



ENVIRONMENTAL STATEMENT

APPENDIX 5.1

Outline Construction Traffic Management Plan

Drax Bioenergy with Carbon Capture and Storage

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(q)

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AUTHOR: B. Pollard / P Whitley

APPROVER: V. Holden

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1. INTRODUCTION

1.1. OVERVIEW

- 1.1.1. This Construction Traffic Management Plan (CTMP) has been prepared in support of the application for development consent in respect of the Proposed Scheme.
- 1.1.2. The CTMP provides a framework for addressing the transport issues associated with the movement of the construction traffic to service the Proposed Scheme, including site access, routing, signage, heavy duty vehicles (HDV) and Abnormal Indivisible Loads (AILs).
- 1.1.3. The purpose of this document is to set out the principles that the Applicant (or their appointed contractor) will follow to manage HDV construction traffic and AIL on the highway network throughout the construction of the project.
- 1.1.4. Separately, a **Framework Construction Worker Travel Plan (CWTP) Appendix 5.2 of Volume 3** (document reference 6.3.5.2) sets a framework for encouraging sustainable travel by construction workers.

1.2. PROJECT DESCRIPTION – THE PROPOSED SCHEME

- 1.2.1. The Proposed Scheme would involve the installation of post combustion Carbon Capture technology to capture carbon dioxide from up to two existing 660 megawatt electrical ('MWe') biomass power generating units at the Drax Power Station (Unit 1 and Unit 2). The Scheme is designed to remove approximately 95% of the carbon dioxide from the flue gas from those two Units. Units 1 and 2 are located in the centre of the Drax Power Station Site (see **Figure 1.2 (Indicative Site Layout Plan)** (document reference 6.2.1.2)).
- 1.2.2. The carbon dioxide captured will undergo processing and compression before being transported via a proposed new pipeline for storage under the southern North Sea. Transport and storage infrastructure will be consented through separate applications (see further details on the transport and storage infrastructure below).
- 1.2.3. It is intended that core items of the existing infrastructure at the Drax Power Station are re-used by installing and integrating the Carbon Capture technology onto existing infrastructure including existing power generating units (Units 1 and 2) for extraction of steam, re-using the cooling water systems, Main Stack and electrical connections.
- 1.2.4. The Proposed Scheme is made up of the following:
 - a. Up to two Carbon Capture Plants (one associated with Unit 1 and one associated with Unit 2) (Work No. 1D as described in Schedule 1 of the draft DCO), each made up of:
 - i. Flue gas pre-treatment section (Includes flue gas booster fans (Work Nos. 1D(v) and (vi)), Gas / Gas Heat Exchangers (Work Nos. 1D(v) and (vi)) and Quench Columns (Work Nos. 1D(i) and (ii)));

- ii. One Absorber Column (Work Nos. 1D(i) and (ii));
 - iii. Solvent Regeneration System (to include up to two Regenerators) (Work Nos. 1D(iii) and (iv));
 - iv. Rich Solvent / Lean Solvent Heat Exchangers (Work Nos. 1D(iii) and (iv)); and
- b.** Additional Common Plant infrastructure and modification works to the Drax Power Station that are required to support and integrate with one or both Carbon Capture Plants including:
- i. Solvent Storage and Make-up System (comprising up to four bundled solvent storage compounds) (Work No. 1D(vii) in Schedule 1 of the **draft DCO**);
 - ii. Carbon Capture Wastewater Treatment Plant (Work No. 1D(viii) in Schedule 1 of the **draft DCO**);
 - iii. Carbon Dioxide Processing and Compression Plant (Work No. 1E in Schedule 1 of the **draft DCO**);
 - iv. Modification to the existing water pre-treatment plant (Work No. 1A in Schedule 1 of the **draft DCO**);
 - v. Modification, upgrade and extension of the existing cooling system and distribution of cooling water to the Proposed Scheme (Work No. 1B in Schedule 1 of the **draft DCO**);
 - vi. Modifications to existing electrostatic precipitators (Work No. 3 in Schedule 1 of the **draft DCO**);
 - vii. Modifications, upgrade and extension to existing power generating units boilers and turbines for steam extraction and new steam processing infrastructure for distribution of process steam and electricity supply to the Proposed Scheme (Work No. 1C and Work No. 1F in Schedule 1 of the **draft DCO**); and
 - viii. Integral electrical connections within the existing generating station and Carbon Capture Plant including upgrades to the existing electrical infrastructure and new electrical infrastructure for the secondary electrical supply to the Proposed Scheme (Work No. 1F in Schedule 1 of the **draft DCO**);
- c.** Infrastructure to transport compressed carbon dioxide from the Carbon Dioxide Processing and Compression Plant to storage and transport infrastructure operated by National Grid Carbon Limited (Work No. 2 in Schedule 1 of the **draft DCO**);
- d.** Minor vegetation and street furniture management and other works to facilitate access during construction (Work No. 4 in Schedule 1 of the **draft DCO**);
- e.** Additional supporting infrastructure and other works for the Proposed Scheme as set out in Section 2.2.49 (Work No. 3 in Schedule 1 of the **draft DCO**);

- f. Temporary construction laydown areas (Drax Power Station Site Construction Laydown Areas and the East Construction Laydown Area) (Work No. 5 in Schedule 1 of the **draft DCO**); and
- g. Habitat Provision Area (Work No. 6 in Schedule 1 of the **draft DCO**).

1.2.5. A process block flow diagram showing a schematic of the Proposed Scheme is provided in **Plate 1.1 (Process Block Flow Diagram for the Proposed Scheme)**. To help describe the process, a Carbon Capture Plant associated with a single unit has been shown, alongside common plant which would support both a Carbon Capture Plant for Unit 1 and Unit 2. The diagram is a schematic for illustrative purposes only and does not represent the scale or number of equipment items anticipated for the Proposed Scheme.

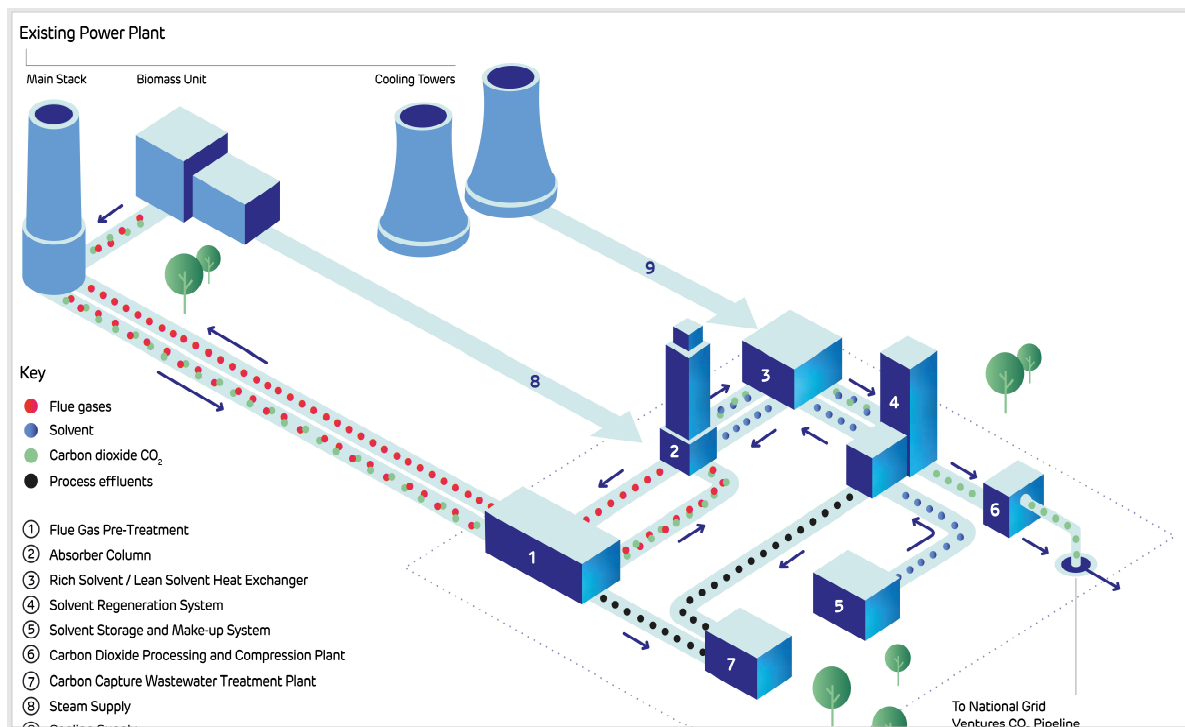


Plate 1.1 - Process Block Flow Diagram for the Proposed Scheme

1.3. DOCUMENT STRUCTURE

1.3.1. The CTMP is divided into the following sections:

- a. **Chapter 2** – Existing Conditions;
- b. **Chapter 3** – Construction Management;
- c. **Chapter 4** – Construction Programme and Working Hours; and
- d. **Chapter 5** – Abnormal Indivisible Loads

2. EXISTING CONDITIONS

2.1. HIGHWAY NETWORK

- 2.1.1. Drax Power Station is located in North Yorkshire. Located to the south of the town of Selby, it is accessed from the A645 to the south of the Drax Power Station Site. The A1041 and the A645 serve to connect the power station to the wider road network. The Strategic Road Network is accessed at J36 M62, via A645 and A614 approximately 6 km south east of the Site.
- 2.1.2. Drax Power Station is serviced by road via three secure gated points of vehicular access as follows:
- a. South Gate – a southern site access arrangement situated along the A645 comprising a priority T-junction arrangement, including a right-turn ghost island. A traffic splitter island is provided in the junction mouth of the minor arm to prevent right-turn out vehicle manoeuvres;
 - b. North Gate – a northern site access arrangement situated along New Road comprising a priority T-junction arrangement; and
 - c. Materials Handling Gatehouse Entrance – a northern site access arrangement situated along New Road (approximately 500 m north of the North Gate) comprising a priority T-junction arrangement.
- 2.1.3. The A1041 and the A645 serve to connect Drax Power Station to the wider road network. The Strategic Road Network is accessed at Junction 36 of the M62 (via A645 and A614), approximately 6.0 km to the south east of the Site.
- 2.1.4. Drax Power Station is surrounded by agricultural land. There are businesses and residential properties in the wider area including the settlements of Drax, Camblesforth and Barlow, to the south east, south west and north west respectively, which have all been considered in the proposed scope of the Proposed Scheme.
- 2.1.5. At present, staff and visitors access the Drax Site via the 'South Gate' on the A645, whereas site workers, deliveries and HDV traffic make use of the site entrances on New Road to the eastern boundary of the Site.
- 2.1.6. The Drax Power Station Site is also currently served by rail for deliveries of biomass and access to the River Ouse via a jetty located off Redhouse Lane which is of limited use due to its capacity and condition, and is used only very occasionally. The use of rail and the existing Drax Jetty to transport construction materials and AIL to the Site during the construction phase has been considered by the Applicant as part of the alternatives studied but as described in **paragraph 3.6.2 of Chapter 3 (Consideration of Alternatives)** (document reference 6.1.3) both rail and water were considered and discounted.
- 2.1.7. For access to the Drax Power Station Site it is assumed that any operational related traffic, including HDVs and abnormal loads, will use the existing access junctions off the A645 and New Road, both of which can accommodate HDV and non-HDV traffic.

- 2.1.8. There are a number of unclassified roads which are located within close proximity to the Site, with Main Road and Carr Lane providing access to neighbouring villages such as Drax and Long Drax, in a west-east direction. Main Road is of varying width alternating from a single carriageway on approach to Drax village before converting into a narrow rural road. Through the settlement the road has a speed limit of 30 mph but increases to the national speed limit along the rural road between Drax and the Redhouse Lane.

2.2. PUBLIC RIGHTS OF WAY (PROW)

- 2.2.1. There are PROW within or adjacent to the Order Limits and these are presented in the **Figure 5.2 (Public Rights of Way Network)** of the **ES** (document reference 6.2.5.2).

3. CONSTRUCTION PROGRAMME AND WORKING HOURS

3.1. CONSTRUCTION PROGRAMME

- 3.1.1. The construction programme is described in **paragraph 2.3.4 of Chapter 2 (Site and Project Description)** of the ES (document reference 6.1.2).

3.2. CONSTRUCTION WORKING HOURS

- 3.2.1. During the construction phases, it is expected that standard working hours will be Mondays to Friday 07:00 to 19:00 with all personnel working a nine hour period within this timeframe.
- 3.2.2. Start-up and shutdown activities would take place in relation to the Proposed Scheme during a one hour window either side of standard working hours. For the purposes of the assessment it has been assumed that all construction worker related trips would arrive between 06:00 and 10:00 and depart between 16:00 and 20:00 (Mondays to Fridays).
- 3.2.3. On Saturdays, working hours will be 07:00 and 13:00. Start-up and shutdown activities would take place in relation to the Proposed Scheme during a one hour window either side of standard working hours.
- 3.2.4. HDV deliveries are anticipated to be spread evenly over the 12-hour working day from 07:00 – 19:00. This is considered to be robust as it doesn't account for HDVs being spread over a 14-hour period between 06:00 – 20:00 on the highway network. Notwithstanding this, HDV movements could be on the highway network prior to 07:00, however, they will be scheduled to arrive after 07:00 to avoid queuing on the local highway network adjacent to Drax Power Station prior to 07:00 when HDVs would be unable to be accepted due to planning restrictions. Working hours outside of these periods, including bank holidays, would be agreed in advance with Selby District Council (SDC) and North Yorkshire County Council (NYCC).

3.3. CONSTRUCTION TRAFFIC IMPACTS

- 3.3.1. The construction traffic impacts are presented in the **Section 5.11 of Chapter 5 (Traffic and Transport)** of the ES. The construction methods to minimise the impacts of construction on the local highway network are considered in **Section 4 of this document**.

4. CONSTRUCTION TRAFFIC MANAGEMENT

4.1. CONSTRUCTION STAFF PARKING

- 4.1.1. Construction workers will park within the existing 500 carparking spaces available within the Drax Power Station Site. However, provision for 300 overflow car parking spaces would be provided within the East Construction Laydown Area. The combined capacity of 800 carparking spaces across the two areas will not be required throughout the entire construction programme, but is included to ensure operational resilience throughout the construction phase as the existing operational units will still require maintenance and outages.

4.2. CONSTRUCTION LAYDOWN AREA

- 4.2.1. Temporary construction compounds and laydown areas will be required. The main laydown area will be on land to the east of the Drax Power Station Site within the Site Boundary (see **Plate 1.1 (Indicative Site Layout Plan)**). Additionally, it is anticipated that several smaller, local laydown areas within the Drax Power Station Site will be utilised, as shown on **Plate 4.1 (Work Area Number 5 (Temporary Construction Laydown))**.
- 4.2.2. These laydown areas will be used during construction for the temporary locating of construction offices, warehouses, workshops, open air storage areas and car parking. With the smaller, local laydowns used for fabrication and storage local to the final installation area.
- 4.2.3. It is also proposed that the existing Limestone and Gypsum storage buildings may be used as indoor fabrication areas and may be used as workshop areas once BECCS is operational.
- 4.2.4. The Laydown Area to the east of the Drax Power Station Site will be reinstated to arable use following completion of all construction works.

4.3. CONSTRUCTION WORKER ROUTES

- 4.3.1. Construction worker journey routes have been estimated using a gravity model weighted on population and distance. Measures to manage arrival / departures are discussed in the **Appendix 5.2 (Construction Worker Travel Plan)**.

4.4. HDV ACCESS ROUTES

- 4.4.1. Construction traffic (HDVs) will access the site via J36 of the M62, then the A614, A645 and New Road. HDVs will then split between the North Gatehouse Entrance and the Materials Handling Gatehouse Entrance, depending upon where the final destination of the delivery is required.
- 4.4.2. Residential settlements within the vicinity such as Camblesforth and Carlton will experience negligible disruption caused by construction related traffic.

- 4.4.3. The proposed access route for HDVs and for AILs are shown in **Figure 5.5** and **Figure 5.6** (document references 6.2.5.5 and 6.2.5.6) of the ES respectively.
- 4.4.4. The impacts of traffic on the access routes for the peak periods of construction related activities have been assessed in the Environmental Statement and there are no significant impacts of using these routes.

4.5. SIGNAGE

- 4.5.1. Appropriate signage to ensure sufficient guidance for construction traffic will be provided, and to ensure that the traffic does not deviate from a specified route. More specifically, this will guide construction traffic in and out of the Construction Laydown areas, and the Drax Power Station Site.
- 4.5.2. Signage will also be used as a means of guiding the construction workers to the designated construction parking bays.
- 4.5.3. The location of signage will be developed as the Proposed Scheme progresses whilst also incorporating the outputs of ongoing consultation with the Local Highway Authority and National Highways.

4.6. PUBLIC RIGHTS OF WAY (PROW)

- 4.6.1. An assessment of the Proposed Scheme impacts on PROW is presented in the **paragraph 5.9.65 – 5.9.66 of Chapter 5 (Traffic and Transport)** of the ES and details specific management measures required in relation to the PROW network as a result of the Proposed Scheme.

4.7. ACCESS TO HABITAT PROVISION AREAS

- 4.7.1. Access to create enhanced habitats within agricultural land identified in the order limits would be via existing farm vehicle accesses on New Road and Pear Tree Avenue. Access for hedgerow planting would also be via the public highway and then from existing farm vehicle access locations.

4.8. OFF-SITE HABITAT PROVISION AREA

- 4.8.1. Land to the west of the Drax Power Station Site, which sits outside of the Order Limits will be dealt with through a s106 agreement, and is proposed to be used for ecological mitigation and compensation.
- 4.8.2. Proposals for the northern section, Arthur's Wood, include enhancement of the existing woodland through removal of invasive non-native species and coppicing. For the southern section, Fallow Field, proposals would include allowing scrub to succeed to woodland, enhancing existing scrub and hedgerow to species rich, enhancing grassland to species rich and creating hedgerow. Refer to **Outline Landscape and Biodiversity Strategy** (document reference 6.6) and **Heads of Terms** (document reference 7.2) for further details.

4.9. CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

- 4.9.1. Environmental mitigation required during construction is recorded in a **Register of Environmental Actions and Commitments (REAC)** (document reference 6.5) submitted with the DCO Application. A DCO requirement will ensure measures relevant to construction are included in a Construction Environmental Management Plan (CEMP), to be prepared for the Proposed Scheme before construction begins.
- 4.9.2. This CEMP will detail the environmental controls, environmental protection measures and safety procedures that will be adopted during construction. This will provide a tool to ensure the successful management of the likely environmental effects as a result of construction activities and associated HDV movements.

5. ABNORMAL INDIVISIBLE LOADS

5.1. INTRODUCTION

- 5.1.1. The Proposed Scheme will require the delivery of a number of AILs for various components. As such, it is important that the CTMP considers adequate transport routes for the AILs and addresses any mitigation measures which may be required to facilitate the deliveries.
- 5.1.2. At this stage of the Proposed Scheme, it is assumed that some AILs will be delivered by road from origins within the UK, or shipped into Goole Inland Port and transferred via road to Drax.
- 5.1.3. For deliveries of AILs from Goole Inland Port, the following route has been determined:
 - a.** A161 > M62 > A614 > A645
- 5.1.4. Given the stage of the Proposed Scheme, and the required consultation needed to prepare for the delivery of an AIL, the outline process is described in the following sections.

5.2. HAULAGE RESPONSIBILITIES

- 5.2.1. The requirements outlined below will be the new responsibility of the haulage companies during the delivery of AIL components:
 - a.** Abnormal load drivers, and their convoy, will be fully aware of the specified access route and will not deviate from this route.
 - b.** Abnormal load deliveries will only take place during the hours agreed with both the Police and Highway Authorities.
 - c.** Peak traffic periods and the school run will be avoided when planning the timing of deliveries both to and from the construction site.
 - d.** Deliveries during a weekend will be minimised but will take place if this is deemed to be acceptable to both the Police and Highway Authorities.
 - e.** To ensure the safe and effective coordination of the work, written notification of the commencement of the delivery periods will be given to the Police and Highway Authority within an agreed timescale to be agreed with the respective parties.
 - f.** Additional temporary warning signs may be provided on the delivery route for abnormal loads in accordance with the requirements of the Highway Authority.
 - g.** Any modifications, temporary or permanent, to the highway network must be agreed with the Local Highway Authority and National Highways prior to the delivery of AILs.

5.3. NOTIFICATIONS

- 5.3.1. In order to facilitate the delivery of AILs, it will be the responsibility of the haulage company to contact and inform the following key stakeholders in compliance with

regulatory requirements. The haulage company must be able to advise each of the following stakeholders in terms of proposed delivery dates and likely impacts.

EMERGENCY SERVICES

- 5.3.2. The Police, Fire and Ambulance services should be given written notice of the deliveries, and further daily notifications should be provided in advance of the vehicles leaving the port of entry.

HIGHWAY AUTHORITIES

- 5.3.3. The respective Highway Authorities should be given advance written notice of the AIL deliveries in compliance with regulatory requirements. The relevant authorities are likely to include National Highways, East Riding of Yorkshire Council, SDC, and NYCC.
- 5.3.4. Updates should be provided on a regular basis as the delivery timetable is finalised with the supplier during the delivery period.

LOCAL RESIDENTS

- 5.3.5. Relevant and timely information should be provided to local residents affected during the delivery of the AILs four weeks and one week prior to the commencement of the deliveries.
- 5.3.6. The preferred method and channels for communicating with residents will be determined at a later date. At this stage, it is proposed that communication should provide residents with the following key information:
- a.** Name and contact details of the Construction Site Manager(s);
 - b.** Name and contact details of the relevant Supplier Site Manager(s);
 - c.** The date on which the deliveries will begin;
 - d.** The anticipated duration of the delivery period;
 - e.** Formal request for residents to keep the necessary sections of the highway clear of parked vehicles during the delivery period; and
 - f.** Emergency contact details for both the Local Police.

LOCAL SERVICES

- 5.3.7. Every effort will be made to work with local service providers to ensure disruption caused by AIL deliveries is avoided. Services of particular relevance include, but are not limited to, the following items:
- a.** Local buses;
 - b.** Refuse collection; and
 - c.** Regular goods deliveries.
- 5.3.8. Contact with these service providers should be made by the site manager two weeks in advance of planned AIL deliveries taking place.

PLANNED ENGINEERING WORKS

- 5.3.9. Through working with the local Highway Authority, planned engineering works which conflict with the AIL delivery route times should be identified. Discussions will then focus on minimising and, where possibly avoiding, any disruption to the local community during the planned engineering works.

LOCAL COMMUNITY EVENTS

- 5.3.10. Through close working with the local council, the developer will identify any conflicts with school and nursery drop off and pick up locations and times. Where possible, the AIL deliveries will be scheduled to avoid these busy periods and minimise the level of disruption in the local area.
- 5.3.11. All events within the local community which are planned or notified will be considered by the developer when scheduling AIL deliveries. The site manager will contact the relevant stakeholders two weeks in advance of scheduled deliveries to ensure that all issues are considered, and that necessary mitigation measures are implemented.

5.4. HIGHWAY CONDITION SURVEY

- 5.4.1. A highway condition survey will be carried out along the whole route ahead of the first AIL delivery, and after the final AIL.
- 5.4.2. Any road maintenance issues or damage deemed to be attributable to the AIL will be rectified, and the road will be returned to its former condition.

5.5. MITIGATION

- 5.5.1. A swept path analysis and 3D survey of the route has been undertaken and indicates where street furniture needs to be removed, overhead lines lifted or switched off, and vegetation pruned (see the **Access and Rights of Way Plans** (document reference 2.4)). In addition to road modifications, traffic management would also be required.
- 5.5.2. Discussions have been held with National Highways, North Yorkshire County Council and East Riding of Yorkshire Council to understand the likely logistics with AILs from the Port of Goole via the M62, and a Statement of Common Ground will be prepared to incorporate the agreed position. Further detailed assessment would be undertaken to determine the exact temporary mitigation required for the M62, and other local required temporary mitigations, as well as the agreement of traffic management and coordination of the delivery with National Highways and Local Authorities.