

# **South Humber Bank Energy Centre Project**

Planning Inspectorate Reference: EN010107

**South Marsh Road, Stallingborough, DN41 8BZ**

**The South Humber Bank Energy Centre Order**

**Document Reference: 5.9 Statutory Nuisance Statement**

**The Infrastructure Planning (Applications: Prescribed Forms and Procedure)  
Regulations 2009 - Regulation 5(2)(f)**



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**Applicant: EP Waste Management Ltd**  
**Date: April 2020**

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## GLOSSARY

<b>Abbreviation</b>	<b>Description</b>
ACC	Air Cooled Condenser
AOD	Above Ordnance Datum, i.e. meaning a level above mean sea level.
APFP Regulations	The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009. Sets out detailed procedures that must be followed for submitting and publicising applications for Nationally Significant Projects.
Applicant	EP Waste Management Limited, a subsidiary of EP UK Investments Limited ('EPUKI').
Application	The Application for a Development Consent Order made to the Secretary of State under Section 37 of the Planning Act 2008 in respect of the Proposed Development, required pursuant to Section 31 of the Planning Act 2008 because the Proposed Development is a Nationally Significant Infrastructure Project under Section 14(1)(a) and Section 15 of the Planning Act 2008 by virtue of being an onshore generating station in England of 50 Megawatts electrical capacity of more.
Application Site	The land corresponding to the Order Limits that is required for the Construction, operation and maintenance of the Proposed Development.
BAT	Best Available Techniques
BS	British Standard
CCGT	Combined Cycle Gas Turbine – an energy generation technology in which the exhaust heat from a gas turbine (Joule cycle) is used to raise steam and drive a steam turbine (Rankine cycle). Both turbines drive electrical generators to produce electricity. The combination of these cycles allows for a greater efficiency than either cycle operating in isolation.
CEMP	Construction Environmental Management Plan
CEMs	Continuous Emission Monitoring Systems - a tool to monitor flue gas for oxygen, carbon monoxide and carbon dioxide to provide information for combustion control in industrial settings.

CHP	Combined Heat and Power. A technology that puts to use the residual heat of the combustion process after generation of electricity that would otherwise be lost to the environment.
CIBSE	Chartered Institution Building Services Engineers
CO <sub>2</sub>	Carbon dioxide
DCO	A Development Consent Order made by the relevant Secretary of State pursuant to The Planning Act 2008 to authorise a Nationally Significant Infrastructure Project. A DCO can incorporate or remove the need for a range of consents which would otherwise be required for a development. A DCO can also include rights of compulsory acquisition.
Decommissioning	A process to remove a factory or other industrial building from active status.
EIA	Environmental Impact Assessment
EMS	Environment Management System - the management of an organization's environmental programs in a comprehensive, systematic, planned and documented manner.
Emissions	The substances or mass of a substance emitted into the atmosphere.
EN-1	Overarching National Policy Statement for Energy
EPA	Environmental Protection Act 1990 (as amended)
ES	Environmental Statement - Report in which the process and results of an Environment Impact Assessment are documented.
EPUKI	EP UK Investments Limited
FGT	Flue Gas Treatment
Fuel	Refuse derived fuel (RDF) used in the Proposed Development to generate electricity (any other 'fuels' used in the process are described separately, e.g. diesel, natural gas)
Ha	Hectares
HGV	Heavy Goods Vehicle - Vehicles with a gross weight in excess of 3.5 tonnes.
IED	Industrial Emissions Directive, EU Directive 2010/75/EU. A directive of the European Union, the requirements of which replaced the requirements of the Waste Incineration Directive (WID) in 2013.
km	Kilometres
m	Metres
Mitigation measures	A term used in EIA to describe measures proposed to prevent, reduce and where possible offset any significant adverse environmental effects.
MJ/kg	Megajoules per kilogram
NCV	Net Calorific Value [of a fuel], in units of MJ/kg.
NELC	North East Lincolnshire Council
NO <sub>2</sub>	Nitrogen dioxide - A molecule composed of one nitrogen atom and two oxygen atoms, present in outdoor air as a gas.
NO <sub>x</sub>	Nitrogen oxides, comprising primarily nitric oxide (NO) and nitrogen dioxide (NO <sub>2</sub> ). There are defined air quality objectives

	for NO <sub>2</sub> in ambient air for the protection of human health and designated ecological receptors.
NRMM	Non-Road Mobile Machinery
NSIP	Nationally Significant Infrastructure Project, a type and scale of infrastructure project that must be authorised by the grant of a DCO under The Planning Act 2008.
Order Limits	The limits of the land to which the Application for the DCO relates and shown on the Land Plan and Works Plans within which the Proposed Development must be carried out and which is required for its construction and operation. The Application Site.
PAH	Polycyclic Aromatic Hydrocarbons
Particulate matter	Solid particles, aerosols or liquid droplets suspended or carried in the air and includes the same matter after it has deposited onto a surface. For the purposes of this application the term includes all size fractions of suspended matter, such as dust, PM10 and PM2.5.
PM <sub>10</sub>	Mass per cubic metre of particles passing through the inlet of a size selective sampler with a transmission efficiency of 50% at an aerodynamic diameter of 10 micrometres.
PM <sub>2.5</sub>	Mass per cubic metre of particles passing through the inlet of a size selective sampler with a transmission efficiency of 50% at an aerodynamic diameter of 2.5 micrometres.
POPs	Persistent Organic Chemicals
Proposed Development	The development to which the Application relates and which requires a DCO and as listed at Schedule 1 of the draft Order.
PRoW	Public Right of Way
RDF	Refuse Derived Fuel - comprises processed waste from municipal/ household, commercial and industrial sources.
Receptors	People (both individually and communally) and the socio-economic systems they support.
Residual effects	The environmental effect of a proposed development which remains after mitigation measures have been incorporated into the design.
SHBPS	South Humber Bank Power Station
SNCR	Selective Non-Catalytic Reduction
VOCs	Volatile organic compounds

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## CONTENTS

<b>1.0 EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>2.0 INTRODUCTION .....</b>	<b>2</b>
2.1 Overview.....	2
2.2 The Applicant.....	2
2.3 The Proposed Development Site .....	3
2.4 The Proposed Development .....	3
2.5 Relationship with the Consented Development.....	4
2.6 The Purpose and Structure of this Document.....	5
<b>3.0 IDENTIFICATION AND ASSESSMENT OF STATUTORY NUISANCE .....</b>	<b>7</b>
3.1 Legislative Framework.....	7
3.2 Assessment of Significance .....	7
<b>4.0 POTENTIAL NUISANCE IMPACTS .....</b>	<b>9</b>
4.2 EPA 1990 Section 79(1) a) Any Premises In Such a State as to be Prejudicial to Health or a Nuisance .....	9
4.3 EPA 1990 Section 79(1) b) Smoke Emitted from Premises so as to be Prejudicial to Health or a Nuisance, c) Fumes or Gases Emitted from Premises so as to be Prejudicial to Health or a Nuisance .....	9
Construction Phase.....	9
Operational Phase .....	9
Decommissioning Phase .....	11
4.4 EPA 1990 Section 79(1) d) Any Dust, Steam, Smell or Other Effluvia Arising on Industrial, Trade or Business Premises and Being Prejudicial to Health or a Nuisance, and e) Any Accumulation or Deposit which is Prejudicial to Health or a Nuisance.....	11
Dust, Accumulations and Deposits .....	11
Visual Plume (Steam) .....	14
Smells .....	14
4.5 EPA 1990 Section 79(1) f) Any Animal Kept in Such a Place or Manner as to be Prejudicial to Health or a Nuisance .....	15
4.6 EPA 1990 Section 79(1) fa) Any Insects Emanating from Premises so as to be Prejudicial to Health or a Nuisance.....	15
4.7 EPA 1990 Section 79(1) fb) Artificial Light Emitted from Premises so as to be Prejudicial to Health or a Nuisance.....	16
4.8 EPA 1990 Section 79(1) g) Noise Emitted from Premises so as to be Prejudicial to Health or a Nuisance, and ga) Noise that is Prejudicial to Health or a Nuisance and is Emitted from or Caused by a Vehicle, Machinery or Equipment in a Street .....	16
Construction Phase.....	17
Operational Phase .....	17
Decommissioning Phase .....	18
4.9 EPA 1990 Section 79(1) h) Any Other Matter Declared by any Enactment to be a Statutory Nuisance.....	18
Traffic and Abnormal Loads.....	18

<b>5.0 CONCLUSIONS .....</b>	<b>19</b>
5.1 Potential for Nuisance .....	19
<b>6.0 REFERENCES .....</b>	<b>20</b>

## **1.0 EXECUTIVE SUMMARY**

- 1.1.1 This Statutory Nuisance Statement has been prepared to support a Development Consent Order (a DCO) application for the construction, operation, maintenance and decommissioning of a proposed up to 95 MW energy from waste power station known as South Humber Bank Energy Centre. This statement identifies the matters set out in Section 79(1) of the Environmental Protection Act 1990 (the EPA 1990) in respect of statutory nuisance and considers whether the Proposed Development could cause statutory nuisance.
- 1.1.2 Potential statutory nuisance may include noise, artificial light, odours, insects, smoke, dust arising on premises, fumes, accumulations and keeping of animals.
- 1.1.3 Without appropriate embedded mitigation and controls, various types of potential nuisance could potentially result from the operation, maintenance and eventual decommissioning of the Proposed Development.
- 1.1.4 However, through the embedded mitigation in place and the controls provided for, as presented within the Environmental Statement (Document Refs. 6.1 - 6.4) and secured in the Development Consent Order, it has been demonstrated that the Proposed Development is unlikely to give rise to any statutory nuisance under the EPA 1990. Therefore, it is appropriate to include within the Development Consent Order a provision for a defence against claims of statutory nuisance.



## 2.0 INTRODUCTION

### 2.1 Overview

- 2.1.1 This 'Statutory Nuisance Statement' document (Document Ref. 5.9) has been prepared on behalf of EP Waste Management Limited ('EPWM' or the 'Applicant'). It forms part of the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy, under section 37 of 'The Planning Act 2008' (the 'PA 2008').
- 2.1.2 EPWM is seeking development consent for the construction, operation and maintenance of an energy from waste ('EfW') power station with a gross electrical output of up to 95 megawatts (MW) including an electrical connection, a new site access, and other associated development (together 'the Proposed Development') on land at South Humber Bank Power Station ('SHBPS'), South Marsh Road, near Stallingborough in North East Lincolnshire ('the Site').
- 2.1.3 A DCO is required for the Proposed Development as it falls within the definition and thresholds for a 'Nationally Significant Infrastructure Project' (a 'NSIP') under sections 14 and 15(2) of the PA 2008.
- 2.1.4 The DCO, if made by the SoS, would be known as the 'South Humber Bank Energy Centre Order' ('the Order').
- 2.1.5 Full planning permission ('the Planning Permission') was granted by North East Lincolnshire Council ('NELC') for an EfW power station with a gross electrical output of up to 49.9 MW and associated development ('the Consented Development') on land at SHBPS ('the Consented Development Site') under the Town and Country Planning Act 1990 on 12 April 2019. Since the Planning Permission was granted, the Applicant has assessed potential opportunities to improve the efficiency of the EfW power station, notably in relation to its electrical output. As a consequence, the Proposed Development would have a higher electrical output (up to 95 MW) than the Consented Development, although it would have the same maximum building dimensions and fuel throughput (up to 753,500 tonnes per annum (tpa)).

### 2.2 The Applicant

- 2.2.1 The Applicant is a subsidiary of EP UK Investments Limited ('EPUKI'). EPUKI owns and operates a number of other power stations in the UK. These include SHBPS and Langage (Devon) Combined Cycle Gas Turbine ('CCGT') power stations, Lynemouth (Northumberland) biomass-fired power station, and power generation assets in Northern Ireland. EPUKI also owns sites with consent for new power stations in Norfolk (King's Lynn 'B' CCGT) and North Yorkshire (Eggborough CCGT).
- 2.2.2 EPUKI is a subsidiary of Energetický A Průmyslový Holding ('EPH'). EPH owns and operates energy generation assets in the Czech Republic, Slovak Republic, Germany, Italy, Hungary, Poland, Ireland, and the United Kingdom.



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## 2.3 The Proposed Development Site

- 2.3.1 The Proposed Development Site (the 'Site' or the 'Order limits') is located within the boundary of the SHBPS site, east of the existing SHBPS, along with part of the carriageway within South Marsh Road. The principal access to the site is off South Marsh Road.
- 2.3.2 The Site is located on the South Humber Bank between the towns of Immingham and Grimsby; both over 3 km from the Site. The surrounding area is characterised by industrial uses dispersed between areas of agricultural land with the nearest main settlements being the villages of Stallingborough, Healing and Great Coates. The Site lies within the parish of Stallingborough although Stallingborough village lies over 2 km away.
- 2.3.3 The Site lies within the administrative area of NELC, a unitary authority. The Site is owned by EP SHB Limited, a subsidiary of EPUKI, and is therefore under the control of the Applicant, with the exception of the highway land on South Marsh Road required for the new Site access.
- 2.3.4 The existing SHBPS was constructed in two phases between 1997 and 1999 and consists of two CCGT units fired by natural gas, with a combined gross electrical capacity of approximately 1,400 MW. It is operated by EP SHB Limited.
- 2.3.5 The Site is around 23 hectares ('ha') in area and is generally flat, and typically stands at around 2.0 m Above Ordnance Datum (mAOD).
- 2.3.6 The land surrounding the Site immediately to the south, west and north-west is in agricultural use with a large polymer manufacturing site, Synthomer, and a waste management facility, NEWLINCS, both located to the north of the Site and also accessed from South Marsh Road. The estuary of the River Humber lies around 175 m to the east of the Site.
- 2.3.7 Access to the South Humber Bank is via the A180 trunk road and the A1173. The Barton railway line runs north-west to south-east between Barton-on-Humber and Cleethorpes circa 2.5 km to the south-west of the Site and a freight railway line runs north-west to south-east circa 300 m (at the closest point) to the Site.
- 2.3.8 A more detailed description of the Site is provided at Chapter 3: Description of the Proposed Development Site in the Environmental Statement ('ES') Volume I (Document Ref. 6.2).

## 2.4 The Proposed Development

- 2.4.1 The main components of the Proposed Development are summarised below:
- Work No. 1— an electricity generating station located on land at SHBPS, fuelled by refuse derived fuel ('RDF') with a gross electrical output of up to 95 MW at ISO conditions;
  - Work No. 1A— two emissions stacks and associated emissions monitoring systems;

- Work No. 1B— administration block, including control room, workshops, stores and welfare facilities;
- Work No. 2— comprising electrical, gas, water, telecommunication, steam and other utility connections for the generating station (Work No. 1);
- Work No. 3— landscaping and biodiversity works;
- Work No. 4— a new site access on to South Marsh Road and works to an existing access on to South Marsh Road; and
- Work No. 5— temporary construction and laydown areas.

2.4.2 Various types of ancillary development further required in connection with and subsidiary to the above works are detailed in Schedule 1 of the DCO. A more detailed description of the Proposed Development is provided at Schedule 1 'Authorised Development' of the Draft DCO and Chapter 4: The Proposed Development in the ES Volume I (Document Ref. 6.2) and the areas within which each of the main components of the Proposed Development are to be built is shown by the coloured and hatched areas on the Works Plans (Document Ref. 4.3).

## 2.5 Relationship with the Consented Development

2.5.1 The Proposed Development comprises the works contained in the Consented Development, along with additional works not forming part of the Consented Development ('the Additional Works'). The Additional Works are set out below along with an explanation of their purpose.

- a larger air-cooled condenser (ACC), with an additional row of fans and heat exchangers – this will allow a higher mass flow of steam to be sent to the steam turbine whilst maintaining the exhaust pressure and thereby increasing the amount of power generated;
- a greater installed cooling capacity for the generator – additional heat exchangers will be installed to the closed-circuit cooling water system to allow the generator to operate at an increased load and generate more power;
- an increased transformer capacity – depending on the adopted grid connection arrangement the capacity will be increased through an additional generator transformer operating in parallel with the Consented Development's proposed generator transformer or a single larger generator transformer. Both arrangements would allow generation up to 95 MW; and
- ancillary works – the above works will require additional ancillary works and operations, such as new cabling or pipes, and commissioning to ensure that the apparatus has been correctly installed and will operate safely and as intended.

2.5.2 The likely construction scenario is for work on the Consented Development (pursuant to the Planning Permission) to commence in Quarter 2 ('Q2') of 2020 and to continue for around three years. Following grant of a DCO for the Proposed Development (approximately halfway through the three-year construction programme), the Applicant would initiate powers to continue

development under the Order instead of the Planning Permission. The Order includes appropriate powers and notification requirements for the 'switchover' between consents, to provide clarity for the relevant planning authority regarding the development authorised and the applicable conditions, requirements, and other obligations. Once the Order has been implemented the additional works would be constructed and the Proposed Development would be built out in full. The Proposed Development would commence operation in 2023.

- 2.5.3 Alternative construction scenarios, involving construction entirely pursuant to the Order, are also possible. Accordingly, three representative scenarios are described within Chapter 5: Construction Programme and Management in the ES Volume I (Document Ref. 6.2) and assessed in the Environmental Impact Assessment ('EIA').

## 2.6 The Purpose and Structure of this Document

- 2.6.1 The purpose of this document is to comply with Regulation 5(2)(f) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (APFP Regulations), which states that any application for development consent should be accompanied by a statement setting out whether the development proposal could cause a statutory nuisance pursuant to Section 79(1) of the EPA 1990. If such a nuisance could occur, the statement must set out how the applicant proposes to mitigate or limit the effects.

- 2.6.2 Paragraph 4.14.1 of the 'Overarching National Policy Statement for Energy EN-1' (Department for Energy and Climate Change, 2011) states:

*"Section 158 of the Planning Act 2008 confers statutory authority for carrying out development or doing anything else authorised by a DCO. Such authority is conferred only for the purpose of providing a defence in any civil or criminal proceedings for nuisance. This would include defence for proceedings for nuisance under Part III of the EPA 1990 (statutory nuisance) ... but only to the extent that the nuisance is the inevitable consequence of what has been authorised. The defence does not extinguish the local authority's duties under Part III of the EPA to inspect its area and take reasonable steps to investigate complaints of statutory nuisance and to serve abatement notice where satisfied to its existence, likely occurrence or recurrence. The defence is not intended to extend to proceedings where the matter is 'prejudicial to health' and not a nuisance."*

- 2.6.3 Paragraph 4.14.2 goes on to state that it is very important that at the application stage, the Secretary of State considers sources of nuisance under Section 79(1) of the EPA 1990 and how these may be mitigated or limited, so that appropriate 'requirements' can be included in any DCO that is granted.

- 2.6.4 Whilst, as this document demonstrates, it is not expected that the construction, operation (including maintenance) and decommissioning of the Proposed Development would cause a statutory nuisance, Article 24 of the draft DCO accompanying the Application contains a provision that would provide a defence to proceedings in respect of statutory nuisance should they be initiated

against the Applicant or any future operators of the Proposed Development (in respect of sub-paragraph (g) of Section 79(1) of the EPA 1990 (noise emitted from premises so as to be prejudicial to health or a nuisance), subject to certain criteria.

- 2.6.5 This document first describes the legislative context for the identification of matters which constitute statutory nuisance and the methodology for the assessment of these. This is followed by a summary of the assessment of the statutory nuisances, using information from the ES (Document Refs. 6.1-6.4), including any relevant mitigation measures and residual effects, whether embedded within the design of the Proposed Development or additional mitigation secured through requirements within the DCO.
- 2.6.6 Unless otherwise stated, decommissioning effects are considered to be comparable to or less than those associated with construction of the Proposed Development.

## 3.0 IDENTIFICATION AND ASSESSMENT OF STATUTORY NUISANCE

### 3.1 Legislative Framework

3.1.1 Section 79(1) of the EPA 1990 identifies the matters which are considered to be statutory nuisance as follows:

- *“a) any premises in such a state as to be prejudicial to health or a nuisance;*
- *b) smoke emitted from premises so as to be prejudicial to health or a nuisance;*
- *c) fumes or gases emitted from premises so as to be prejudicial to health or a nuisance;*
- *d) any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance;*
- *e) any accumulation or deposit which is prejudicial to health or a nuisance;*
- *f) any animal kept in such a place or manner as to be prejudicial to health or a nuisance;*
- *fa) any insects emanating from relevant industrial, trade or business premises and being prejudicial to health or a nuisance;*
- *fb) artificial light emitted from premises so as to be prejudicial to health or a nuisance;*
- *g) noise emitted from premises so as to be prejudicial to health or a nuisance;*
- *ga) noise that is prejudicial to health or a nuisance and is emitted from or caused by a vehicle, machinery or equipment in a street [or in Scotland, road]; and*
- *h) any other matter declared by any enactment to be statutory nuisance.”*

### 3.2 Assessment of Significance

3.2.1 The ES (Document Ref. 6.1 - 6.4) for the Proposed Development addresses the likelihood of significant effects arising that could constitute a statutory nuisance, as identified in Section 79(1) of the EPA.

3.2.2 ES Volume I Chapter 4: The Proposed Development (Document Ref. 6.2) and the Framework Construction Environmental Management Plan (CEMP) presented as Appendix 5A in ES Volume III (Document Ref. 6.4) describe impact avoidance measures embedded to the proposed design and methods of construction, which address the potential statutory nuisances defined in paragraph 2.1 of this document.

3.2.3 ES Volume I Chapter 7: Air Quality, Chapter 8: Noise and Vibration, Chapter 9: Traffic and Transport, Chapter 11: Landscape and Visual Amenity, and Chapter 16: Waste Management and their associated appendices, where relevant,

provide detailed assessments of these potential statutory nuisances and identify mitigation measures where necessary.

- 3.2.4 The ES provides an assessment of the potential effects on receptors as negligible, minor, moderate or major. Moderate and major effects are considered to be significant for the purposes of the Environmental Impact Assessment (EIA).
- 3.2.5 Potential nuisance aspects have been considered in Section 3 below and through embedded mitigation, no statutory nuisance effects are considered likely to occur.

## 4.0 POTENTIAL NUISANCE IMPACTS

4.1.1 This section discusses the nuisance impacts set out in the EPA 1990 in relation to the Proposed Development, and summarises the embedded and additional mitigation measures that will be applied to prevent these.

### 4.2 EPA 1990 Section 79(1) a) Any Premises In Such a State as to be Prejudicial to Health or a Nuisance

4.2.1 The EPA describes a potential statutory nuisance to be caused by “*any premises in such a state as to be prejudicial to health or a nuisance*”. This statutory nuisance could only occur if poor levels of housekeeping or maintenance are in place for example.

4.2.2 To minimise the risk of any such statutory nuisance from occurring through poor maintenance or housekeeping, operational and management controls will be put in place, such as the establishment of a preventative maintenance plan, regular housekeeping inspections, waste management procedures and compliance with the requirements of the Environmental Management System (EMS) and Environmental Permit for the Proposed Development. These measures are described in ES Volume I Chapter 4: The Proposed Development (Document Ref. 6.2).

### 4.3 EPA 1990 Section 79(1) b) Smoke Emitted from Premises so as to be Prejudicial to Health or a Nuisance, c) Fumes or Gases Emitted from Premises so as to be Prejudicial to Health or a Nuisance

#### Construction Phase

4.3.1 The Study Area for construction dust and Non-Road Mobile Machinery (NRMM) emissions has been applied, in line with IAQM guidance (2014), extending up to 350 m beyond the Site boundary and 50 m from the construction traffic route (up to 500 m from the Site entrances), for human health receptors; and up to 50 m from the Site boundary and/ or construction traffic route (up to 500 m from the Site entrances) for ecological receptors.

4.3.2 During the earthworks and construction phase, based on IAQM guidance (2014), the effects on receptors potentially affected by dust soiling and short-term concentrations of PM<sub>10</sub> generated during construction activities were concluded to not be significant.

4.3.3 The effects on receptors potentially affected by the exhaust emissions associated with construction phase vehicle movements were concluded to be negligible adverse. Additional mitigation measures are therefore not required.

#### Operational Phase

4.3.4 The pollutants considered within the assessment of air emissions for the main stacks in ES Volume I Chapter 7: Air Quality (Document Ref. 6.2) are primarily those prescribed within the Industrial Emissions Directive (IED). These are:

- oxides of nitrogen (NO<sub>x</sub>), expressed as nitrogen dioxide (chemical formula NO<sub>2</sub>);
- particulate matter (as PM<sub>10</sub> size fraction);



- carbon monoxide (chemical formula CO);
- sulphur dioxide (chemical formula SO<sub>2</sub>);
- hydrogen chloride (chemical formula HCl);
- hydrogen fluoride (chemical formula HF);
- twelve metals (cadmium (Cd), thallium (Tl), mercury (Hg), antimony (Sb), arsenic (As), lead (Pb), chromium (Cr), cobalt (Co), copper (Cu), manganese (Mn), nickel (Ni) and vanadium (V));
- polychlorinated dibenzo-para-dioxins and polychlorinated dibenzo furans (referred to as dioxins and furans); and
- volatile organic compounds (VOCs), as a measure of total organic compounds.

4.3.5 Emissions of the following pollutants not included within the IED are also considered:

- the Polycyclic Aromatic Hydrocarbons (PAH), benzo[a]pyrene;
- ammonia (chemical formula NH<sub>3</sub>); and
- particulate matter (as PM<sub>2.5</sub> size fraction).

4.3.6 Of the pollutants listed above, the primary pollutants of interest in relation to the impacts due to emissions from the Proposed Development and road traffic are nitrogen dioxide and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub> size fractions).

4.3.7 The potential impacts and mitigation for nuisance from smoke, fumes, gases, dust, steam, smells, other effluvia, accumulations and deposits are discussed as part of the air quality impact assessment presented in ES Volume I Chapter 7: Air Quality.

4.3.8 The Study Area for the operational development point source emissions extends up to 10 km from the Site, in order to assess the potential impacts on sensitive human health and ecological receptors, in line with the Environment Agency risk assessment methodology (Department for Environment, Food and Rural Affairs and Environment Agency, 2016). However, in practice the predicted impacts become negligible at a much smaller distance from the Site (circa 2 km).

4.3.9 The Proposed Development will be designed and operated to meet the requirements of the IED and its operations will be strictly regulated by the Environment Agency under an Environmental Permit. It will be operated and maintained in accordance with a preventative maintenance programme.

4.3.10 Fuel combustion will be automatically controlled through the fuel feed rate, the addition of combustion air and control of the grate, in order to achieve good combustion of the fuel and control emissions of pollutants. The process will be optimised through the monitoring of oxygen and carbon monoxide levels and temperatures within the combustion system and in particular to maintain a flue gas temperature of at least 850°C for a minimum of two seconds; if necessary, using auxiliary burners.

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- 4.3.11 The resulting combustion flue gas will be cleaned in a FGT plant. Each fuel combustion line will be fitted with:
- Selective Non-Catalytic Reduction (SNCR) for the abatement of emissions of nitrogen oxides (NO<sub>x</sub>) (if required);
  - lime (or equivalent reagent) injection for the abatement of acid gases including hydrogen chloride and sulphur dioxide;
  - activated carbon injection for the abatement of persistent organic pollutants (POPs), dioxins and furans and heavy metals; and
  - fabric bag filters for the abatement of particulate emissions, including the injected reagent and activated carbon.
- 4.3.12 Exhaust emissions will be monitored by a Continuous Emissions Monitoring system (CEMs) and discharged to atmosphere through two stacks (one for each line), each circa 100 m above finished ground level. Flue gas will be emitted with a velocity of at least 15 m/s. Combined with the thermal buoyancy of the warm gas, the flue gases will rise before becoming dispersed.
- 4.3.13 The CEMs sampling points and non-continuous sampling points will be located according to the requirements of the IED and the Environment Agency Technical Guidance Notes M1 'Sampling Requirements for stack emission monitoring' (Environment Agency, 2017a) and M2 'Monitoring of stack emissions to air' (Environment Agency, 2017b).
- 4.3.14 Fugitive emissions will be minimised through appropriate design and operation of the Proposed Development, including but not limited to the use of negative pressure within the fuel reception hall, to draw air through into the combustion system. There will also be a prohibition on open burning (e.g. of waste materials) at the Proposed Development.
- 4.3.15 The operation of a one-way traffic system around the site will reduce congestion and the resulting excess vehicle exhaust emissions.

#### Decommissioning Phase

- 4.3.16 Decommissioning effects are considered to be similar to construction effects outlined above, unless specified otherwise.

### **4.4 EPA 1990 Section 79(1) d) Any Dust, Steam, Smell or Other Effluvia Arising on Industrial, Trade or Business Premises and Being Prejudicial to Health or a Nuisance, and e) Any Accumulation or Deposit which is Prejudicial to Health or a Nuisance**

#### Dust, Accumulations and Deposits

- 4.4.1 The scale and nature of the Proposed Development and activities associated with construction and operation have the potential to produce dust. 'Dust' is defined in British Standard 6069-2:1994 (British Standards Institute, 1994) as particulate matter in the size range 1 µm – 75 µm (microns) in diameter and is primarily composed of mineral materials and soil particles. If emitted at high concentrations this could theoretically be transported to local receptors.

4.4.2 Anticipated dust, accumulations and deposits from construction, operations (including maintenance works) and decommissioning activities at the Proposed Development are described below.

*Construction Phase*

4.4.3 The magnitude of effects for dust and Non-Road Mobile Machinery (NRMM) emissions during construction has been determined as 'large' for earthworks and construction activities, and 'medium' for trackout activities (see ES Volume I Chapter 7: Air Quality (Document Ref. 6.2)). The area sensitivity has been judged to be 'low' for dust soiling impacts from all activities and 'medium' sensitivity for human health impacts from PM<sub>10</sub> releases from all activities, on account of the distance from the activity source to the receptors, and the existing low background concentration particulates (<24 µg/m<sup>3</sup>).

4.4.4 Construction activities are very well understood in the UK and good industry practice measures are well-established and generally successful. The ES concludes that during construction of the Proposed Development, in the absence of mitigation, there would be potential for:

- low risk of impacts from dust soiling during earthworks, construction, and trackout; and
- low risk of impacts to human health from PM<sub>10</sub> during earthworks, construction, and trackout.

4.4.5 Emissions of dust and particulates from the construction phase of the Proposed Development will be controlled in accordance with industry best practice, through incorporation of appropriate control measures according to the risks posed by the activities undertaken, as determined through this assessment process. The management of dust and particulates and application of adequate mitigation measures will be enforced through the CEMP (see ES Volume III Appendix 5A (Document Ref. 6.4)).

4.4.6 Appropriate standard and best practice control measures will be included in the detailed CEMP, but not be limited to application of the following best practicable means as far as reasonably practicable, which may include:

- application of good practice dust management techniques;
- maintaining and operating vehicle engines to achieve European and UK Emissions Standards;
- avoiding roughening of concrete surfaces where possible;
- storing sand and aggregates in bunded areas;
- prohibiting open fires on Site;
- minimising storage duration of top soil or spoil during construction;
- using water suppression to minimise dust formation;
- using regular cleaning to minimise mud on road;
- covering any potentially dusty loads of waste or spoil in vehicles leaving the Site; and

- restricting the use of unmade roads and employing wheel wash systems at Site exits.

*Operational Phase*

- 4.4.7 The operation of the Proposed Development in accordance with the IED and Environmental Permit, the activities of the operation and maintenance teams, the implementation of formal operating procedures and the installation and operation of automated combustion controls and FGT plant, will minimise the potential for statutory nuisance from atmospheric emissions.
- 4.4.8 The mitigation measures proposed for dust emissions include bag filters within the FGT. These will be installed to abate particulate emissions from the process, with each filter divided into compartments that can be isolated in the event of a leak. Bag filter cleaning will be automatically and periodically undertaken by pulsing compressed air back through the filters, displacing any dust into hoppers for subsequent disposal.
- 4.4.9 Continuous dust monitoring will be used to monitor that the bag filters are effectively abating the emission. In addition, differential pressure gauges will monitor the pressure drop across the filters, to inform the cleaning frequency and detect burst bags should they occur. If this should happen, the compartment of the fabric filter that is leaking will be isolated and the filter bags replaced. The plant is designed to remain in operation throughout any such maintenance operation, through provision of sufficient redundancy.
- 4.4.10 Fugitive dust emissions will be minimised through the use of the enclosed fuel reception hall, silos for the collection of FGT residue and a quench system for bottom ash.
- 4.4.11 For the operational assessment, the impact of point source emissions at human health receptors has been determined from isopleth figures of pollutant dispersion and maximum model output at discrete receptor locations.
- 4.4.12 Of the pollutants emitted from the Proposed Development and road traffic, the primary pollutants of interest in relation to the impacts from road traffic emissions are NO<sub>2</sub> and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub> size fractions). The ES concludes that the effect of emissions from road traffic during operation of the Proposed Development would be negligible.
- 4.4.13 The Environmental Permit stipulates the maximum annual capacity of fuel utilised by the Proposed Development, the maximum volume of fuel which can be stored at any one time and the specifications for the types and composition of the fuel received.
- 4.4.14 This, together with formal, documented procedures for fuel management, will minimise the accumulation of fuels waiting to be processed.
- 4.4.15 Fuel will be delivered in enclosed or covered containers that will prevent the loss of materials during transit into the Site.
- 4.4.16 Accumulations arising from emissions from the Proposed Development stack will be minimised through the use of the FGT plant, the performance of which will be maintained and demonstrated through the CEMs.

4.4.17 The assessment concludes that the plant design will provide sufficient mitigation and additional mitigation measures are not required. No significant effects were identified within the assessment.

*Decommissioning Phase*

4.4.18 Decommissioning effects are considered to be similar to construction effects outlined above, unless specified otherwise

Visual Plume (Steam)

4.4.19 It is envisaged that there will not be any visible plumes (steam) during the construction and decommissioning phases. The likelihood and mitigation measures for visible atmospheric emissions of steam during the operational phase of the Proposed Development are discussed below.

4.4.20 ES Volume I Chapter 7: Air Quality (Document Ref.6.2) provides an assessment of the frequency of a visual plume. The visibility of an atmospheric plume is due to the relative humidity of the exit gas and is the visual condensation of water vapour. Despite not being suggestive of atmospheric pollutant levels, it can be perceived as being linked by some individuals. It also increases the Proposed Development's visual footprint on the skyline.

4.4.21 Emissions of steam from the Proposed Development stack will be minimised by controlling the combustion conditions. The concept design of the plant specifies that the stack gas temperature will be maintained above 140°C, which is the temperature specified in EU Guidance as being above the dew point of the gas so as to minimise visible plume emissions. The plume visibility implications have been considered as part of the BAT assessment for the Proposed Development and concluded to not have a significant impact.

4.4.22 As discussed in ES Volume I Chapter 11: Landscape and Visual Amenity (Document Ref. 6.2), the 'average' visible plume length is expected to be 90 m with plumes visible an average of 77% of the time. The longest plume can be expected to extend for 855 m with plumes over 100 m visible 35% of the time on average.

Smells

4.4.23 It is envisaged that there will not be any odour emissions during the construction and decommissioning phases. Odour sources and mitigation measures to be implemented during the operational phase of the Proposed Development are discussed below.

4.4.24 Several potential odour release sources have been identified; predominantly around presence of the fuel. Some of the process residues, chemicals and reagents which are required to mitigate operational stack emissions are also a potential source of odour if experienced at high concentrations.

4.4.25 Odour could potentially be generated through the receipt and handling of RDF at the Proposed Development. The presence of an odour may cause annoyance and depends on a number of factors that vary between individuals. Odour events may only last a few seconds but could cause annoyance if they frequently recur or are perceived to be particularly offensive.

- 4.4.26 The Proposed Development is situated approximately 1 km from the nearest dwelling, thereby providing an inherent odour mitigation due to the considerable distance from residential receptors. The additional mitigation measures proposed for odour abatement include the delivery of RDF in covered or enclosed containers, the provision of a fully enclosed fuel reception area, incorporating a fuel reception hall and enclosed fuel storage bunker. The fuel reception hall and bunker hall will be fitted with fast acting doors and maintained under slight negative pressure to reduce the risk of odours escaping, with the air drawn into the plant for use as combustion air.
- 4.4.27 An Odour Management Plan is therefore not considered to be required. Odour levels around the plant will be regularly monitored by site management to assess the effectiveness of the installed odour control measures.
- 4.4.28 At times when the plant is not operational, the level of RDF in the bunker will be kept at a minimum, the fuel reception hall doors closed and disturbing the RDF will be avoided. If the plant has been out of operation for a reasonable length of time, then fresh RDF can be admitted to inhibit the release of odorous gases and if necessary the use of deodorisers may be required.
- 4.5 EPA 1990 Section 79(1) f) Any Animal Kept in Such a Place or Manner as to be Prejudicial to Health or a Nuisance**
- 4.5.1 No animals will be kept at the Site.
- 4.6 EPA 1990 Section 79(1) fa) Any Insects Emanating from Premises so as to be Prejudicial to Health or a Nuisance**
- 4.6.1 RDF will be delivered in covered or enclosed containers, tipped inside an enclosed reception hall and stored internally. This will minimise the potential for vermin, including insects (such as flies). Due to the operational nature of the Proposed Development with a high turnover of RDF in the fuel bunker, it is not considered to be a suitable habitat for vermin based on experience of other similar developments.
- 4.6.2 Litter on site has the potential to attract vermin or be blown into neighbouring properties. Delivery vehicles will therefore be covered or enclosed to minimise the potential to cause windblown litter, and facilities in place to allow cleaning before vehicles leave the Site. The fuel reception hall will be regularly cleaned. Regular inspections of the Site, boundary fence, gates and access road in the immediate vicinity of the facility entrance will be carried out. Staff will be encouraged to correctly dispose of litter as part of the site rules and site induction.
- 4.6.3 The control of vermin and other pests (flies and insects) in the facility will involve:
- carrying out RDF handling activities within enclosed spaces (fuel reception hall and fuel bunker);
  - storing RDF for the minimum period possible within defined storage areas;
  - use of enclosed storage containers and transfer techniques where possible;



- regular inspection and pest control management by professional companies; and
- the use of approved chemical pesticides as required or directed by professional companies.

4.6.4 Pests and vermin are therefore not expected to create a statutory nuisance.

#### **4.7 EPA 1990 Section 79(1) fb) Artificial Light Emitted from Premises so as to be Prejudicial to Health or a Nuisance**

4.7.1 An Indicative Lighting Strategy has been prepared (Document Ref. 5.12) and prior to the commissioning of the Proposed Development a detailed lighting scheme will be submitted to North East Lincolnshire Council for approval, covering construction and operational effects. The external lighting scheme will be designed in accordance with relevant standards, such as the Guidance Notes for the Reduction of Obtrusive Light published by the Institute of Lighting Engineers (2011) and/ or Chartered Institution Building Services Engineers (CIBSE) requirements – as appropriate.

4.7.2 The external lighting scheme will be designed to provide safe working conditions in all areas of the Site whilst reducing light pollution and the visual impact on the local environment. This is likely to be achieved by the use of luminaires that eliminate the upward escape of light.

4.7.3 The lighting required during the construction and operation stages of the Proposed Development will be designed to reduce unnecessary light spill outside of the Site boundary.

4.7.4 Construction temporary site lighting is proposed to enable safe working on the construction site in hours of darkness. Construction temporary lighting will be arranged so that glare is minimised outside the construction site.

4.7.5 Artificial light is not expected to cause a statutory nuisance.

#### **4.8 EPA 1990 Section 79(1) g) Noise Emitted from Premises so as to be Prejudicial to Health or a Nuisance, and ga) Noise that is Prejudicial to Health or a Nuisance and is Emitted from or Caused by a Vehicle, Machinery or Equipment in a Street**

4.8.1 Through noise prediction modelling undertaken, the ES Volume I Chapter 9: Noise and Vibration (Document Ref. 6.2) concludes there would be minor adverse or negligible adverse effects relating to the following activities of the Proposed Development:

- daytime construction noise effects;
- potential vibration levels from piling during construction;
- construction traffic noise;
- daytime and night time noise during operation;
- operational traffic noise; and
- decommissioning.



4.8.2 As no significant noise effects are predicted to occur at residential receptors, no additional mitigation is required.

4.8.3 However, best practice methods will be applied during construction, operation (including maintenance) and decommissioning to minimise noise.

#### Construction Phase

4.8.4 During construction, the construction contractor will follow Best Practicable Means to reduce noise and vibration impacts. Best Practicable Means include the following (where practicable):

- all construction plant and equipment will comply with national and EU noise emission limits;
- proper use of plant with respect to minimising noise emissions – all vehicles and mechanical plant will be fitted with effective exhaust silencers and maintained in good efficient working order;
- selection of inherently quiet plant where appropriate – for example and where practicable major compressors will be ‘sound reduced’ models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools will be fitted with mufflers or silencers of the type recommended by the manufacturers;
- machines in intermittent use will be shut down in the intervening periods between work or throttled down to a minimum;
- materials should be handled with care and be placed, not dropped. Materials should be delivered during standard working hours where possible; and
- all ancillary plant such as generators, compressors and pumps will be positioned so as to cause minimum noise disturbance, i.e. furthest from receptors or behind close boarded noise barriers; if necessary, acoustic enclosures will be provided and/or acoustic shielding.

#### Operational Phase

4.8.5 During operation the following best practice methods to reduce noise impacts will be considered during the detailed design of the Proposed Development, including:

- the selection of quiet plant to reduce noise emissions;
- the selection of external cladding that provides a minimum weighted sound reduction of 27 dB Rw;
- the selection of louvres/ baffles that provide a minimum weighted sound reduction of 11 dB Rw;
- if necessary, provision of acoustic treatment to the stack – the stack is the dominant source contributor to the overall noise levels, therefore providing acoustic attenuation to the stack will help to reduce the overall predicted noise levels; and

- if necessary, provision of cladding, louvres/baffles, silencers and air inlets to reduce tonal noise from the Proposed Development during its operation.

4.8.6 Noise emissions from the Proposed Development are therefore not anticipated to represent a statutory nuisance.

Decommissioning Phase

4.8.7 Decommissioning effects are considered to be similar to construction effects outlined above, unless specified otherwise.

**4.9 EPA 1990 Section 79(1) h) Any Other Matter Declared by any Enactment to be a Statutory Nuisance**

Traffic and Abnormal Loads

4.9.1 Traffic and the effect of abnormal loads during construction, operation (including maintenance) and decommissioning of the Proposed Development have been assessed and is reported in ES Volume I Chapter 9: Traffic and Transport (Document Ref. 6.2).

4.9.2 A Framework Construction Traffic Management Plan and Delivery and Servicing Plan has been developed for the Proposed Development to detail how traffic, deliveries and servicing will be managed (see ES Volume III, Appendix 9A: Transport Assessment (Document Ref. 6.4)).

4.9.3 No significant adverse effects on other road users have been identified.

## **5.0 CONCLUSIONS**

### **5.1 Potential for Nuisance**

- 5.1.1 This Statement has identified the matters set out in Section 79(1) of the EPA 1990 in respect of statutory nuisance and considers whether the Proposed Development could cause a statutory nuisance.
- 5.1.2 Potential nuisance aspects have been considered in Section 3 of this Statement and through embedded mitigation no statutory nuisance effects are considered likely to occur.
- 5.1.3 The operation of the Proposed Development would be regulated by the Environment Agency through an Environmental Permit and would undergo regular monitoring and reporting. Embedded mitigation and appropriate controls will be secured by appropriate DCO requirements. As a result, it is not expected that the construction, operation, maintenance or decommissioning of the Proposed Development would engage Section 79(1) and give rise to any statutory nuisance under the EPA 1990.

## 6.0 REFERENCES

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