

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 75 Minor air emission points at the site upon completion, comprising 70 no. 6.49 MW_{th} diesel powered emergency back-up generators, and 3 no. 3.03 MW_{th} diesel powered emergency back-up generators, and 2 no. 0.450 MW_{th} diesel powered emergency back-up fire pumps. The emissions of CO₂ from these generations will be controlled under the Greenhouse Gas Permit for the installation.

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 demonstrated 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 three plausible scenarios modelled for the installation (i.e. emergency operations scenario, and cumulative impact scenario).

There are no emission limit values (ELVs) proposed for the emergency generators as they will be 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). All site stormwater will be drained via Class 1 by-pass interceptors to the appropriately sized attenuation ponds following which the stormwater will discharge via a hydrobrake (to control flow) to the storm sewer, or the Baldonnell Stream. The discharge from the attenuation ponds will have a controlled release rate.

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 that is stored onsite is diesel. Diesel 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.

Due to the nature of the run-off (stormwater from buildings and roads only) 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.

Stormwater run-off will be from buildings and car parks only and therefore there is no expectation to undertake regular sampling of the stormwater prior to discharge. Weekly visual inspections will be undertaken at the outfall from the site (SW1, SW2, SW3, SW4) to monitor the quality of the discharge.

4.0 FOUL WATER EMISSIONS

Domestic effluent arising from occupation of the data centre buildings will be collected in foul drains within the site and discharged to the existing foul drainage network. The effluent from the Proposed Development discharges into the business sparks network and then is ultimately discharge to the Waste Water Treatment Plant (WWTP), at Ringsend.

In addition to domestic effluent generated on site there is a requirement to have the capability to discharge excess evaporative cooling water. The evaporative cooling is a bi-product of potable water used, when the evaporative cooling systems are in use.

Based on the nature and extent of the Proposed Development, the expected daily dry weather flow (DWF), for domestic effluent has been calculated as 0.09 litres / sec, and the peak design flow is 0.54l/s. The occasional additional run-off from evaporative cooling effluent would contribute an additional 3.7 l/s as a peak flow.

A Trade Effluent Discharge Licence application has been submitted to Irish 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 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 6 no. locations be carried out once the facility is licenced (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 groundwater¹.

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

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

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 recent groundwater sampling rounds are presented in Section 9 *Stage 7 – Site investigation* of the Baseline Report (Attachment 4.8.3). The results are compared with the 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. A review of groundwater quality data collected on site found that the groundwater beneath the site is of generally good quality. On the basis of the results from the Baseline Report it is considered that operations at the facility are unlikely to cause an exceedance of the EPA IGVs or the relevant Groundwater Regulations.

An Environmental Management System (EMS) will be in place to ensure compliance with licencing requirements. This will include 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.

The only bulk chemicals stored onsite is diesel. The stormwater drainage network will be equipped with Class 1 by-pass interceptors to capture any diesel spillages outside of the bulk tank storage bunds as well as fuels from vehicles using the internal road network.

The hydrocarbon interceptors are equipped with level detectors that connect to the BMS/EPMS critical alarm. These will be used to determine whether hydrocarbons have entered the stormwater network.

The bulk tank storage bunds have diesel probes, connected to an alarm, within the concrete bund to detect leakage of diesel from the tank into the bund.

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).

7.0 REFERENCES

Marston. (2020) Environmental Impact Assessment Report for a Proposed Data Storage Facility Development Grange Castle South Business Park.

Environmental Protection Agency (EPA). EPA Maps. Available at: <https://gis.epa.ie/EPAMaps/> (Accessed: May 2021).

Geological Survey of Ireland; Accessed 2021. Available at: <http://www.gsi.ie> (Accessed: May 2021).