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).
- Storm water 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.

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

The emissions of CO_2 from all combustion sources will be managed under the Greenhouse Gas Permit for the installation (IE-GHG173-04).

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 modelling assessment indicate that ambient ground level pollutant concentrations are in compliance with the relevant air quality standards for NO_2, CO, PM_{10}, $PM_{2.5}$, NH_3 and SO_2 under all operational scenarios assessed.

There are no emission limit values (ELVs) proposed for the emergency back-up 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.

2.1 Monitoring Requirements

Schedule C.1.2 of the existing Industrial Emissions Licence (IEL) requires the monitoring of emission points A3-1 to A3-40 for the following parameters: carbon monoxide (CO), nitrogen oxides (NOx), flow, as well as sulphur dioxide (SO_2) and dust (if biofuel is used). Monitoring is required at a minimum frequency of once every five years or when three times the permitted maximum annual operating hours have elapsed, whichever occurs sooner.

The IEL was issued on 15 June 2023, and neither of these thresholds has yet been reached.

3.0 STORM WATER EMISSIONS

Details of the storm water drainage is presented in Attachment-4-8-1 (Operational Report).

3.1 Existing Installation (Building W, Y and X)

The attenuated storm water for the existing Installation drains at 2 no. emission points (SW1 and SW2). The site drainage is shown on Drawing 21_123F-CSE-00-XX-DR-C-1100-Surface Water Layout Plan included with this application. Attenuation Stormtech system No.1 discharges at emission point SW1 into the existing 450mm IDA Park storm sewer to the south of the existing Installation. Attenuation Stormtech system No.2 discharges at emission point SW2 into the existing IDA Park 900mm storm sewer to the east of the existing Installation. There is negligible retained water within the Attenuation stormtech systems under dry weather conditions.

The allowable runoff rate for Building W is restricted to pre-development flows of 294.8 litres per second (l/s) or 1061.28 cubic meters per hour (m^3/hour). The allowable greenfield runoff rate for Building X and Y is 7 l/s or 25.2 m^3/hour. Evaporative cooling water is discharged at ambient temperature to the storm water network. Evaporative cooling water has estimated conductivity values of between 1,200-1,500 µS/cm. See Attachment 7-1-3-2 for further details.

3.2 Extended Installation (Buildings U and V)

The attenuated storm water for the extended part of the site, i.e. Buildings U and V, drains at 1 no. Emission Point (SW3). The site drainage is shown on Drawing 21_123F-CSE-00-XX-DR-C-1100 included with this application. Attenuation Stormtech system No.3 discharges at Emission Point SW3 into the existing IDA Park 900mm storm sewer

to the west of the extended part of the Site. There is negligible retained water within the Attenuation stormtech system under dry weather conditions.

The allowable greenfield runoff rate for Buildings U and V is restricted to pre-development flows of 7.24 litres per second (l/s) or 26.64 cubic meters per hour (m^3/hour).

The IDA Park storm sewer outfalls into the Santry River, which is located to the south of the Site; the Santry River flows c. 5.15 river km east, to the North Bull Island transitional water body, and ultimately into Dublin Bay.

Evaporative cooling water is discharged at ambient temperature to the storm water network. Evaporative cooling water has estimated conductivity values of between 1,200-1,500 µS/cm. See Attachment 7-1-3-2 for further details.

3.3 Monitoring Requirements

The only chemical hazardous to the environment stored onsite is fuel oil (diesel/HVO). Fuel oil (diesel/HVO) will be prevented from entering the attenuation systems by the hydrocarbon interceptors.

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

Due to the nature of the storm water run-off (storm water 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.

Weekly sampling of the storm water 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.

Storm water trigger levels are to be revised based on new EPA 2025 Guidance.

All hydrocarbon interceptors have:

- high level liquid sensors, which indicates when the liquid level in the hydrocarbon interceptor rises excessively and triggers an alarm: and
- oil level detection systems, which detects the oil level based on conductivity and triggers an alarm.

These alarms are connected to the BMS/EPMS critical alarm. Should the interceptor alarms activate, they send an alarm signal to the BMS/EPMS critical alarm to alert Engineering Operations Technicians (EOTs).

4.0 FOUL SEWER EMISSIONS

Details of the foul sewer drainage network is presented in Attachment-4-8-1 (Operational Report). The foul network ultimately discharges into a regional pumping

station before final treatment and disposal at Ringsend Wastewater Treatment Plant (WWTP) in Dublin.

4.1.1.1 Existing Installation (Building W, Y and X)

The outfall into the mains foul network from the existing licenced site is at four locations, one to the south of Building W (emission point SE1), one connection point to the east of Building W (SE2), one to the east of Building X (emission point SE3) and one to the east of Building Y (emission point SE4).

- Emission point SE1 caters for storm water flows from the fuel tank farm bund and associated fuel unloading bays at Building W.
- Emission point SE2 caters for domestic foul flows from Building W as well as the welfare facilities associated with the Newbury GIS Substation control building and storm water flows from the transformer yard.
- Emission point SE3 caters for domestic foul flow from Building X, and storm water flows from the fuel tank farm and fuel unloading bays associated with Building X and Building Y.
- Emission point SE4 caters for domestic foul flow from Building Y.

The emission discharge points are labelled SE1 through SE4 on Drawing 21_123F-00-XX-DR-C-1200-Foul Water Layout Plan included with the application.

4.1.1.2 Extended Installation (Buildings U and V)

The outfall into the mains foul network from Buildings U and V is at one location, to the west of Building U (emission point SE5).

Emission point SE5 caters for domestic foul flows from Buildings U and V. Under normal operating conditions, only domestic foul drainage is discharged to SE5 (Refer to Section 4.4.3.2 of Attachment-4-8-1 (Operational Report)).

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The emission discharge point is labelled SE5 on Drawing 21_123F-00-XX-DR-C-1200-Foul Water Drainage Layout Plan included with the application.

4.2 Monitoring Requirements

There is no requirement under the existing IE licence to monitor foul sewer emissions.

All hydrocarbon interceptors have:

- high level liquid sensors, which indicates when the liquid level in the hydrocarbon interceptor rises excessively and triggers an alarm: and
- oil level detection systems, which detects the oil level based on conductivity and triggers an alarm.

These alarms are connected to the BMS/EPMS critical alarm. Should the interceptor alarms activate, they send an alarm signal to the BMS/EPMS critical alarm to alert Engineering Operations Technicians (EOTs).

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 Noise Emissions Impact Assessment, 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 for the day-to-day operation of 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

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

5.1 Monitoring Requirements

Two annual IE Licence noise compliance surveys have been undertaken as part of the existing IE Licence, as follows:

- Noise surveys during November and December 2023, presented in AWN report 237501.0343NR12 dated 30 January 2024;
- Noise surveys during November 2024, presented in AWN report 237501.0505NR01 dated 5 December 2024.

In 2023, the total i.e. cumulative noise levels were 41-42 dB LA90, which is within the IED limits. In the 2024 survey, although the measured total noise levels were in excess of the IED criteria, there was no audible site noise in this context.

Table 1 *Measured Noise Levels*

Date	Period	Start Time	Measured noise level, dB $L_{A90,15min}$	Comments
15 Nov 2023	Night	23:41	42	The noise environment during this period was made up of occasional road traffic along the Clonshaugh Road and mechanical noise from the Clonshaugh business park. This was not associated with the site under review here and

Date	Period	Start Time	Measured noise level, dB $L_{A90,15min}$	Comments
				believed to be from units closer to the measurement position. A reverse alarm was also noted within the business park during this measurement period.
15 Nov 2023	Night	00:49	41	The noise environment during this period was made up of occasional road traffic along the Clonshaugh Road and mechanical noise from the Clonshaugh business park. This was not associated with the site under review here and believed to be from units closer to the measurement position.
13 Nov 2024	Night	23:00	49	The noise environment during the nighttime period was dominated by distant road traffic noise. Other noise sources included aircraft, wind rustle and HGVs within the Clonshaugh business park. No audible noise from the site was noted.
14 Nov 2024	Night	00:05	48	

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].

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),

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 storm water pipelines.

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.

Discharges from site will pass through Class 1 hydrocarbon interceptors to capture any hydrocarbons prior to outfall. 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/belly tanks, with high- and low-level alarms and leak detection;
- 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/oil detection 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).