m radius of each other during a five year period and the speed limit of the road is over 40 mph; and
 - an urban collision cluster site is one at which there have been four or more personal injury collisions within a 50 m radius of each other during a five year period and the speed limit of the road is 40 mph or less.
- 16.4.5 Personal Injury Collision (PIC) data was obtained from Crashmap for the most recent five year period available and examined using the above criteria (detailed analysis is provided within Appendix 16A: Transport Assessment (PEI Report, Volume III)). This identified five accident clusters:
- Cluster One: Roundabout Junction of the A1085, West Coatham Lane and PCC access**
- 16.4.6 The junction has experienced four collisions within the past five years of which two were slight in severity and two serious in severity. Of these three accidents involved a vehicle turning right and colliding with an oncoming vehicle and one involved a single vehicle loss of control.
- Cluster Two: Roundabout Junction of the A174 and A1053 Greystone Road**
- 16.4.7 The junction has experienced seven collisions within the past five years of which all seven were slight in severity. Of these five involved a rear end shunt collision and two involved a single vehicle loss of control.
- Cluster Three: Roundabout Junction of the A1185 and Seaton Carew Road**
- 16.4.8 The junction has experienced five collisions within the past five years of which two were slight in severity, two serious in severity and one fatal in severity. Of these three involved a single vehicle loss of control, one involved a rear end shunt and one involved a car colliding with a pedal cycle.



Cluster Four: Crossroad Junction of the A66/Eston Road and Church Lane

- 16.4.9 The junction has experienced five collisions within the past five years of which three were of slight severity and two of serious severity. Of these two involved a vehicle colliding with a pedal cycle, one involved a vehicle turning left and colliding with an oncoming vehicle, one involved a vehicle performing a U-turn at the junction and colliding with another vehicle and one involved a rear end shunt.

Cluster Five: Roundabout Junction of the A1085 Broadway and Birchington Avenue

- 16.4.10 The junction has experienced seven collisions within the past five years of which six were of slight severity and one of serious severity. Of these three involved a vehicle colliding with a pedal cycle, two involved driver loss of control and two involved a rear end shunt.

Future Baseline

- 16.4.11 It is currently anticipated that (subject to the necessary consents being granted and an investment decision being made), the earliest date that construction would commence is around 2022 and would continue for a period of 48 months. As the DCO would be valid for up to seven years after receipt and could be started at any time, it is necessary to derive a realistic worst-case future baseline assessment year.
- 16.4.12 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 48-month build programme starting in 2022 and ending in 2026 has been used as this would give the highest percentage increases for additional construction and operational traffic. The actual peak of construction would occur in 2024 based on the construction workforce profile and this has been used for the assessment year.
- 16.4.13 Future year baseline traffic flows for the assessment year of 2024, representing the peak of construction (month 20 of construction) have been used as the most realistic worst case scenario. Further details of construction staff profiles are provided in Section 16.6. The future year flows have derived by applying the national standard programme Trip End Model Presentation Program growth factors (TEMPRO 7.2b) to the above flows and are indicated in Table 16-7. These growth factors have been taken into account when comparing the baseline and future traffic scenarios.
- 16.4.14 Future year baseline traffic flows for the assessment year of 2024 for the proposed Natural Gas Connection associated Above Ground Installation (AGI) construction and CO₂ Gathering Network have again been derived by applying TEMPRO to the above flows and are indicated in Table 16-8.
- 16.4.15 Future year baseline scenarios are not detailed for 2026 (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 necessary, as vehicle numbers generated would be considerably lower than those that would be experienced during the construction period.

16.4.16 Operational traffic movements will be small given that the proposed development will employ up to 100 staff who will work shifts. Fuel would be delivered by pipeline and other operational and maintenance consumables are likely to be minimal.

16.4.17 During an outage, it could be expected that up to 200 additional staff could be on-site on any one day. However outages are expected to occur infrequently (once every 2-4 years) and are short-lived (approximately 3 months). Therefore, it is considered that the effects of operational traffic would be negligible and a detailed assessment of the operational phase of the development is not proposed within the Transport Assessment.

Table 16-7: TEMPRO Traffic Growth Factors (average day)

Road Type	Year	AM Peak	PM Peak	All Day
Principal	2019-2024	1.0479	1.0459	1.0475
Trunk	2019-2024	1.0549	1.0528	1.0544
Principal	2019-2029	1.0881	1.0852	1.0881
Trunk	2019-2029	1.0992	1.0962	1.0992

16.4.18 Future year baseline traffic flows for the assessment year of 2024 peak of construction are presented in Table 16-8.

Table 16-8: 2024 Baseline Traffic Flows (24 Hour AADT)

Link no.	Link Description	Total Vehicles	Total HGVs	% HGVs
1	A1085 Trunk Road (east of Site entrance)	12,857	1,099	8.5%
2	A1085 Trunk Road (west of Site entrance)	15,070	1,336	8.9%
3	A1042 Kirkleatham Lane	12,351	799	6.5%
4	A1085 Trunk Road (South of British Steel Lackenby entrance)	16,821	2,107	12.5%
5	A1085 Broadway	8,478	546	6.4%
6	A66 (west of A1053 Greystone Road)	20,808	3,836	18.4%
7	A1053 Greystone Road	15,170	1,468	9.7%
8	B1380 High Street	10,302	865	8.4%
9	A174 (west of Greystone roundabout)	33,486	2,041	6.1%

16.4.19 Future year baseline traffic flows for the assessment year 2024 associated with the proposed Natural Gas Connection and AGI construction and the CO₂ Gathering Network are presented in Table 16-9.

Table 16-9: 2024 Baseline Traffic Flows (24 Hour AADT)

Link no.	Link Description	Total Vehicles	Total HGVs	% HGVs
10	A1046 Port Clarence Road	7,974	938	11.8%
11	A178 Seaton Carew Road	8,185	1,046	12.8%
12	Unnamed Road serving Seal Sands	4,406	901	20.4%

16.4.20 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 24: Cumulative and Combined Effects (PEI Report, Volume I) as follows:

- a gas fired CCGT generating station with a maximum generating capacity of up to 1,700 MW located on the south-west part of the Wilton International Complex which gained DCO consent in April 2019;
- 550 residential unit development on Kirkleatham Lane (once occupied), Redcar;
- the York Potash Harbour Facilities Order which gained DCO consent in July 2016; and
- the Tees Renewable Energy Plant -a 295 MW biomass-fired generating station to be located on the south bank of the River Tees within the PD Ports Teesport landholding. Construction of the project commenced in August 2016 and is expected to be completed with commercial operation commencing in 2020.
- potential effects from the construction and operation of the offshore elements of the Proposed Development.

16.4.21 Committed development flows associated with the gas-fired CCGT generating station once operational, the York Potash Harbour Facilities Order during construction and the 550 residential unit development (once built and occupied) are summarised in Table 16-10 below.

16.4.22 A review of the planning portal shows that no Transport Assessment was submitted as part of the planning application for the Tees Renewable Energy Plant. However, a review of the Transport Assessment submitted for the development states that the plant is anticipated to generate a maximum of 150 two-way vehicle movements per day once operational and therefore the impact of this additional traffic is considered to be insignificant. As such, any development traffic associated with this development would be incorporated within background growth applied to the 2019 baseline flows.

Table 16-10: Committed Development Flows (24 Hour AADT)

Link no.	Link Description	Total Vehicles	Total HGV
1	A1085 Trunk Road (east of Site entrance)	532	0
2	A1085 Trunk Road (west of Site entrance)	215	66
3	A1042 Kirkleatham Lane	0	0
4	A1085 Trunk Road (south of British Steel Lackenby entrance)	215	66
5	A1085 Broadway	12	0
6	A66 (west of A1053 Greystone Road)	172	67
7	A1053 Greystone Road	454	2
8	B1380 High Street	4	0
9	A174 (West of Greystone roundabout)	787	0
10	A1046 Port Clarence Road	0	0
11	A178 Seaton Carew Road	0	0
12	Unnamed Road serving Seal Sands	0	0

16.4.23 Table 16-11 summarises the future year baseline (i.e. existing baseline traffic, plus growth factor, plus committed development traffic flows) for the assessment year 2024 peak of construction. For the purpose of clarity the Link numbers have been changed and split into two tables to identify which are for the Natural Gas Connection Pipeline and the CO₂ Gathering Network.

Table 16-11: 2024 Future Baseline (24 Hour AADT)

Link no.	Link Description	Total Vehicles	Total HGVs	% HGVs
1	A1085 Trunk Road (east of Site entrance)	13,389	1099	8.2%
2	A1085 Trunk Road (west of Site entrance)	15,285	1,402	9.2%
3	A1042 Kirkleatham Lane	12,351	799	6.5%

Link no.	Link Description	Total Vehicles	Total HGVs	% HGVs
4	A1085 Trunk Road (south of British Steel Lackenby entrance)	17,036	2,173	12.8%
5	A1085 Broadway	8,490	546	6.4%
6	A66 (West of A1053 Greystone Road)	20,980	3,903	18.6%
7	A1053 Greystone Road	15,624	1,470	9.4%
8	B1380 High Street	10,306	865	8.4%
9	A174 (west of Greystone roundabout)	34,273	2,041	6.0%

16.4.24 Table 16-12 summarises the future year baseline (i.e. existing baseline traffic, plus growth factor, plus committed development traffic flows) for the assessment year 2024 associated with the proposed Natural Gas Connection Pipeline and the CO₂ Gathering Network. The 2019 baseline figures are shown in Table 16-6. The base 2024 flows are shown in table 16-8 and the committed development flows are shown in Table 16-10 above.

Table 16-12: 2024 Future Baseline (24 Hour AADT)

Link no.	Link Description	Total Vehicles	Total HGVs	% HGVs
10	A1046 Port Clarence Road	7,974	938	11.8%
11	A178 Seaton Carew Road	8,185	1,046	12.8%
12	Unnamed Road serving Seal Sands	4,406	901	20.4%

16.5 Development and Impact Avoidance

16.5.1 The Applicant would implement a range of good practice mitigation measures during the construction phase to minimise impact upon local highways, including:

- implementation of the Construction Worker Travel Plan (CWTP) which includes measures and procedures to encourage construction workers to adopt modes of transport which reduces reliance on single occupancy private car use;



- liaison with the appointed Contractor for the potential to implement construction worker minibuses and car sharing options (considered as part of the CWTP); and
 - implementation of the Construction Traffic Management Plan (CTMP) to control the impact of HGVs on the local road network during construction.
- 16.5.2 Once the Proposed Development is operational, the proposed development will employ up to 100 staff who will work shifts. Due to the very low traffic flows this would generate, no impact avoidance measures are proposed.
- 16.5.3 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 to control the impact of HGVs.

16.6 Likely Impacts and Effects

PCC Construction

- 16.6.1 Access to and from the Proposed Development for construction workers would be via the existing site entrance to the former SSI Steelworks site located off the A1085/West Coatham Lane roundabout.
- 16.6.2 It is currently anticipated that (subject to the necessary consents being granted and an investment decision being made), the earliest start date that construction work would commence is around Q3 2022 over a period of up to 48 months for the sequential construction of three CCGT trains, Compressor and CO₂ Export Pipeline. The corresponding worst case peak of construction would be 2024.
- 16.6.3 A holistic approach has been undertaken within Appendix 16A: Transport Assessment (PEI Report, Volume III) to identify the peak month of activity combining the workforce associated with construction of the Proposed Development and that associated with the construction of the proposed Gas Connection and CO₂ Gathering Network.
- 16.6.4 It is expected that the construction workforce will peak at approximately 2,400 workers per day in Month 20 (i.e. Q1 in 2024). This is based on the anticipated construction programme and the profile of construction workforce over the Proposed Development build period which has been benchmarked against other previous CCGT builds of a similar size to the proposed power plant. This benchmarking exercise has shown that the workforce numbers adopted for assessment to be robust. A profile of the anticipated daily workforce for each month through the construction period is provided in Appendix 16A: Transport Assessment (PEI Report, Volume III).
- 16.6.5 As the proposed construction programme for the proposed Gas Connection and CO₂ Gathering Network does not begin until Month 25, this does not



coincide with the peak of the CCGT construction in Month 20. Nonetheless the cumulative effects of the proposed Gas Connection construction on A1046 Port Clarence Road, A178 Seaton Carew Road and the unnamed Road serving Seal Sands access routes have been considered later in this section.

- 16.6.6 The standard construction working hours for the Proposed Development will be 07:00 to 19:00 Monday to Friday (except bank holidays) and 07:00 to 13:00 on Saturday. Key exceptions to these working hours could include activities that must continue beyond these hours and non-noisy activities with night working. HGV arrivals, including deliveries, will be managed as far as reasonably practicable, such that they are spread evenly over the day between the hours of 07:00 and 19:00. However, no HGV deliveries would be undertaken outside of core working hours, unless agreed with the relevant authority on a case by case basis.
- 16.6.7 Based on the methodology contained within the Appendix 16A: Transport Assessment (PEI Report, Volume III), the weekday construction worker shift is likely to generate 1,029 vehicular trips (one-way) per day during the peak of construction.
- 16.6.8 HGVs delivering construction materials will also access the PCC from the existing site entrance to the former SSI steelworks site located off the A1085/West Coatham Lane roundabout. The volume of HGVs associated with the Proposed Development on the network is at its maximum of 80 two-way daily vehicle movements (40 in and 40 out) at the peak of construction in Month 20. Deliveries will be made between 07:00 and 19:00 hours.
- 16.6.9 A number of Abnormal Indivisible Load (AIL) movements are expected during the construction programme associated with the delivery of large items of plant and equipment. The nearest port to the Proposed Development is Teesport. Detailed consideration will be given to the appropriate port and AIL routes during detailed design. However, it is a reasonable expectation that major ports are able to accommodate abnormal loads and that adequate access to the strategic network is achievable. On this basis, only the route from the strategic network to the PCC requires assessment.
- 16.6.10 Table 16-13 summarises the expected profile of construction phase peak traffic levels (refer to Appendix 16A: Transport Assessment (PEI Report, Volume III) for further details).

Table 16-13: Daily Construction Vehicle Profile (Peak Month of Construction)

Hour Beginning	Construction Worker Vehicles		Construction HGVs		Total 2-Way Traffic
	Arrival	Departure	Arrival	Departure	2-Way
06:00	350	21	0	0	371
07:00	257	21	4	3	285
08:00	51	21	4	3	79
09:00	41	21	4	4	70

Hour Beginning	Construction Worker Vehicles		Construction HGVs		Total 2-Way Traffic
	Arrival	Departure	Arrival	Departure	2-Way
10:00	41	31	3	3	78
11:00	41	31	4	4	80
12:00	51	41	3	3	98
13:00	41	41	4	4	90
14:00	31	31	4	4	70
15:00	21	31	4	4	60
16:00	21	51	3	3	78
17:00	31	154	3	3	191
18:00	31	360	0	2	393
19:00	21	164	0	0	185
20:00	0	10	0	0	10
21:00	0	0	0	0	0
TOTAL	1,029	1,029	40	40	2,138

16.6.11 Based on the vehicle assignment contained within Appendix 16A: Transport Assessment (PEI Report, Volume III),



16.6.12 Table 16-14 summarises the likely changes in link flows within the study area for the assessment year 2024 peak of construction. As detailed in Appendix 16A: Transport Assessment (PEI Report, Volume III), HGV traffic has been assigned to/from the west via the A1085 Trunk Road. At the junction with the A66/A1053, it is assumed that 50% would continue west on the A66 and 50% would head south on the A1053 then west on the A174. Figure 16-2: HGV Routes to and from the Site (PEI Report, Volume II) shows the proposed HGV routes. The construction workers assignment has been based on the geographic split of population within a 45 minute drive time of the Proposed Development for permanent home based workers and a 30 minute drive time for transitory workers.

Table 16-14: 2024 Base + Committed and Proposed Peak Construction Development Two-Way AADT Traffic Flows

Link no.	Link Description	2024 Baseline Flow (inc. com dev)		Construction Traffic		Percentage Increase (%)	
		Total veh.	Total HGVs	Total veh.	Total HGVs	Total veh.	Total HGVs
1	A1085 Trunk Road (East of Site entrance)	13,389	1,099	524	0	3.9	0.0
2	A1085 Trunk Road (West of Site entrance)	15,285	1,402	1,616	80	10.6	5.7
3	A1042 Kirkleatham Lane	12,351	799	256	0	2.1	0.0
4	A1085 Trunk Road (South of British Steel Lackenby entrance)	17,036	2,173	1,616	80	9.5	3.7
5	A1085 Broadway	8,490	546	412	0	4.9	0.0
6	A66 (West of A1053)	20,980	3,903	1,058	40	5.0	1.0
7	A1053 Greystone Road	15,624	1,470	148	40	0.9	2.7
8	B1380 High Street	10,306	865	58	0	0.6	0.0
9	A174 (West of Greystone roundabout)	34,273	2,041	90	40	0.3	2.0

16.6.13 The additional traffic due to the Proposed Development construction activities will result in some increases in traffic flows including HGVs on the observed roads leading to the Proposed Development.

16.6.14 As described in Section 16.3 above, the IEA Guidelines (IEA, 1994) suggest two broad rules of thumb should be used as a screening process to delimit the scale and extent of assessment:



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

16.6.15 demonstrates that all roads experience less than a 30% increase in either total vehicle flows or HGV flows and therefore no further assessment has been undertaken based on the IEA screening rules above. As such the environmental effects associated with construction traffic would be negligible adverse (not significant) on all links.

16.6.16 Highways England suggests that the threshold for detailed traffic assessment relates to those developments which generate 30 two-way peak hour vehicle trips. During the AM and PM peak hours, the additional two-way traffic flows (as shown in Table 16-13) are higher than this threshold on the local roads close to the site, and further assessment of the peak hour impact is included within Appendix 16A: Transport Assessment (PEI Report, Volume III).

16.6.17 It is envisaged that there will be a small number of abnormal loads when the main plant items are delivered to the PCC. These deliveries would be timed to minimise disruption to other road users following consultation with the relevant authorities. A Traffic Management Plan will be developed at the detailed design stage of the Proposed Development to route abnormal traffic and the Highways England and Police will be consulted in its development.

16.6.18 Due to the location of the Proposed Development and its ease of access onto the main trunk roads and motorway network, it is considered that abnormal load movements would not have an impact on highway network operations.

Natural Gas Connection

16.6.19 The anticipated start of construction for the proposed Natural Gas Connection is envisaged to commence in Q3 2024 of the worst-case construction programme which does not coincide with the main peak of construction of the Proposed Development (forecast in Q1 2024).

16.6.20 At the start of the construction of the proposed Gas Connection (around Q3 2024), the majority of materials for the gas connection are anticipated to be delivered to Site over a two week period, with up to 40 HGV movements per day are anticipated.

16.6.21 The construction workforce is expected to total 90 workers who will arrive at the main site compound prior to being transferred by minibus or shared cars to their working area, either along the working width of the Gas Connection corridor or via the local highway network.

16.6.22 Applying a vehicle occupancy rate of 2.0 per vehicle to the peak workforce associated with the Gas Connection construction, results in 45 vehicle arrivals and 45 vehicle departures per day to the main site compound (90 two-way movements).

16.6.23 Materials required to undertake the construction of the Gas Connection will be delivered direct to the connections worksite rather than the PCC and include:

- general construction materials (including temporary fencing);
- pipe sections and associated materials;
- consumable construction materials; and
- machinery, plant and engineering equipment.

16.6.24 Materials required to carry out the construction of the above ground installation (AGI) will include:

- general construction materials (bricks, concrete, roof trusses); and
- machinery, plant and engineering equipment.

CO₂ Gathering Network

16.6.25 As with the Gas Connection it is anticipated that around 90 staff in total (three teams of 30) would be employed for the proposed CO₂ Gathering Network. These construction worker traffic movements would be spread over different parts of the CO₂ Gathering Network with one team of approximately 30 workers estimated to be undertaking construction at different locations.

16.6.26 It is anticipated that the A1046 Port Clarence Road, the A178 Seaton Carew Road and the unnamed road serving Seal Sands will be utilised by construction worker vehicles during the pipeline works. To ensure a robust assessment of the likely impacts of pipeline construction traffic on all three link roads, it has been assumed that a maximum of 90 operatives engaged in pipeline construction would arrive and depart via the A1046 Port Clearance Road and A178 Seaton Carew Road per day (45 vehicle arrivals and 45 departures after allowing for car sharing and minibuses from the main compound). In terms of HGV movements, five HGVs per day (10 HGV movements) delivering consumable construction materials are expected along the A1046 Port Clarence Road and A178 Seaton Carew Road whilst two HGVs per day (four two-way HGV movements) are expected along the unnamed road leading to Seal Sands.

16.6.27 Table 16-15 summarises the likely changes in flows in the future year baseline (i.e. existing baseline traffic, plus growth factor, plus committed development traffic flows plus the proposed development) for the assessment year 2024 associated with the proposed Gas Connection and the CO₂ Gathering Network.

16.6.28 Traffic counts were undertaken on the roads that will be used by the gas pipeline traffic during November 2019 and these provided up to date baseline traffic flows on the above roads. The counts were used in the Transport Assessment (Appendix 16A: PEI Report, Volume III) to inform more fully the impact and significance on the roads used.

Table 16-15: 2024 Base & Growth + Committed + Proposed Peak Pipeline Construction Development Two-Way Traffic flows

Link no.	Link Description	2024 Baseline Flow (inc. com dev)		Construction Traffic		Percentage Increase (%)	
		Total veh.	Total HGVs	Total veh.	Total HGVs	Total veh.	Total HGVs
10	A1046 Port Clarence Road	7,974	938	100	10	1.3	1.1
11	A178 Seaton Carew Road	8,185	1,046	100	10	1.2	1.0
12	Unnamed Road serving Seal Sands	4,406	901	100	10	2.3	1.1

Operational Phase

16.6.29 Once operational there could be a maximum of approximately 60 full-time staff working in three shifts (06:00 – 14:00 hours, 14:00 – 22:00 hours and 22:00 – 06:00 hours). In addition, there would be around 40 corporate staff based at the site working normal office hours (09:00 – 17:00 hours). Conservatively, assuming a car occupancy of 0.7, this equates to 70 cars per day (140 two-way vehicle movements).

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

16.6.31 Routine maintenance will be undertaken annually with major overhauls occurring approximately once every five years on each unit. These maintenance activities will require around 200 additional contractors to work on Site, in a similar way to the maintenance of the former coal-fired power station.

16.6.32 Due to the very low traffic flows which will result once the Proposed Development is first operational in 2026, the vehicle numbers generated will be significantly lower than experienced during the construction period. The overall effects during operation are therefore considered to be negligible adverse (not significant).

Decommissioning Phase

16.6.33 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 25 years. There would be expected to be some traffic movements associated with the



removal (and recycling, as appropriate) of material arising from decommissioning 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.

- 16.6.34 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 appreciably over the next twenty five years, 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. Effects are therefore assessed as likely to not be significant.

16.7 Mitigation Measures

- 16.7.1 No additional mitigation measures or enhancement measures other than those set out in Section 16.5 are considered necessary. However, the Contractor will review options for the use of rail and water transport when sourcing construction materials. The Contractor will also review the use of rail travel for construction staff accessing the site using the existing Redcar British Steel railway station (currently suspended).

16.8 Residual Effect Assessment

- 16.8.1 Residual effects are those predicted following consideration of any proposed mitigation measures. All effects for the construction, operational and decommissioning phases are predicted to be negligible adverse (not significant).
- 16.8.2 Traffic increases associated with the construction of the Proposed Development have been assessed to be negligible adverse (not significant). The additional traffic due to the Proposed Development construction activities will result in small, temporary, increases of traffic flows, including HGVs, on the roads leading to the Site. In line with the significance criteria presented earlier in this chapter and in the TA, the impacts of construction traffic on all road sections are considered to be negligible adverse and not considered to be significant.
- 16.8.3 During the operational phase of the Proposed Development, the impacts of operational traffic on all road sections are considered to be negligible adverse and not considered to be significant.



16.9 References

Department of Energy and Climate Change (2011a). *National Policy Statement for Energy (EN-1)*. London: The Stationery Office.

Department of Energy and Climate Change (2011b). *National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)*. London: The Stationery Office.

Department for Communities and Local Government (2014). *Planning Practice Guidance – Travel Plans, Transport Assessment and Statements in decision-taking*. London: The Stationery Office.

Department for Transport (2013). *Circular 02/2013 – The Strategic Road Network and the Delivery of Sustainable Development*. London: Department for Transport.

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

Institution of Environmental Management and Assessments (IEMA) (1994). *Guidelines for the Environmental Assessment of Road Traffic*. Lincoln: IEMA.

Ministry of Housing, Communities and Local Government (2019). *National Planning Policy Framework*. London: The Stationery Office.

The Planning Inspectorate (2012). *Advice Note 9: Rochdale Envelope*. Version 2, republished April 2012. Bristol: The Planning Inspectorate.

The Planning Inspectorate (2015a). *Advice Note 3: EIA Consultation and Notification*. Version 6, published June 2015. Bristol: The Planning Inspectorate.

The Planning Inspectorate (2015b). *Advice Note 7: Environmental Impact Assessment: Preliminary Environmental Information, Screening and Scoping*. Version 5, published March 2015. Bristol: The Planning Inspectorate.

The Planning Inspectorate (2015c). *Advice Note 17: Cumulative Effects Assessment*. Version 1, published December 2015. Bristol: The Planning Inspectorate.

