

## **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 Discharges: 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 main emissions to atmosphere proposed. There will be a total of 54 'Minor Emissions' to atmosphere locations at the Installation. For Building A, there are 26 no. 6.82 MW<sub>th</sub> emergency back-up generators and 1 no. 1.55 MW<sub>th</sub> emergency back-up generator. For Building B, there will be 26 no. 6.79 MW<sub>th</sub> emergency back-up generators and 1 no. 2.02 MW<sub>th</sub> emergency back-up generator. Each building has 2 no. 'catcher' generators, these are specific generators that are permanently designated as 'catchers'. In relation to Building A, generators A3-25 and A3-26 are the designated 'catcher' generators. In relation to Building B, generators A3-52 and A3-53 are the designated 'catcher' generators. The emissions of CO<sub>2</sub> from the emergency back-up generators will be accounted for under a revision of the existing Greenhouse Gas Permit for the Installation (IE-GHG200-10527-1).

There are 2 no. 'Potential Emissions' to atmosphere relating to the 2 no. 0.37 MW<sub>th</sub> fire sprinkler pumps on site. The fire sprinkler pumps are <1 MW<sub>th</sub> and only operated (outside of testing/maintenance) in the event of a fire at the site.

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<sub>x</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub>, and SO<sub>2</sub> resulting from the scenarios modelled for the installation.

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/Nm<sup>3</sup>.*

In accordance with Regulation 13(3), the hours of use for the emergency back-up 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 A3-27 for the following parameters: carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), flow, as well as sulphur dioxide (SO<sub>2</sub>) 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 27 March 2024, and neither of these thresholds has yet been reached.

## 3.0 STORM WATER EMISSIONS

Details of the proposed storm water drainage is presented in Attachment-4-8-1 (Operational Report). The site storm water network (once extended) conveys the storm water through 3 no. outfalls to 1 no. storm water detention (attenuation) basin constructed on the Site (refer to Drawing 21\_123G-CSE-00-XX-DR-C-1100 Surface Water Layout Plan). The discharge from the attenuation system has a controlled discharge rate.

The attenuated storm water drains at 1 no. Emission Point (SW1) into the existing 450mm IDA storm sewer to the east of the site. Prior to the site storm water network entering the detention basin, the storm water passes through Class 1 hydrocarbon interceptors, to ensure that the quality of the storm water discharge is controlled. SW Outfalls 1 and 2 each have a hydrodynamic solid separator installed prior to the outfall.

As per Drawing 21\_123G-CSE-00-XX-DR-C-1100 (Rev. C03), there are the following interceptors on the storm water network:

- FRS1 Class 1 Forecourt Hydrocarbon Interceptor – located at Fuel Unloading Area, Building B.
- FRS2 Class 1 Forecourt Hydrocarbon Interceptor – located at Fuel Unloading Area, Building A.
- FRS3 Class 1 Bypass Hydrocarbon Interceptor – NE from Building A, located at SW Outfall-2, prior to discharge to the Detention Basin.

- FRS4 Class 1 Bypass Hydrocarbon Interceptor – South from entrance road, located at entrance to site, located at Outfall 3, prior to discharge to the Detention Basin.
- FRS5 Class 1 Bypass Hydrocarbon Interceptor – East from Building B, located at SW Outfall-1, prior to discharge to the Detention Basin.

In accordance with BAT, clean storm water 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. The top-up fuel tanks are located within a bunded area meeting the requirements of Agency guidelines on the “Storage and Transfer of Materials for Scheduled Activities”. All bunds are capable of containing 110% of the volume of the largest drum/tank within the bund or 25 % of the total volume of the substance stored and are designed in accordance with the EPA’s guidelines for the storage and transfer of materials for scheduled activities (EPA, 2004). The top-up fuel tank is fitted with automated level gauges and the online readings from these gauges are fed back into the facility’s BMS/EPMS. The top-up tank has high/low level alarms (90% high, 30% low), which alarm to the BMS/EPMS critical alarm.

The containerised emergency backup generator housing includes retention bunding in the base of the container. There are leak detection systems within the bund to alert in the event of a leak from the generator fuel tank or lubricating oil tank. The onboard controller for individual generators is connected to the Building Management System (BMS).

Fuel will be prevented from entering the detention basin by the hydrocarbon interceptors. The interceptors have level alarms (liquid, oil and silt) that will be triggered if the interceptor is overloaded or malfunctions.

A manual penstock will be installed on the outfall prior to the discharge into the storm water main (Emission Point SW1). Once installed, the penstock will allow the outfall of the attenuation system to be closed off to inhibit the discharge in the event of a spill or a fire.

The discharge to storm sewer consists of storm water 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 water drainage system.

### **3.1 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.

Due to the nature of the storm water run-off (storm water from buildings and roads, and evaporative cooling water) and the inclusion of hydrocarbon interceptors, the 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 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 have been proposed based on EPA guidance.

All hydrocarbon interceptors have:

- high level liquid sensors, which indicate when the liquid level in the hydrocarbon interceptor rises excessively and triggers an alarm;
- oil level detection systems, which detect the oil level based on conductivity and triggers an alarm; and
- Silt level sensors, which detect when silt accumulation reaches a pre-determined level 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).

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 IDA foul sewer at one location (Emission Point SE1).

The foul drainage network comprising of 150-225 mm pipes take effluent from internal sanitary locations and outfall into the external foul network. The outfall into the foul network is at 1 location (SE1). This foul sewer discharges to a 450 mm diameter IDA foul sewer.

Drainage of rainwater from the fuel top-up tank bunds for Buildings A and B is directed to foul sewer. The drainage sump located in the fuel top-up tank concrete bund for each building contains a hydrocarbon detector which automatically shut off drainage from these sumps if fuel is detected in the sump, preventing any contaminated storm water from exiting the bund. These probes are also connected to the BMS/EPMS critical alarm.

There is one transformer compound onsite, located at the Oldbridge 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 a hydrocarbon interceptor. The location of this is illustrated on Drawing 21\_123CSE-00-XX-DR-C-1200.

Rainfall which passes through the emergency back-up generator exhaust stacks will also be discharged to the wastewater network via a Class 1 hydrocarbon interceptor before connecting to the site wastewater network. The hydrocarbon interceptors for both Building A and B are located downgradient of the foul drain that collects the rainwater which passes through the generator stacks.

As per Drawing 21\_123G-CSE-00-XX-DR-C-1200 , there are the following interceptors on the foul water network:

- FR1 Class 1 Forecourt Hydrocarbon Interceptor – SW drainage from Building B fuel top-up tank and rainwater from backup generator exhaust stacks. This is located to north of Building B.
- FR2 Class 1 Bypass Hydrocarbon Interceptor –SW drainage from Building A fuel top-up tank and rainwater from backup generator exhaust stacks. This is located to north of Building A.
- FR3 Class 2 Full Retention Hydrocarbon Interceptor – SW drainage from Oldbridge Substation and Transformer Compound. This is located to east of the transformer compound.

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

#### 4.1 Monitoring Requirements

There is no requirement under the existing IE licence to monitor foul sewer emissions as it only serves domestic and storm water.

#### 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 to the facility:

- |                                   |                               |
|-----------------------------------|-------------------------------|
| • Daytime (07:00 to 19:00)        | 55dB L <sub>Ar</sub> (15mins) |
| • Evening (19:00 to 23:00)        | 50dB L <sub>Ar</sub> (15mins) |
| • Night time (23:00 to 07:00 hrs) | 45dB L <sub>Ar</sub> (15mins) |

With the extended Installation in place and operational, 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).

## 5.1 Monitoring Requirements

The IEL (P1181-01) was granted in August 2024. Under the existing IE licence, Condition 6.11.1, there is a requirement to carry out a noise survey of the site operations annually.

One annual IE Licence noise compliance survey has been undertaken as part of the existing IE Licence, as follows:

- Noise survey during January 2025, presented in AWN Document 247501.0505NR06, dated 28 January 2025.

Attended noise measurements taken on-site by a qualified person has been conducted at four of the nearest noise-sensitive locations in the vicinity of the site. Noise levels were measured during daytime, evening and night-time periods during 15-16 January 2025 in accordance with the procedures outlined in the Agency's Guidance Note for Noise: License Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) 2016. The results of the survey confirm that site specific noise levels (i.e. noise attributable to activities within the IEL boundary) fall within the specified emission limit values for noise as set out in the licence. The monitoring undertaken concludes that the site, as it is currently operating, is in compliance with Condition 4.5 of the Licence.

An additional monitoring point has since been added, to ensure comprehensive monitoring takes place near all noise sensitive receptors takes place. This is Noise Monitoring Location E, as shown in Figure 5.1.

*Figure 5.1 Noise monitoring locations*



## 6.0 PROTECTION OF GROUNDWATER QUALITY

There are 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<sup>1</sup>.

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 results of the groundwater sampling previously carried out are presented in Section 8 *Stage 7 – Site investigation* of the Baseline Report (Attachment-4-8-3). The soil quality data is limited for the site, 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<sup>2</sup> or the relevant Groundwater Regulations<sup>3</sup>.

An accredited Environmental Management System (EMS) is in place to ensure compliance with licencing requirements. This includes full and adequate containment and management of potential contaminants. Site-specific emergency response measures are in place and all relevant personnel are 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 emergency back-up generators. Further detail on the fuel storage is set out in Attachment 4-8-1 Operational Report.

The discharge from site passes through hydrocarbon interceptors to capture any hydrocarbons prior to outfall.

The hydrocarbon interceptors are located prior to outfall to the detention basin, to ensure the quality of storm water discharge is controlled before being discharged

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<sup>1</sup> 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

<sup>2</sup> Environmental Protection Agency (EPA) Draft Interim Guidelines Values (IGVs) for the Protection of Groundwater, 2003

<sup>3</sup> European Communities Environmental Objectives (Groundwater) (Amendment) Regulations, 2016 (Statutory Instrument No. 366 of 2016) and 2010 (Statutory Instrument No. 9 of 2010),

offsite. The interceptors are equipped with level detection and will connect to the BMS/EPMS critical alarm.

Additional onsite control and mitigation measures are in place including:

- Double-skinned belly tanks, with high- and low-level alarms;
- Bunded fuel top-up tanks with high- and low-level alarms;
- Bulk fuel top-up tank is 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.

## **6.1 Monitoring Requirements**

Under the existing IE licence, the requirement for relevant hazardous substances for groundwater monitoring is to monitor every 5 years and for soil monitoring, every ten years. This monitoring will be agreed with the Agency.

## **7.0 REFERENCES**

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

Geological Survey of Ireland; Available at: <http://www.gsi.ie> (Accessed: June 2024).