Attachment-7-1-3-1 – Emissions Compliance Report

1.0 INTRODUCTION

This section includes an assessment of the proposed emissions in terms of compliance with current Emission Limit Values (ELVs) and statutory instruments. The following instruments have been considered when assessing the compliance of all potential emissions:

- Emissions to Air: Medium Combustion Plant (MCP) Directive, European Union (EU) 2015/2193 on the limitation of emissions of certain pollutants into the air from medium combustion plants (see Attachment 7-4-2).
- Stormwater Emissions: Consideration of European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI 272 of 2009) as amended in 2012, 2015, and 2019.
- Noise Emissions: Environmental Protection Agency (EPA) publication Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) 2016.
- Protection of Groundwater: European Communities Environmental Objectives (Groundwater) (Amendment) Regulations, 2016 (Statutory Instrument No. 366 of 2016) and 2010 (Statutory Instrument No. 9 of 2010), i.e. GTV, and the Environmental Protection Agency (EPA) Draft Interim Guidelines Values (IGVs) for the Protection of Groundwater, 2003.

2.0 EMISSIONS TO AIR

There are no major air emissions proposed. There will be a total of 52 Minor air emission points at the site, including: 40 no. 5.44 MW_{th} emergency back-up generators, 10 no. 6.49 MW_{th}, 1 no. 2.19 MW_{th} and 1 no. 3.6 MW_{th} emergency back-up generators. The emissions of CO_2 from these generators will be controlled under the Greenhouse Gas Permit for the installation (IE- GHG173-10466-3).

In addition, there will be 2 no. 0.337 MW_{th} emergency back-up fire pumps, 2 no. 0.423 MWth emergency back-up fire pumps, and 2 no. 0.57 MW_{th} emergency back-up fire pumps. As these are all <1 MW_{th}, these are 'Potential Emissions'.

The stack heights of the emergency back-up generators for the site have been designed in an iterative fashion to ensure that an adequate height was selected to aid dispersion of the emissions and achieve compliance with the EU ambient air quality standards at all off-site locations (including background concentrations).

Predictive air dispersion modelling, undertaken as part of this application, is presented in Attachment-7-1-3-2-Air Emissions Impact. Attachment-7-1-3-2-Air Emissions Impact has demonstrated that there would be no breach of the air quality standard for NO_x resulting from the scenarios modelled for the installation.

There are no emission limit values (ELVs) proposed for the emergency generators as they are designated minor air emission points; there are also no statutory emission limits applicable under the Medium Combustion Plant Directive. Regulation 13(3) of the European Union (Medium Combustion Plants) Regulations 2017 states that:

new medium combustion plants which do not operate more than 500 operating hours per year, as a rolling average over a period of three years, shall not be required to comply with the emission limit values set out in Part 2 of Schedule 2 but, where they burn solid fuels, shall comply with an emission limit value for dust of 100mg/Nm3.

In accordance with Regulation 13(3), the hours of use for the generators will be under the threshold limit and as such the emission limit values do not apply.

3.0 STORMWATER EMISSIONS

Details of the proposed stormwater drainage is presented in Attachment-4-8-1 (Operational Report). The site stormwater network conveys the stormwater through hydrocarbon interceptors to one of 3 no. stormwater attenuation systems (2 no. for the Existing Installation, and 1 no. for the Extended Installation) constructed on the Site, or directly to the business park storm sewer. The discharge from the attenuation systems will have a controlled release rate.

The stormwater from the site is discharged at the 3 no emission points SW1 discharges to a 450mm business park storm sewer, SW2 and SW3 connect to a 900 mm diameter, business park storm sewer that flows north to south through the Clonshaugh Business and Technology Park. The stormwater passes through Hydrocarbon Interceptors on site to ensure that the quality of the stormwater discharge is controlled.

In accordance with BAT, clean stormwater will be kept separate from contaminated wastewater and there will be no inherent risk of cross-contamination.

The only chemical hazardous to the environment stored onsite is Fuel oil. Fuel oil will be prevented from entering the attenuation pond by the hydrocarbon interceptors. The interceptors have level alarms that will be triggered if the interceptor is overloaded or malfunctions.

The emission to storm sewer consists of stormwater runoff from building roofs, yards and the road network. Residual cooling water, associated with evaporative cooling in the data centres, is also discharged to the storm sewer.

Due to the nature of the stormwater run-off (stormwater from buildings and roads) and the inclusion of hydrocarbon interceptors, the proposed discharge is unlikely to contain more than trace hydrocarbons and metals. It is not anticipated that the surface water quality will exceed the Environmental Quality Standards as set out in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

Regular sampling of the stormwater from the Existing Installation is carried out prior to discharge to monitor the quality of the discharge. It is expected to continue this monitoring/sampling for the Extended Installation, which includes weekly pH, TOC, Temperature, Conductivity monitoring and a daily Visual Inspection.

Further detail on the storm water network and emissions is set out in Attachment 4-8-1 Operational Report.

4.0 FOUL WATER EMISSIONS

Domestic effluent arising from occupation of the site buildings is collected in the site wide foul network and is discharged to the public foul sewer at various locations (Emission Points SE1 through SE4 for the Existing Installation, and SE5 for the Extended Installation).

Emission point SE1 caters for flows from the fuel tank farm bund at Building W. Emission point SW2 caters for domestic foul flows from Building W as well as the welfare facilities associated with the Newbury GIS Substation, Control Building and Transformer yard. Emission point SE3 caters for domestic foul flow from Building Y. Emission point SE4 caters for foul flow from Building X and the fuel tank farm associated with Building X and Building Y. Emission point SE5 caters for domestic foul flow from, and the fuel tank farm associated with, Buildings U and V.

The drainage sumps at the fuel unloading bays and in the bulk tank concrete bunds contain hydrocarbon detectors which automatically shut off drainage from these sumps if diesel is detected in the sump, preventing any contaminated stormwater from exiting the bund. These probes are also connected to the BMS/EPMS critical alarm.

There is one transformer compound onsite located at the Newbury GIS Substation, the drainage from the transformer compound is directed to foul sewer and connects to the foul main to discharge at emission point SE1.

Drainage from the GIS Substation Transformer compound is equipped with hydrocarbon interceptors. The locations of these are illustrated on Drawing 21_123F-00-XX-DR-C-1200. The hydrocarbon interceptors are equipped with an oil warning system which is connected to the BMS/EPMS critical alarm.

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The foul network ultimately discharges into a regional pumping station before final treatment and disposal at Ringsend Wastewater Treatment Plant (WWTP) in Dublin.

5.0 NOISE EMISSIONS

Reference has been made to the EPA publication *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) 2016*, as the proposed facility will be licenced by the EPA. This guidance is used to set operational noise limits from activities under the control of the EPA (manufacturing, industrial, waste management etc.). This document sets out a procedure for applying appropriate operational noise limits from this type of facility at the nearest noise sensitive receptors taking account of the background noise environment.

The baseline receiving environment has been defined by surveys. The results of these surveys are presented in the Emissions Impact Assessment Attachment Attachment-7-1-3-2-Noise Emissions Impact Assessment (Section 3).

The surveys were conducted in general accordance with ISO 1996-2:2017 *Acoustics - Description, Measurement and Assessment of Environmental Noise.*

Based on the EPA NG4 Guidance the following Noise Criteria are appropriate at the nearest NSL's to the facility:

- Daytime (07:00 to 19:00) 55dB $L_{Ar\ (15mins)}$
- Evening (19:00 to 23:00) 50dB $L_{Ar\ (15mins)}$
- Night time (23:00 to 07:00 hrs) 45dB $L_{Ar\ (15mins)}$

The predicted noise levels at all noise sensitive locations are below the day, evening and night-time noise criteria. This is presented in the Emissions Impact Assessment Attachment-7-1-3-2-Noise Emissions Impact Assessment (Section 5).

It is proposed that annual noise monitoring at 3 no. locations be carried out at the Installation (see Attachment 7-5).

6.0 PROTECTION OF GROUNDWATER QUALITY

There will be no direct discharges of contaminated water to groundwater or to the soil environment during the operation of the installation.

As part of this assessment, consideration has been given to EU Council Directive 2006/118/EC in relation to the protection of groundwater. The 2006 Directive establishes specific measures as provided for in EU Council Directive 2000/60/EC in order to prevent and control groundwater pollution. The Directive also complements the provisions for preventing or limiting inputs of pollutants into groundwater already contained in Directive 2000/60/EC and aims to prevent the deterioration of the status of all bodies of groundwater[1].

Under the 2006 Directive, Member States must give consideration to the water quality standards in the Directive as well as establishing threshold values or 'trigger values' which warn of potential breaches of water quality standards but are not water quality standards themselves. The relevant Groundwater Threshold Values (GTVs) for Ireland are outlined in the Environmental Objectives (Groundwater) (Amendment) Regulations 2016 (S.I. No. 366 of 2016). These Regulations give effect to the EU Directive 2014/80/EU of 20 June 2014, which amends Annex II to Directive 2006/118/EC.

The soil quality data is limited for the facility, However, based on available data, there is no evidence of contamination within the soils beneath the site.

On the basis of the results from the Baseline Report, and the proposed activities at the installation, it is considered that operations at the facility are unlikely to cause an exceedance of the EPA IGVs[2] or the relevant Groundwater Regulations[3].

An accredited Environmental Management System (EMS) is in place to ensure compliance with licensing requirements. This includes full and adequate containment and management of potential contaminants. Site-specific emergency response measures are in place and all relevant personnel will be trained accordingly. Additional measures to minimise any impact on the groundwater or soil from material spillages will be implemented as outlined in the Operational Report (Attachment 4-8-1) including integrally bunded fuel tanks, impervious loading areas, double lined fuel delivery lines (underground), and the use of interceptors on stormwater pipelines.

1 Directive 2006/118/EC of the European Parliament and of the Council of 12 December 2006 on the protection of groundwater against pollution and deterioration
2 Environmental Protection Agency (EPA) Draft Interim Guidelines Values (IGVs) for the Protection of Groundwater, 2003
3 European Communities Environmental Objectives (Groundwater) (Amendment) Regulations, 2016 (Statutory Instrument No. 366 of 2016) and 2010 (Statutory Instrument No. 9 of 2010),

The only relevant bulk hazardous substances (substances stored or used onsite and which are classified as hazardous by the EPA under the Groundwater Regulations and contained in bulk storage) is fuel for backup generators. Further detail on the fuel storage is set out in Attachment 4-8-1 Operational Report.

The discharge from site will pass through Class 1 hydrocarbon interceptors to capture any hydrocarbons prior to outfall.

The hydrocarbon interceptors are located down gradient of the storm cells, and prior to outfall to ensure the quality of stormwater discharge is controlled prior discharge offsite. The interceptors are equipped with level detection and connect to the BMS/EPMS critical alarm.

Additional onsite control and mitigation measures are in place including:

- Double skinned day tanks, with high- and low-level alarms;
- Bunded bulk fuel tanks with high- and low-level alarms;
- Bulk fuel tank bunds and delivery bays are equipped with hydrocarbon probes in the bund sump which detects fuel in the bund. This triggers closure of the sump discharge should hydrocarbon be detected in the sump and sends an alarm signal to the BMS to alert EOTs.
- Hydrocarbon interceptors with level alarms; and
- Standard operating procedures for fuel delivery.

Further detail on the fuel storage, management, and control features are set out in Attachment 4-8-1 Operational Report.

7.0 REFERENCES

Environmental Protection Agency (EPA). EPA Maps. Available at: https://gis.epa.ie/EPAMaps/ (Accessed: May 2024).

Geological Survey of Ireland; Accessed March 2022. Available at: http://www.gsi.ie (Accessed: May 2024).