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Tees CCPP Project

The Tees Combined Cycle Power Plant Project
Land at the Wilton International Site, Teesside

Volume 1 - Chapter 4

Regulations – 6(1)(b) and 8(1)

Applicant: Sembcorp Utilities UK
Date: November 2017

CONTENTS

4 OVERVIEW OF THE PROJECT'S ENVIRONMENTAL AND SOCIO-ECONOMIC SETTING

4.1 INTRODUCTION

4.1.1 General Setting

4.1 This chapter provides an overview of the environmental and socio-economic setting of the Project site and wider area. For each topic the technical chapters (*Chapters 6* to *15*) provide detailed information on baseline conditions and outline the future baseline.

4.2 The Project will be located on land at Wilton International, a major industrial complex located near Redcar in Teesside, northeast England with approximately 1,500 people employed directly and approximately another 1,000 working on the site as permanent contractors or in the 40 or more supply chain companies located on the site. The Project location is shown on *Figure 4.1* and *Figure 4.2*.

4.1.2 The Wilton International Site

4.3 The Wilton International Site is approximately 810 hectares (2,000 acres) in size and benefits from three (identical) instruments of consent granted by Redcar, Eston and Guisborough Borough Councils in 1946 (referred to collectively as the 'IOC'). The IOC effectively confers deemed planning consent for heavy and light industrial development. It is noteworthy that the site is not at full capacity and some plots are currently vacant and would be categorised as brownfield.

4.4 Part of Sembcorp Industries, a Singapore-based group providing energy water and marine services globally, Sembcorp also owns much of the industrial development land on the Wilton International site. Sembcorp Utilities UK supply energy, utilities and services for customers on the site including electricity, heat in the form of steam, compressed air, natural gas, raw, potable and demineralised water. Sembcorp also provide nitrogen and firefighting water storage for safety systems on the Wilton International site.

4.5 To some degree the presence of the aforementioned utilities has been a significant factor in Project site selection. The proximity of electrical and gas connections (and their capacity to accommodate the Project) also serve to reduce impacts compared to a project requiring new connections.

4.6 Sembcorp also manages the infrastructure and distribution systems which consist of approximately 120 km of easements carrying pipelines, cables and distribution systems throughout Wilton International Site and the wider Teesside chemical cluster. In addition Sembcorp is also responsible for overall site security, on-site main roads and the on-site rail network. .

4.7 Currently there are five main site businesses on the Wilton Industrial Site, excluding Sembcorp.

- SABIC UK Petrochemicals makes 'building block' chemicals of ethylene and propylene at the Wilton Ethylene 'Cracker' plant and also produces a form of plastic at its Low Density Polyethylene (LDPE) plant.

- Lotte Chemical UK makes Polyethylene Terephthalate (PET) (ie bottle grade plastic) at two plants on the site: LC1 and the Melinar 5 plant.

- Huntsman Polyurethanes produces aniline and nitrobenzene at two plants on the site. The aniline is exported to a sister facility in Holland where it is used as an intermediate in the manufacture of MDI a chemical used in the manufacture of polyurethanes.

- Ensus UK operates a bio-refinery at the site producing ethanol (or alcohol) from wheat. The ethanol is sold to customers who blend it with petrol to make greener road fuels. The process also results in the production of distillers dried grains with solubles (DDGS), a high protein animal feed used by farmers, together with carbon dioxide which is used in the food and drinks industry.

- Suez UK operates a waste to energy plant at the site which utilises around 450,000 tonnes of household waste a year as a fuel to make electrical power and steam.

4.8 At any given time there is usually overhaul or maintenance work taking place on the site which, depending on the nature of the activity, involves the use of scores or even hundreds of additional contractors carrying out a wide range of specialist overhaul activities. For example, the SABIC Cracker overhaul can involve up to 2,000 additional people on site and take six weeks or more. At the other end of the scale, the overhaul of a gas turbine can involve around 100 additional people and take several weeks. The need for these types of services at sites like Wilton is part of the reason so many of these specialist companies are located in the North East.

4.9 All of the additional visitors to site from HGV drivers to plant contractors and visitors to the various office buildings on site come through the Visitors Induction Centre. In recent years this has amounted to around 72,000 people a year.

NORTH SEA

SITE LOCATION

Middlesbrough

0 1 2 3 4 5
kilometres

N

SCALE: 1:250,000	VERSION: A01
SIZE: A3	DRAWN: WB
PROJECT: 0375193	CHECKED: RE
DATE: 04/05/2017	APPROVED: RE

Figure 4.1
Site Location

ERM

sembcorp

PROJECTION: British National Grid

Path: \\ukbrsdc02\Data\Bristol\Confidential Projects\0375193 TLP2 DCO Support.RE\2. Working Folders\2. GIS\MAPS\PEIR\Fig04.01_0375193_SiteLocation_A01.mxd

Indicative Site Boundary

Trunk Road

Cooler

Mains Dike

A174

66

Bolckow Road

Grangetown

Greystone Road

A1053

Turbines

Kettle Beck

North Lodge

Wilton Lane

Wilton

Lazenby

High Street

Kettle Beck

Scrath Farm

Lackenby

B1380

Fabian Road

Church La

Normanby Road

Cross Beck

High Street

Eston

California

Jubilee Road

Eston Nab

242

Birchington Avenue

0 100 200 300 400 500

Metres

N

SCALE: 1:15,000	VERSION: A01
SIZE: A3	DRAWN: WB
PROJECT: 0375193	CHECKED: RE
DATE: 04/05/2017	APPROVED: RE

Figure 4.2
The Project Site

ERM

sembcorp

PROJECTION: British National Grid

Path: \\ukbrsdc02\Data\Bristol\Confidential Projects\0375193 TLP2 DCO Support.RE\2. Working Folders\2. GIS\MAPS\PEIR\Fig04.02_0375193_SiteLayout_A01.mxd

4.2 THE APPLICATION SITE AND IMMEDIATE SURROUNDS

4.10 The application site is classified as 'brownfield' and covers an area of approximately 15 hectares, shown in *Figure 4.3*. The site has a history of similar industrial use to that proposed in this application; specifically a CCGT plant was constructed at the site in 1990 by Enron Power Company (later acquired by GDF Suez) and came into operation in 1993. Prior to 1990 the site is understood to have been undeveloped / agricultural land. The previous installation ceased operations in 2013, and the decommissioning and demolition of all buildings and plant was undertaken between 2013 and 2015. The ground bearing slabs and foundations are still present on site as are connections to natural gas, water and electrical distribution infrastructure / sub stations.

Figure 4.3 The Application Site Setting

4.11 The Teesside Ensus bioethanol plant is adjacent to the east of the Project site and is Europe's largest wheat bio refinery. Open grazing land and Lazenby village lie to the south of the site and to its north is brownfield industrial land. To its west lies the A1053 road and mature perimeter planting which acts as screening between the Wilton International site and the residential areas of Grangetown and Eston. This large area of mature planting is part of the Green Wedge (Green Infrastructure Policy CS23b in Redcar and Cleveland Borough Council's adopted Core Strategy), which is made up of open or green spaces that link together to create an informal but planned network across a wide geographical area.

4.12 The application site is directly accessed from the A1053 Greystone Road, which forms part of the strategic trunk road network. The A1053 connects to the A174 to the south and A66 Tees Dock Road to the north. The A174 provides a link to the A19 to the south which in turn links to the A1 (M).

4.13 The site currently comprises open ground, surfaced with a mixture of concrete slab (c.60%, equivalent to the footprint of the previous buildings / structures), gravel (c.35%, equivalent to areas where voids have been backfilled with site won demolition crushed materials, or where gravel existed previously) and soft landscaping (<5%, limited to the site periphery). The site is situated at an elevation of approximately between 16.1 and 16.5 m above Ordnance Datum (AOD) and is generally flat. Land in the vicinity of the site generally declines to the north and northeast, towards the River Tees. In the wider area

(>2.0 km), land declines to the east, towards the Tees Estuary and the North Sea coastline.

4.14 Made ground is known to be present across the application site to depths of up to 2.2 m. Below this layer British Geological Survey mapping indicates that the site is underlain by superficial deposits of poorly sorted till / glacial material across the majority of the site, and deposits of clay and silt to the north / western areas. These (superficial) deposits are identified as being in the region of 11 m thick. The underlying bedrock is mapped as Redcar Mudstone Formation, listed as being up to c.280 m deep in this area.

4.15 A number of surface watercourses and drains are located in the vicinity of the Project site but no natural water bodies are within the site itself. The most notable of these is the Kettle Beck that is located immediately adjacent to the western site boundary and flows in a northerly direction towards the River Tees. There are also four other small drainage ditches within close proximity of the Project site

4.16 As the Project site is located in an industrial area there are local sources of emissions to atmosphere surrounding the Project, principally other industrial sources and road traffic. There are sensitive human receptors to the south, east and west of the Project site although no Air Quality Management Areas (AQMAs) for NO_2 are declared within the 15 km study area for air quality.

4.17 The site is of low ecological sensitivity and all habitats present are highly modified. The Project is not located within any statutory or non–statutory nature conservation designations. There is only one Local Wildlife Site within a 2 km radius of the Project site. There are no Local Nature Reserves within 2 km of the Project site.

4.18 The acoustic environment at receptors near to the Project site is affected by the various existing industrial activities on the Wilton International site, road traffic and other sources. It is worth noting that in response to previously expressed concerns over noise the Project site benefits from an existing acoustic barrier in the form of a 6 m high wall (see also *Figure 8.2*); this mitigation feature will be retained for the Project. Its acoustic properties will be verified prior to the commencement of construction as detailed in *Chapter 8* Noise and Vibration. An additional noise wall (6 m high) has been proposed in the design along the western boundary of the site.

4.19 The local economy is quite mixed but in many ways is reflective of the wider region and England in general. The main settlements within 3 km are Grangetown, Eston and Lazenby. The area local to the Project site is not a major tourist destination but it has some tourist attractions further afield. In the vicinity of the Project site, there are some recreational amenities including footpaths and an area sensitive from a landscape perspective including the North Yorkshire Moors and Cleveland Hills.

4.20 A number of Scheduled Monuments and Listed Buildings are located within 2 km of the Project site including buildings within the Wilton conservation area; for instance Wilton Castle (Grade II) and the Church of St Cuthbert (Grade II). The Scheduled Monuments identified in this study area are Eston Nab hill fort's palisaded settlement and beacon, and Bowl Barrow.

4.3 WIDER GEOGRAPHICAL CONTEXT

4.21 A full discussion of the methodology for identifying the Project's area of influence (or study area (s)) is provided in *Section 3.2* and defined fully within each technical *Chapter*. The following text is provided as an overview of the wider environs surrounding the Project site.

4.22 The surrounding area is highly industrialised with port facilities, oil refineries and chemical works although there are also several areas of residential development; the nearest one being more than 500 m to the west of the application site.

4.23 Residential areas in the nearby vicinity of the site include Lazenby, approximately 600 m to the south and southeast, Grangetown approximately 1 km to the west and Redcar and Dormanstown approximately 4.5 km to the east and northeast respectively.

4.24 The wider North East Region has a population of approximately 2.5 million, primarily concentrated in the two conurbations of Tyne and Wear and Tees Valley; it is here that economic activity is focused. Two thirds of the North East Region (mainly in the north and west) is rural in character, and sparsely populated. Redcar is a key industrial location in the Tees Valley. The structure of the economy has changed from being reliant on heavy industries to a more diverse and balanced economy; however, chemicals, steel manufacturing and fabrication industries remain important.

4.25 In terms of ecology there are 11 nationally and four internationally designated sites within a 15 km radius of the Project site. The closest of these is North Tees Mudflats, which is a component of the Tees and Hartlepool Foreshore and Wetlands SSSI. This is an area of intertidal mud along the north bank of the River Tees, approximately 4.3 km to the west.