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3. DESCRIPTION OF THE SITE

3.1 General Assessment Approach

3.1.1 The Proposed Development Site (termed the 'Site', the proposed limits of the land to which the DCO would apply) comprises the proposed generating station and associated infrastructure including gas and electricity connections. It also incorporates an existing gas pipeline to the National Grid (NG) gas network, as explained further below.

3.1.2 This chapter is supported by Figures 3.1, 3.1a, provided in PEI Report Volume II, which illustrate the Site boundary and areas within the Site.

3.2 The Proposed Development Site

3.2.1 The Site is located to the north of the existing VPI CHP plant and east of the Lindsey Oil Refinery in North Killingholme, Lincolnshire. Immingham Dock is located approximately 1.5km to the south east at its closest point. The Humber ports facility is located approximately 500m north at its closest point and the Humber Refinery is located approximately 500m to the south. The nearest conurbation is the town of Immingham and is located approximately 1.8km southeast of the Site and the nearest residential property is a single property on Marsh Lane located approximately 325m to the east of the Site. The villages of South and North Killingholme are located approximately 1.4km and 1.6km from the Site respectively.

3.2.2 The Site is located almost entirely within the boundary of the administrative area of North Lincolnshire Council (a unitary authority). A small part of the existing gas pipeline lies within the administrative area of Lincolnshire County Council and North East Lincolnshire District Council. The Site red line boundary encompassing all aspects of the Proposed Development is shown in Figure 3.1a.

3.2.3 The Site comprises a number of areas adjacent to and within the existing VPI CHP site:

- Main OCGT Power Station Site, where the principle infrastructure of the Proposed Development would be located;
- New gas pipeline route, to facilitate a gas supply to the OCGT;
- Above Ground Installation (AGI) Site to tie in the new gas pipeline to an existing gas pipeline located south of the existing CHP Plant;
- Electrical and Services Connections, to facilitate export of electricity from the Proposed Development to the National Grid Substation located on the existing CHP Plant and to supply utilities to the Site;
- Construction Laydown Areas, for the storage of construction materials and for the pre- and sub- assembly of the new infrastructure;
- Construction and Operational access to allow vehicle access to the Proposed Development in the construction and operational phases; and

- The route of an existing underground gas pipeline route from the AGI site to an existing tie in the National Grid (NG) Feeder 9 located to the west of South Killingholme. The Applicant is seeking rights to use and maintain this pipeline and it is therefore included within the DCO 'Order land' (the area over which powers of compulsory acquisition or temporary possession are sought). No consent for works is sought in the DCO.

3.2.4 These areas are described in more detail in the sections below and illustrated on Figure 3.1 and 3.1a.

3.2.5 The Applicant has secured an option to take a lease of the Main OCGT Power Station Site.

Main OCGT Power Station Site

3.2.6 The Main OCGT Power Station Site consists of an undeveloped parcel of land of approximately 2.0 ha lying between the existing VPI CHP plant to the south, and Rosper Road to the east. Immediately to the north of the Site are a private car park and a number of single storey structures associated with access to the Lindsey Oil Refinery. This is owned and operated by Total, as is the Oil Refinery.

Proposed Electricity and Water Connections

3.2.7 A parcel of land extending over the existing VPI CHP site will allow for a new electrical connection from the OCGT Power Station to the existing 400kV National Grid Substation associated with the existing CHP plant to facilitate the export of electricity from the Proposed Development. This land will also be used for other service connections between the Proposed Development and the existing CHP plant, including connections to the CHP control infrastructure and various other electrical, water and service connections.

3.2.8 No wet cooling system is proposed (the power station is proposed to be air-cooled), so no cooling water supply is required. A town's water connection will be required for domestic and sanitary purposes and to top up the closed loop cooling associated with the proposed fin-fan cooling system. It is proposed that the water for the site be supplied using the existing mains water connection on the adjacent VPI CHP site.

Proposed Gas Connection

3.2.9 The New Gas Pipeline Route is an area of land to be used for the installation of a new gas pipeline from the existing gas supply (to the existing CHP plant) to fuel the Proposed Development. Two routes are currently under consideration, both of which area approximately 300m in length:

- One route comprising an undeveloped parcel of land running around the existing CHP site to the west from the main OCGT Power Station Site to a proposed Above Ground Installation (AGI) site located adjacent to the southern boundary of the CHP site; and
- The other running route comprising an undeveloped parcel of land to the east and south of the existing CHP site to the (same) proposed Above Ground Installation (AGI) site. This route corridor also includes a section of Rosper Road.

- 3.2.10 The AGI site is an undeveloped parcel of land within which the AGI will be located, allowing the tie in between the gas pipeline associated with the Proposed Development and the existing gas pipeline that serves the CHP plant.

Proposed Construction Laydown Area

- 3.2.11 This comprises two areas of land in the immediate vicinity of the existing CHP site to facilitate temporary construction laydown for the Proposed Development including access corridors to allow access for construction material and staff between the laydown areas and the main power station site/ gas pipeline corridor:
- Undeveloped land to the south and the east of the existing CHP site occupying approximately the same area of land as one of the alternatives for the proposed new gas pipeline. A new temporary access off Rosper Road will be formed in this area to facilitate access for construction traffic; and
 - An undeveloped area of land to the west of the OCGT Power Station Site.

Construction and Operational Access Area

- 3.2.12 Access to the Proposed Development (with the exception of the existing gas pipeline) is proposed to be from Rosper Road by way of an area to the north of the Main OCGT Site coincident with the existing access and car park associated with the Lindsey Oil Refinery.

Existing Gas Pipeline Route

- 3.2.13 The existing gas pipeline route consists of a corridor of land following the existing gas pipeline between the proposed AGI Site and an existing AGI connecting this pipeline to the NG gas network at Feeder 9. This existing gas pipeline is proposed to be used to supply gas fuel to the Proposed Development, via the infrastructure described above. The Applicant may seek powers of compulsory acquisition in the DCO over the Existing Pipeline Route so as to secure the ability to operate and maintain the existing gas pipeline. As this does not represent new infrastructure and no works are proposed to the pipeline, the environmental effects are expected to be minimal. Where potential environmental effects are identified, they are discussed in the relevant chapters.
- 3.2.14 The existing pipeline runs south from the proposed AGI under the railway and road and the adjacent refinery to a point on the southern boundary of the refinery. It then turns west running under arable land and woodland and skirting field boundaries for approximately 2km until to meets Harbrough road. The route then turns north following the line of Harbrough road to appoint approximately 175m south of the A160, where it turns south west for 0.5km before turning northwest under the A160, A1077 and finally west under agricultural fields for 1km to meet the Feeder at an existing AGI. This route is shown on Figure 3.1 (PEI Report Volume II).

3.3 Site History

- 3.3.1 The Site (excluding the existing gas pipeline route) has been undeveloped (although its condition indicates possible previous use as construction laydown) since the earliest mapping according to a review of historical mapping. It is likely that the site was used for farming purposes until 1970s when the neighbouring refineries were

developed. A more detailed review of the history of the Site is included in Chapter 11: Ground Conditions and Hydrogeology. The pre-history of the Site as inferred from the Archaeological record is assessed in Chapter 13: Cultural Heritage

- 3.3.2 The surrounding industrial uses means that these areas have not been used for agricultural purposes since approximately the same time as the development of the neighbouring industrial complexes.

3.4 The Surrounding Area

- 3.4.1 It should be noted that the distances referred to in this and subsequent sections refer to the areas of land on which new development (permanent and temporary) are proposed, i.e. the distances do not refer to the existing gas pipeline route corridor (where no works are proposed), but to the OCGT Power Station Site, the new Gas Pipeline and the AGI.

- 3.4.2 The Site is located in an area comprising a mix of industrial and agricultural activities. In addition to the activities identified above, the land to the east of the Site and on the other side of Rosper Road comprises agricultural fields extending approximately 1km toward the Humber Estuary before industrial activities associated with the storage and export of gas and oil and other port activities commence along the banks of the Estuary itself, approximately 1.4km from the Site at its closest point.

- 3.4.3 A railway spur runs north-south to the immediate west of the Site. The spur services the Lindsey Oil Refinery and joins the main line approximately 400m south west of the Site. The main line is the principal railway line in north east Lincolnshire running between Cleethorpes and Barton on Humber.

- 3.4.4 The nearest conurbations are the village of South Killingholme, approximately 1.4km southwest at its closest point and the town of Immingham, approximately 1.8km to the south.

- 3.4.5 The surrounding land uses are as follows:

- **North:** The Site is bounded to the north by the current car park and access to the Lindsey Oil Refinery. North of this is a drainage ditch and the training centre associated with the Lindsey Oil Refinery;
- **South:** To the south of the proposed gas connection is an area of vacant land and the railway spur to the refinery on the other side;
- **East:** Rosper Road, with agricultural fields on the other side; and
- **West:** To the west of the Site is an area of land that is currently subject to a planning application to North Lincolnshire Council (reference PA/2018/918P) by a sister company of the Applicant for a <50MW gas fired power station. Beyond that area is a pond associated with the surface water management of Lindsey Oil Refinery, the railway spur servicing the refinery and Lindsey Oil Refinery itself.

3.5 Potential Environmental Sensitivities/Receptors

3.5.1 When undertaking an EIA it is important to understand which receptors will be considered as part of the assessment.

3.5.2 Key receptors for each topic area have been identified as part of the assessment process and details are included in the relevant technical chapters (Chapters 8-20). A summary is also provided below.

3.5.3 Where distances are quoted in this PEI Report the distance is defined (unless otherwise stated) as the shortest distance between two described locations, for example from the closest point of the Site boundary to the closest point of a designated site boundary.

3.5.4 The EIA Scoping Report figures (Appendix 1A (PEI Report Volume III)) illustrate the key environmental considerations within the study area (the Site and surrounding areas).

Residential Receptors

3.5.5 Key receptors include:

- The single residential property on Marsh Lane approximately 325m east of the Site at its closest point;
- The villages of South and North Killingholme, located approximately 1.4km and 1.6km west/ southwest of the Site respectively;
- The town of Immingham, located approximately 1.8km south of the Site at its closest point; and
- Residential properties in the vicinity of Chase Hill Road, located approximately 2.2km northwest of the Site.

3.5.6 There are no designated Air Quality Management Areas (AQMAs) located within 5km of the site.

Traffic and Transport

3.5.7 Rosper Road runs approximately north-south immediately east of the Site. Rosper Road joins Humber Road approximately 480m to the southeast of the Site at a recently improved gyratory junction. Humber Road then passes underneath the railway line before joining the A160 at a roundabout. The A160 is dualled in both directions westwards from this roundabout towards the A180 and M180.

Designated Nature Conservation Sites

3.5.8 There are a number of statutory and non-statutory nature conservation sites in the vicinity of the Site. They include the following:

- Humber Estuary Special Conservation Area (SAC), Special Protection Area (SPA), Ramsar site, and Site of Special Scientific Interest (SSSI) located 1.4km north east of the Site;

- North Killingholme Haven Pits (SSSI), is located 2km north of the Site and overlaps with the Humber Estuary Ramsar and SPA site;
- Eastfield Road Railway Embankment Local Wildlife Site (LWS), located 1km west of the Site;
- Burkinshaw's Covert LWS, located 400m northeast of the Site;
- Station Road Field LWS, located 400m north of the Site; and
- Rosper Road Pools LWS, located 245m south of the Site.

Cultural Heritage

- 3.5.9 The only archaeological feature located with the Site boundary is a ditch of Iron Age date, recorded during evaluation excavation for a previous phase of work undertaken by the refinery.
- 3.5.10 There are no World Heritage Sites or Registered Battlefields within 5km of the Site. There is one Registered Garden (Brocklesby Park) located approximately 5km south-west of the Site.
- 3.5.11 There are five Scheduled Monuments (SMs) within 5km of the Main Site. These are:
- Manor Farm moated site, located approximately 2km west of the Site;
 - North Garth moated site and associated enclosures, located approximately 2.4km north west of the Site;
 - Moated site and associated earthworks at Baysgarth Farm, located approximately 2.6km north-west of the Site;
 - Manor farm moated site, East Halton, located approximately 3.5 km north of the Site; and
 - Thornton Abbey Augustinian Monastery, including gatehouse, precinct, medieval road and bridge, moat, fishponds, post-Dissolution college and school, and house, located approximately 4.6km north-west of the Site.
- 3.5.12 There are three Grade I, one Grade II*, and 11 Grade II listed buildings located within 3km of the Site. The Grade I listed buildings are all churches (the Church of St Denys at North Killingholme, the Church of St Peter at East Halton and St Andrew in Immingham). There is a Grade II* listed Manor House, associated with the Scheduled Monument at Manor Farm 2km west of the site. There are also 11 Grade II listed buildings within 2.5km, including the Killingholme lighthouses located approximately 1.6km to the east of the site on the banks of the Humber River.
- 3.5.13 There are no Conservation Areas (areas of special architectural or historic interest) within 5km of the Site.

Surface Water

- 3.5.14 The area surrounding the Site is drained via a network of small land drainage ditches that convey surface water from the surrounding greenfield areas located between the Site and the Humber Estuary.
- 3.5.15 The existing CHP plant and the proposed OCGT Power Station Site are located predominantly within Flood Zone 3 classified as having a 'high risk' of flooding from fluvial or tidal sources. Flood Zone 3 comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1.0%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year. The Site is not located within an area defined as Functional Floodplain (Flood Zone 3b).
- 3.5.16 Land within the northern area of the Site is located in Flood Zone 3 and Flood Zone 2 (Construction and Operational Access Area) and Flood Zone 1 (construction laydown area). Flood Zone 2 comprises land assessed as having between 1 in 100 and 1 in 1,000 annual probability of river flooding (0.1-1%), or between 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.1-0.5%) . Land located in Flood Zone 1 is assessed as having a less than 1 in 1,000 annual probability of sea flooding (0.1-0.5%).
- 3.5.17 There are tidal flood defences in place along the entire south bank of the Humber Estuary. The existing defences to the north and east of the proposed development comprise a combination of earth embankments topped by concrete wave return walls and small areas of reclaimed land.
- 3.5.18 Although the Site is not shown on mapping as benefitting from flood defences on the Environment Agency's flood maps; information provided by the Environment Agency indicate the Site is located in an area that benefits from flood defences offering a standard of protection up to, and including, a 0.5% (1 in 200 year) storm event based on the Still Water Tidal Water Levels.

Geology & Hydrogeology

- 3.5.19 The main OCGT Power Station Site is overlain by Natural Superficial Deposits comprising Devensian Till, overlying the bedrock of the Burnham Chalk formation. There are several 'stockpiles' of reworked natural material located close to the southern boundary of the site.
- 3.5.20 The Site is not located within a Source Protection Zone. The superficial geology is characterised by as a Secondary 'A' Undifferentiated Aquifer, whilst the bedrock geology is classified as Principal Aquifer.

Landscape

- 3.5.21 The Site is not located within or adjacent to any national or regional designations for landscape protection (e.g. Area of Outstanding Natural Beauty) (AONB) or Green Belt land). The Site is located within National Character Area 41: the Humber Estuary, which focussed on the expanse of the Humber Estuary and associated low-lying land. There are no Public Rights of Way (PRoW) across the Site or immediately adjacent to it. With the nearest PRoW being March Lane approximately 500m south east of the Site.

3.6 References

None Applicable