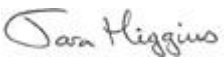




# OFFICE OF ENVIRONMENTAL SUSTAINABILITY

## INSPECTOR'S REPORT ON AN INDUSTRIAL EMISSIONS LICENCE REVIEW, LICENCE REGISTER NUMBER P1181-02

|                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TO:                                                  | DIRECTORS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FROM:                                                | Barry O'Connor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| DATE:                                                | 04 December 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| APPROVAL:                                            | This Report has been cleared for submission to the Director by Programme Manager, Tara Higgins<br><br>Signed: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| LICENSEE:                                            | Amazon Data Services Ireland Limited                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| CRO NUMBER:                                          | 390566                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| LOCATION/ADDRESS:                                    | Drogheda IDA Business and Technology Park, Donore Road, Drogheda, County Meath                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| APPLICATION DATE:                                    | 24 September 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Classes of Activity (under EPA Act 1992 as amended): | 2.1 Combustion of fuels in installations with a total rated thermal input of 50 MW or more.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Category of activity under IED (2010/75/EU):         | 1.1 Combustion of fuels in installations with a total rated thermal input of 50 MW or more.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Main CID:                                            | Commission Implementing Decision (CID) (EU) 2021/2326 of 30 November 2021 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants (hereafter referred to as LCP CID 2021/2023/EU).<br><br>All relevant BREF documents are listed in Appendix 4 of this report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Activity description/background:                     | This application is for a licence review of IED Licence Reg. No. P1181-01 due to the proposed addition of a new data centre building (28,573 sq. m) within the site boundary, additional minor air emission points and revised road/drainage infrastructure. The new building (Building B) will include an additional 26 no. 6.79 Megawatt Thermal Input (MW <sub>th</sub> ) back-up generators and a 1 no. 2.02 MW <sub>th</sub> back-up generator for use in emergency situations (and annual testing) for <500 hours per annum. These will be in addition to the existing 26 no. 6.82 MW <sub>th</sub> back-up generators and 1 no. 1.55 MW <sub>th</sub> house generator in the existing building (Building A) on site. Therefore, there will be a total of 54 no. back-up generators at the installation, for use in emergency situations such as an interruption of the national grid power supply. |

|                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                 | Under normal operating conditions the installation is supplied with electricity from the National Grid. However, outside of the normal operating conditions the site is first supplied with electricity by some or all of the on-site battery storage and then by the on-site back-up generators depending on the energy demand of the data storage installation. Typically, the back-up generators will be brought online in the event of a loss, reduction or instability of grid power supply; critical maintenance of power systems; or a request from the grid operator to reduce grid electricity load. |
| Additional information received:                                                                                                                                                                                                                                | Yes (10 April 2025, 26 August 2025, 25 September 2025, and 17 October 2025)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| No. of submissions received:                                                                                                                                                                                                                                    | 1 (15 November 2024)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Environmental Impact Assessment required: Yes                                                                                                                                                                                                                   | Stage 2 Appropriate Assessment required: Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Environmental Impact Assessment Report submitted (EIAR): Yes, Data Storage Facility Development dated December 2019, Oldbridge Substation dated October 2020, and the second Data Storage Facility Development dated April 2021 (all labelled Attachment 6-3-6) | Natura Impact Statement (NIS) submitted: Yes, 25 September 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Site visit: 10 October 2025                                                                                                                                                                                                                                     | Site notice check: 10 October 2025                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## **1 Introduction**

Amazon Data Services Ireland Limited, hereafter referred to as ADSIL or the licensee, were originally licensed in 2024 and have applied to the Agency for a review of their Industrial Emissions licence, for changes to the installation, comprising the construction of Building B (planning permission permitted under ABP-310729-21), which will increase the capacity of the installation located at Drogheda IDA Business and Technology Park, Donore Road, Drogheda, County Meath, A92 VX98.

ADSIL currently operates a data storage installation on the 18.6 hectares site at Drogheda IDA Business and Technology Park. The site is occupied by a two-storey data storage installation building (Building A), with ancillary elements including loading bays, maintenance and storage spaces, associated water tanks, sprinkler, electrical rooms, security and utility spaces, underground foul and storm water drainage network, on site detention systems, internal road network, and site landscaping.

When construction is complete, in total 52 backup generators will be installed (26 no. 6.79 Megawatt Thermal Input ( $\text{MW}_{\text{th}}$ ) and 26 no. 6.82  $\text{MW}_{\text{th}}$ ). The requirement for an IE Licence is outlined within the First Schedule of the EPA Act 1992 as amended (hereafter referred to as the EPA Act): activity 'Class 2.1 Combustion of fuels in installations with a total rated thermal input of 50 MW or more' specifically relates to this installation. As the combined thermal input from the 54 no. back-up generators will exceed the 50  $\text{MW}_{\text{th}}$  threshold of Class 2.1 of the First Schedule of the EPA Act, the applicant has therefore applied to the Agency for a review of their licence to operate this installation under Activity Class 2.1.

### **1.1 Location**

The Drogheda Retail Park and Newgrange Business Park are located c. 50 meters (m) south and c. 90m south-east of the licensed site respectively. The site is bounded to the east by the IDA Business and Technology Park, to the south

and west by the Donore Road, and the M1, and to the north by agricultural lands, with some large residential developments located within 200 m of the eastern and north-eastern boundaries. The River Boyne flows west-to-east c. 1 kilometres (km) north of the site.

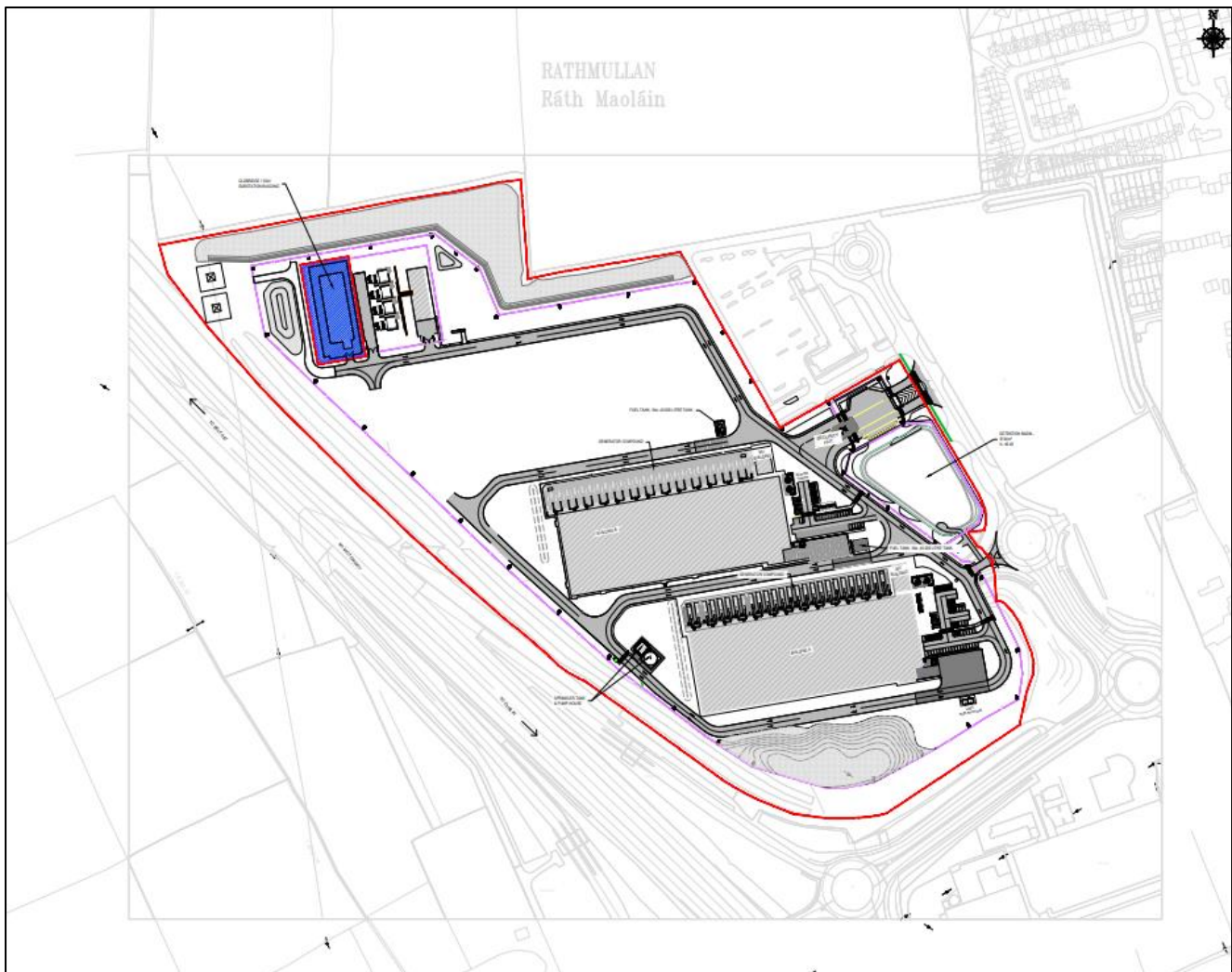


Figure 1- Location of the licensee's site (boundary outlined in red) relative to the closest sensitive receptors and other industrial sites. Oldbridge substation is delineated in red and coloured in blue to clarify it is not within the boundary.

## 2 Description of activity

The data storage installation serves as a centralised computer server system, consisting of data halls which contain hundreds, if not thousands, of server units which host, manage and distribute electronic data. A data storage installation offers economies of scale over traditional in-house data storage systems.

Under normal operating conditions the installation is supplied with electricity from the National Grid. However, outside of the normal operating conditions the site is first supplied with electricity by some or all of the on-site battery storage (uninterruptable power supplies (UPSs)), and then by the on-site generators depending on the energy demand of the data storage installation. Typically, the generators will be brought online in the event of a loss, reduction or instability of grid power supply; critical maintenance of power systems; or a request from the grid operator to reduce grid electricity load.

### Scope of Review

The existing installation (Building A) has 26 no. 6.82 MW<sub>th</sub> diesel generators, and 1 no. 1.55 MW<sub>th</sub> generator. The extended installation (Building B), subject to this review, includes an additional 26 no. 6.79 MW<sub>th</sub> back-up diesel generators and 1 no. 2.02 MW<sub>th</sub> back-up generator. Two of the 6.82 MW<sub>th</sub> back-up generators associated with

Building A and two of the 6.79 MW<sub>th</sub> back-up generators associated with Building B are “catcher” generators to provide redundancy to the remaining generators on site. Another 4 no. diesel powered fire sprinkler pumps are present, but regarded as minor emissions.

The combined thermal input from the installation (operated at any one time) from the back-up generators is 330.21MW<sub>th</sub>, comprising 165.23 MW<sub>th</sub> from the existing Installation (Building A) and 164.98 MW<sub>th</sub> from the extended Installation (Building B) which exceeds the 50 MW threshold of Class 2.1 First Schedule of the EPA Act 1992 as amended, and therefore an IE licence review is required.

The overall site area will not be increased as the extension will be accommodated within the existing site area.

The purpose of the generators is to provide power to the data storage installation in the event of an interruption of the National Grid power supply to the installation. There are no plans to export electricity to the National Grid. The data storage installation is also protected from short-term blackouts by the UPS system. The UPS buffers small fluctuations in the power supply to the installation. In the event that the UPS detects an interruption in the power supply to the site, or reduced power, the generators at the installation will commence generating sufficient electricity to meet the load demand required by the data storage installation. The UPS system can provide power for a number of minutes to allow for the generators to come online.

The main emissions from the installation include emissions to air and noise emissions from the generators (routine testing and outside normal operating conditions power generation), as well as storm water discharges and emissions to sewer.

### **3 Planning Status**

A number of planning applications have been made by the licensee for the area within the installation boundary. Details of these relevant planning applications and permissions have been provided in the application form (Attachment 6.1 Stakeholder Engagement). Planning includes a two-storey data storage installation building, back-up generators, water storage tanks, fuel tanks and filling areas, ancillary structures, access arrangements and internal road network for the area, within the installation boundary. The installation is situated north of an additional data centre, granted planning permission on 31 March 2020 (planning application ref. LB/191735), and south of a gas-insulated switchgear substation compound (planning application ref. ABP 308628-20).

Planning permission for the activity relevant to this licence review was granted on 14 April 2022 (planning application ref. 21/663/ ABP 310729-21) and included an EIAR, dated April 2021. EIA was previously carried out by the Agency for the existing licence Reg. No. P1181-01 in 2024. The licensee has submitted the EIARs associated with planning applications: ref. LB/191735 (December 2019), ref. ABP 308628-20 (October 2020), which falls within the overall installation boundary, and ref. 21/663/ ABP 310729-21 (April 2021). The Agency has had regard to the reasoned conclusions reached by the planning authority and An Bord Pleanála<sup>1</sup> (An Coimisiún Pleanála, referred to as An Bord Pleanála throughout this document) in undertaking its environmental impact assessment of the activity.

### **4 EIA Screening**

In accordance with section 83(2A) of the Environmental Protection Agency Act 1992, as amended (hereafter referred to as the EPA Act) the Agency must ensure that before a licence or revised licence is granted, that the application is

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<sup>1</sup> On the 17 June 2025, Part 17 of the Planning and Development Act 2024 was enacted which meant that from the 18 June 2025 An Bord Pleanála officially changed its name to An Coimisiún Pleanála.

made subject to an environmental impact assessment (EIA), where the activity meets the criteria outlined in section 83(2A)(b) and 83(2A)(c).

In accordance with the EIA Screening Determination, the Agency has determined that the activity is likely to have a significant effect on the environment and accordingly is carrying out an assessment for the purposes of EIA.

The changes to the activity are below the specified threshold of project type in Part 2 of Schedule 5 of the Planning and Development Regulations 2001 as amended:

*3(a) Industrial installations for the production of electricity, steam and hot water not included in Part 1 of this Schedule with a heat output of 300 megawatts or more.*

Having considered the information provided by the licensee, which satisfies the requirements of Annex II A of the EIA Directive, it has been determined that the activity is likely to give rise to significant effects on the environment by virtue of its nature, size or location. This determination has been made having regard to the following:

- Cumulative effects from air emissions are likely to arise with other existing and/or approved projects.

The EIAR associated with the planning application ref: 21/663 and appeal ABP-310729-21 was submitted to the Agency as part of the application on 25 September 2024. This is dealt with in the EIA Section later in this report.

## **5 Best Available Techniques**

BAT for the installation was assessed against the BAT conclusions contained in Commission Implementing Decision (CID) (EU) 2021/2326 of 30 November 2021 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants (hereafter referred to as the LCP CID), and in any other relevant BREF documents specified in the appendices to this report. A detailed BAT assessment was carried out by the licensee and is included in attachment 4-7-1 of the application form.

The overall installation was assessed against the LCP CID, however, the generators were assessed against the Medium Combustion Plant (MCP) Regulations 2017, SI 595/2017 (hereafter referred to as the MCP Regulations) as none of them individually exceed 15 MW<sub>th</sub>. The scope of the LCP CID does not address units less than 15 MW<sub>th</sub>. The generators are within the scope of the MCP Regulations.

BAT for the installation was also assessed against the following horizontal BREF documents:

- BREF document for Emissions from Storage (July 2006) (BREF Assessment Attachment 4-7-3),
- BREF document for Energy Efficiency (February 2009) (BREF Assessment Attachment 4-7-2), and
- BREF Document for Industrial Cooling Systems (December 2001) (BREF Assessment Attachment 4-7-4).

The licensee submitted an assessment of the installation's activity against the relevant BAT requirements set out under each of the above listed horizontal BREFs.

The assessment has demonstrated that the installation will comply with the LCP CID and MCP Regulations and will be in line with the guidance specified in the relevant horizontal BREF Documents as listed above.

The installation is exempt from the air emission limit values as per the MCP Regulations due to the limitations placed on generator run-time in Schedule A of the Recommended Determination. The monitoring frequencies of emissions to air have been set out Schedule B of the Recommended Determination, in line with the requirements of the MCP Regulations where relevant.

I consider that the applicable BAT Conclusion requirements are addressed through the technologies and techniques as described in the application, as well as the conditions and limits specified in the Recommended Determination.

## 6 Emissions

### 6.1 Emissions to Air

This section addresses emissions to air from the installation and the environmental impact of those emissions.

#### 6.1.1 Channelled Emissions to Air

There are 26 main channelled emissions points at the proposed new building (Building B) relating to the 26 no. 6.79 MW<sub>th</sub> back-up generators (A3-28 to A3-53), and 1 no. 2.02 MW<sub>th</sub> back-up generator (A3-54). In addition, the existing building at the installation (Building A) for licence Reg. No. P1181-01, has 26 no. 6.82 MW<sub>th</sub> back-up generators (A3-1 to A3-26) and 1 no. 1.55 MW<sub>th</sub> (A3-27) back-up generator. There are other emission points at the installation including 2 no. 0.52 MW<sub>th</sub>, and 2 no. 0.37 MW<sub>th</sub> diesel powered fire sprinkler pumps which, due to their emission characteristics, are not considered environmentally significant and are therefore regarded as minor emissions and hence scoped out of the air impact assessment. Therefore, there are a total of 54 no. back-up generators, each with an associated stack. The purpose of the back-up generators is to provide power in the event of a loss, reduction or instability of electricity grid supply, critical maintenance to power systems or a request from the utility provider to reduce electricity grid load. Exhaust gases from the combustion process within the back-up generators will be discharged to atmosphere via stacks. All stacks are vertical and are 25 m above ground level.

Two of the 6.82 MW<sub>th</sub> back-up generators associated with Building A and two of the 6.79 MW<sub>th</sub> back-up generators associated with Building B have been modelled as “catcher” generators to provide redundancy to the remaining generators on site. Therefore, in the event of a power failure at the site 50 of the 54 no. back-up generators will be operational.

The licensee proposes that the generators will operate using diesel and/or hydrotreated vegetable oil (HVO) fuel, with a preference to use only HVO when supply is available and for which the licensee has had no issues to date sourcing. Currently in the fuel tanks are a blend of diesel and HVO, as they can be stored simultaneously in the same fuel storage tanks. There are no separate or dedicated tanks exclusively for HVO. Details of the emission concentrations modelled by the licensee are provided in Table 6.1.

No ELVs have been proposed by the licensee for the operation of the back-up generators. This is the same as the current licence. Each of the generators is classed as a Medium Combustion Plant (MCP). The generators are not planned to operate for more than 100 hours per generator per annum. Under Regulation 13 of the MCP Regulations, plants which do not operate for more than 500 hours per year are not required to comply with the emissions limit values set out in the Regulations. The licensee has requested this exemption from complying with the relevant ELVs be applied to the new generators at the installation.

Selective Catalytic Reduction units are mentioned once in an EIAR (Dec 2019): ‘Selective catalytic reduction (SCR) abatement technology will be fitted to each gas engine to minimise NO<sub>2</sub> emissions.’ However, SCR technology will not be used, as confirmed by the licensee on the site visit. There is also no Continuous Environmental Monitoring system on the air emissions. As part of the application, air dispersion modelling was carried out by the licensee to predict the ambient pollutant concentrations resulting from the operation of the generators at the installation using AERMOD.

Attachment 7.1.3.2 Air Emissions Impact Assessment Rev. submitted as part of the licence review, lists concentrations of NO<sub>2</sub>, CO, SO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> as parameters emitted from the back-up generators. The MCP Regulations requires monitoring of NO<sub>x</sub> and CO for diesel and HVO, and also requires the monitoring of SO<sub>2</sub> and dust in addition to NO<sub>x</sub> and CO when the MCP plants are operating on a liquid fuel other than diesel (such as HVO). The existing licence (Reg. No. P1181-01) requires monitoring of CO, NO<sub>x</sub> and flow, irrespective of the fuel used, and includes SO<sub>2</sub> and dust at a frequency of at least once every five years if a biofuel is used. As HVO and diesel are stored in the same tanks, with a blend of both fuels being possible and with HVO being the fuel of choice by the licensee if supply is available, the Recommended Determination requires monitoring of flow, NO<sub>x</sub>, CO, SO<sub>2</sub> and dust.

The impact of emissions of NO<sub>x</sub>, SO<sub>2</sub>, and nutrient and acid deposition from the installation, both alone and in combination with other facilities, on European and nationally designated habitat sites within 20 km of the installation, was assessed.

The modelling was carried out to achieve compliance with published Agency guidance (AG4<sup>2</sup>). It used five years of meteorological data (2020 – 2024 inclusive) from Dublin Airport meteorological station, which is located approximately 31 km south of the site, and also used the emissions points from the existing and proposed installation to determine the ambient air quality impact of the site, as well as any air quality constraints that may be present. The licensee notes that, for the maximum permissible process contribution (PC), AG4 states *'When modelling a facility, the uncertainty in the model should be considered. If the facility is operated continually at close to the maximum licenced mass emission rate (i.e. maximum concentration and maximum volume flow) the process contribution should be less than 75% of the ambient air quality standard and less than this where background levels account for a significant fraction of the ambient air quality standard'*. The licensee states this cannot be quantified accurately in an emergency emissions scenario and, for the purpose of the assessment, 100 emergency hours per back-up generator has been assumed as a worst-case scenario.

With regard to the NO<sub>2</sub> background concentrations, EPA data from Zone C was used, as Drogheda falls into one of the 23 large towns with a population >15,000. Terrain data was incorporated into the modelling assessment as well as considerations for building and stack downwash (Plume Rise Model Enhancement downwash algorithms). All receptors were modelled at 1.5 m to represent breathing height.

Three large industrial installations in the vicinity were considered to have the potential to give rise to cumulative impacts on air quality due to their emissions to air. The emissions from these installations: Irish Cement Limited (Reg. No. P0030-06), Indaver Ireland Carranstown (Reg. No. P0167-04) and SSE Generation (Reg. No. P1225-01) were therefore included in the dispersion modelling assessment.

The air dispersion scenarios modelled used the US EPA Method (AERMOD and AERMAP) and included the following scenarios and tests:

a) Proposed Operation Scenario – This scenario included the scheduled testing and maintenance of all 54 back-up generators as well as the emergency operation of 50 of the 54 back-up generators (with the remaining 4 generators serving as 'catcher' generators for building A and B). The operation was assumed to be at 90% load for up to 100 hours per generator per annum as a worst-case scenario.

b) Proposed Operation Cumulative Assessment Scenario – Includes the Proposed Operation Scenario along with the licensed facilities Irish Cement, Indaver Ireland Carranstown Waste to Energy facility and SEE Generation Ireland Ltd.

**Test 1:** Testing once per week of all 54 no. back-up generators on the campus at 25% load for a maximum of 30 minutes each, one generator at a time, sequentially.

**Test 2:** All 54 no. back-up generators will be periodically tested for a maximum of four hours. This was modelled as one generator operating, at 90% load, for 4 consecutive hours, once per quarter.

Testing was modelled using diesel fuel, with the licensee stating 'By using the emissions associated with diesel the assessment ensures that when operating on HVO (likely to be lower or equivalent emissions) are appropriately accounted for.'

All testing of the generators is to occur from 8am to 5pm, Monday to Friday only.

### **Proposed Operation Scenario**

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<sup>2</sup> EPA Air Dispersion Modelling Guidance Note (AG4), 2020.

The table below gives details of the predicted impact of the existing and proposed main channelled emissions to air, for the worse case years modelled.

**Table 6.1:** Predicted impact of the proposed main channelled emissions to air

| Main channelled emissions impact      |                           |                                                       |                                                          |                                                                          |                                  |                                                                                  |
|---------------------------------------|---------------------------|-------------------------------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------|
| Parameter / Year                      | Averaging Period          | Background concentration ( $\mu\text{g}/\text{m}^3$ ) | Process contribution to PEC ( $\mu\text{g}/\text{m}^3$ ) | Predicted Environmental Concentration (PEC) ( $\mu\text{g}/\text{m}^3$ ) | PEC as % of Air Quality Standard | Air Quality Standards/ Guidelines ( $\mu\text{g}/\text{m}^3$ ) <sup>Note 1</sup> |
| Nitrogen oxides (as NO <sub>2</sub> ) | 99.8 %ile hourly (2024)   | 28                                                    | 85.4                                                     | 113.4                                                                    | 57                               | 200                                                                              |
|                                       | Annual (2020)             | 14                                                    | 10.6                                                     | 24.6                                                                     | 61                               | 40                                                                               |
| SO <sub>2</sub> (2020)                | 1-hour (99.73 %ile)       | 30                                                    | 8                                                        | Method A: 30.83<br>Method B<br>16.00                                     | 9                                | 350                                                                              |
|                                       | Annual Mean               | 4                                                     | 0.42                                                     | Method A: 4.42<br>Method B<br>4.42                                       | -                                | -                                                                                |
| SO <sub>2</sub> (2022)                | 24-hour (99.18 %ile)      | 13                                                    | 2.59                                                     | Method A: 13.83<br>Method B<br>10.59                                     | 11                               | 125                                                                              |
| Carbon monoxide (CO) (2024)           | Maximum 8-hour            | 2000                                                  | 78.57                                                    | 2078.57                                                                  | 21                               | 10000                                                                            |
| PM <sub>10</sub> (2024)               | 24-hr Mean (as 90.4 %ile) | 22                                                    | 0.421                                                    | Method A: 22.18<br>Method B<br>13.42                                     | 44                               | 50                                                                               |
|                                       | Annual Mean               | 13                                                    | 0.176                                                    | Method A: 13.18<br>Method B<br>13.18                                     | 33                               | 40                                                                               |
| PM <sub>2.5</sub> (2021)              | Annual Mean               | 8                                                     | 0.30                                                     | 8.3                                                                      | 33                               | 25                                                                               |

**Note 1:** Air Quality Standards Regulations, SI 739/2022, unless otherwise stated.

As per Table 6.1 above, all the predicted ground level concentrations for the parameters regarding human health for the Proposed Operations Scenario are within the relevant air quality standards based on the operation of 50 of the 54 no. back-up generators using diesel fuel for 100 hours per generator per annum as well as considering scheduled weekly testing and quarterly maintenance testing of all 54 no. generators at the installation.

For the worst-case year modelled for the hourly standard (2024), emissions from the installation lead to an ambient ground level NO<sub>2</sub> concentration which is 57% of the maximum 1-hour limit value (99.8<sup>th</sup>ile) at the worst off-site location. In terms of the annual standard for NO<sub>x</sub>, for the worst-case year modelled (2020), emissions from the installation accounted for 61% of each of the annual standard at the worst off-site location. Overall, regarding human health impacts for the Proposed Operations Scenario, all the emissions for NO<sub>2</sub>, CO, PM<sub>10</sub>, PM<sub>2.5</sub> and SO<sub>2</sub> are predicted to be below and in compliance with the relevant ambient air quality standards. The maximum PEC (Predicted Environmental Concentration) at the worst-case receptor modelled for each pollutant are as follows:

- NO<sub>2</sub> annual mean: 61% / NO<sub>2</sub> maximum 1-hour (measures as 99.8<sup>th</sup>ile): 57%
- CO maximum 8-hour: 21%
- PM<sub>10</sub> annual mean: 33% / PM<sub>10</sub> maximum 24-hour (measured as 90.4<sup>th</sup>ile): 44%
- PM<sub>2.5</sub> annual mean: 33%
- SO<sub>2</sub> maximum 1-hour (measures as 99.7<sup>th</sup>ile): 9% / SO<sub>2</sub> maximum 24-hour (measured as 99.2<sup>nd</sup>ile): 11%

The licensee also demonstrates that the installation modelled could run for 104 hours per year (if using the UK Environment Agency Methodology) without a likelihood of an exceedance of the ambient air quality standard at the nearest residential receptor (at a 98<sup>th</sup> percentile confidence level). The modelling is considered sufficiently conservative as 100 hours of operation per generator per annum would require a prolonged fault or outage of the National Grid, a problem with the substation or if the licensee was asked to reduce its demand on the National Grid or to disconnect partially and meet some of its energy demand through its on-site generators.

#### 6.1.1.1 Ecological Receptors – Licensed Operation Scenario

According to the licensee's Air Emissions Impact Assessment (Attachment 7-1-3-2, submitted 17 October 2025), which also measured the impact of emissions to air from the installation on ecological receptors within 20 km from the installation, the ecological site most impacted in regard to Process Contribution (PC) is the River Boyne & River Blackwater SAC (002299), which is also the most impacted Nature 2000 designated habitat site. Emissions from the installation lead to a NO<sub>x</sub> PC of 0.58 µg/m<sup>3</sup> at this location, which including background is equivalent to 23% of the NO<sub>x</sub> critical level (30 µg/m<sup>3</sup>). With regard to PEC, the most impacted ecological and Natura 2000 designated site is the Boyne Estuary SPA, which including background would be 24% of the critical level for NO<sub>x</sub>.

In the case of SO<sub>2</sub>, the worst-case PC at the ecological habitat site and Natura 2000 designated habitat site, the River Boyne and River Blackwater SAC, is 0.0174 µg/m<sup>3</sup>. This including background is equivalent to 4% of the relevant critical level (20 µg/m<sup>3</sup>). With regard to PEC, the most impacted ecological site, and the Natura 2000 designated site is the Boyne Estuary SPA, with a predicted SO<sub>2</sub> process contribution of 0.0047 µg/m<sup>3</sup> in 2023, which including background is equivalent to 4% of the SO<sub>2</sub> critical level.

With regard to nitrogen deposition at ecological receptors, the worst-case nitrogen deposition flux (including background levels) is 0.075 kg/ha/yr at the River Boyne and River Blackwater SAC. The total PEC for this site is 6.58 kg/ha/yr, which is less than the mid-point critical load for the habitat 'Alkaline fens' of 7.5 kg/ha/yr. The site with the highest PEC of 8.30 kg/ha/yr is the River Boyne and River Blackwater SPA. There is no comparable critical load level for this designated site; this would indicate that the effects of nitrogen deposition is not deemed significant as the background deposition of 8.24 kg/ha/yr is contributing most to the PEC. Nitrogen deposition fluxes at all other relevant ecological sites are shown as within the required critical load range.

With regard to acid deposition (as N), the most impacted ecological habitat site for PC is the River Boyne & River Blackwater SAC at a worst case of 0.505 keq/ha/yr, and with background concentration added leading to a worse case of 0.597 keq/ha/yr. These are below the lower end of the maximum acid critical load (N) (MaxCLminN) of 0.714 keq/ha/yr for the sensitive species '*Lampetra fluviatilis*' (River Lamprey), and below the MaxCLminN of 0.714 keq/ha/yr for the sensitive species '*Alcedo atthis*' (Kingfisher) respectively, indicating that the effects of acid deposition (as N) would not be deemed significant.

With regard to acid deposition (as S), the most impacted ecological habitat site is the River Boyne & River Blackwater SAC for PC, with the total acid deposition flux for the worse case year at 0.502 keq/ha/yr. This is above the minimum

critical load (S) (MinCLmaxS) for the sensitive species '*Lampetra fluviatilis*' at 0.193 keq/ha/yr, however, the PC concentration is within the upper maximum acid critical load (S) (MaxCLmaxS) range of 4.748 keq/ha/yr, hence the predicted acid deposition is not deemed to be significant.

With regard to acid deposition (as S) for PEC the most impacted ecological habitat site is the River Boyne & River Blackwater SPA, with the total acid deposition flux for the worse case year at 0.595 keq/ha/yr. While this is above the MinCLmaxS for the sensitive species '*Alcedo atthis*' at 0.216 keq/ha/yr, the PEC is within the upper MaxCLmaxS range of 4.724 keq/ha/yr, hence the predicted acid deposition is not deemed to be significant as the background acid deposition level in this area is contributing the most to the PEC.

The results would indicate that the direct main channelled air emissions from the installation would not have significant effects on the identified designated habitats.

### Cumulative Operation Scenario

Table 6.2 below gives details of the predicted impact of the existing and proposed main channelled emissions to air under the cumulative operation scenario and for the worse case years only

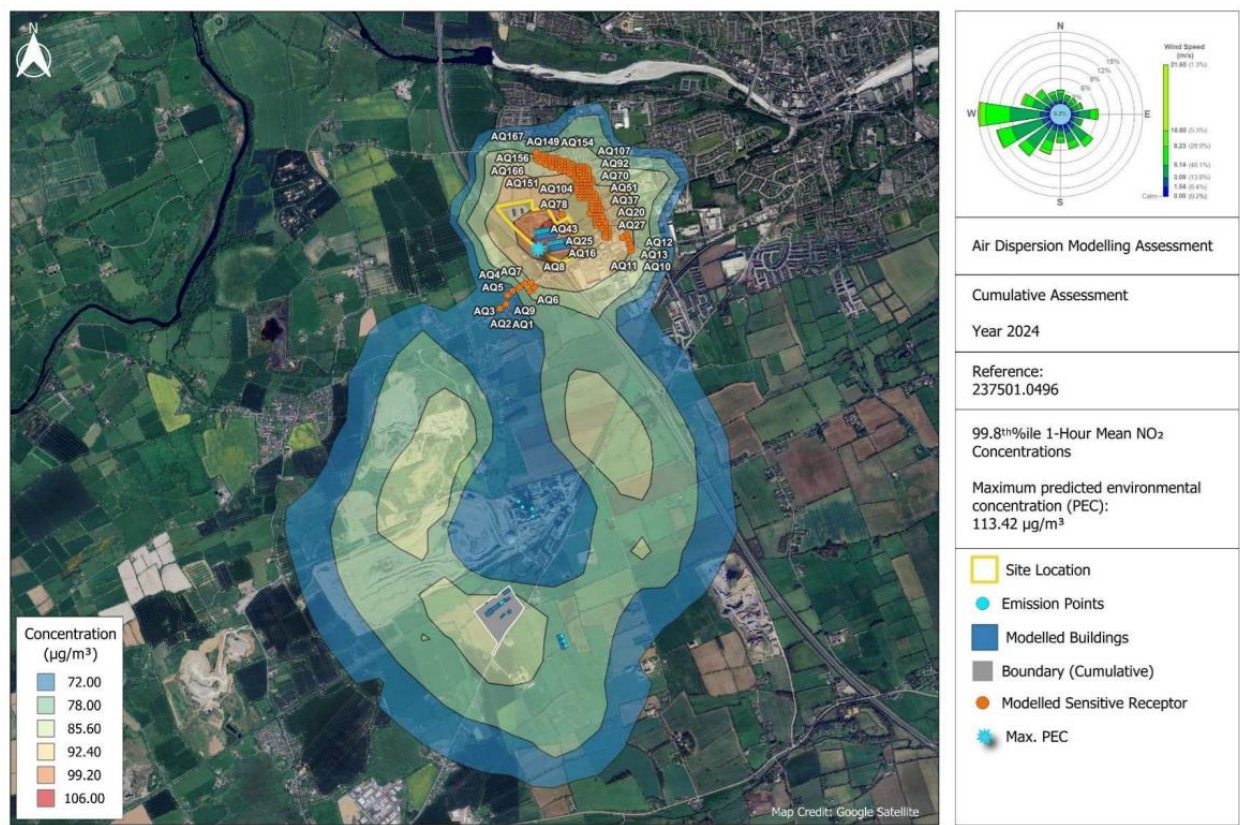
**Table 6.2:** Predicted impact of the existing and proposed main channelled emissions to air.

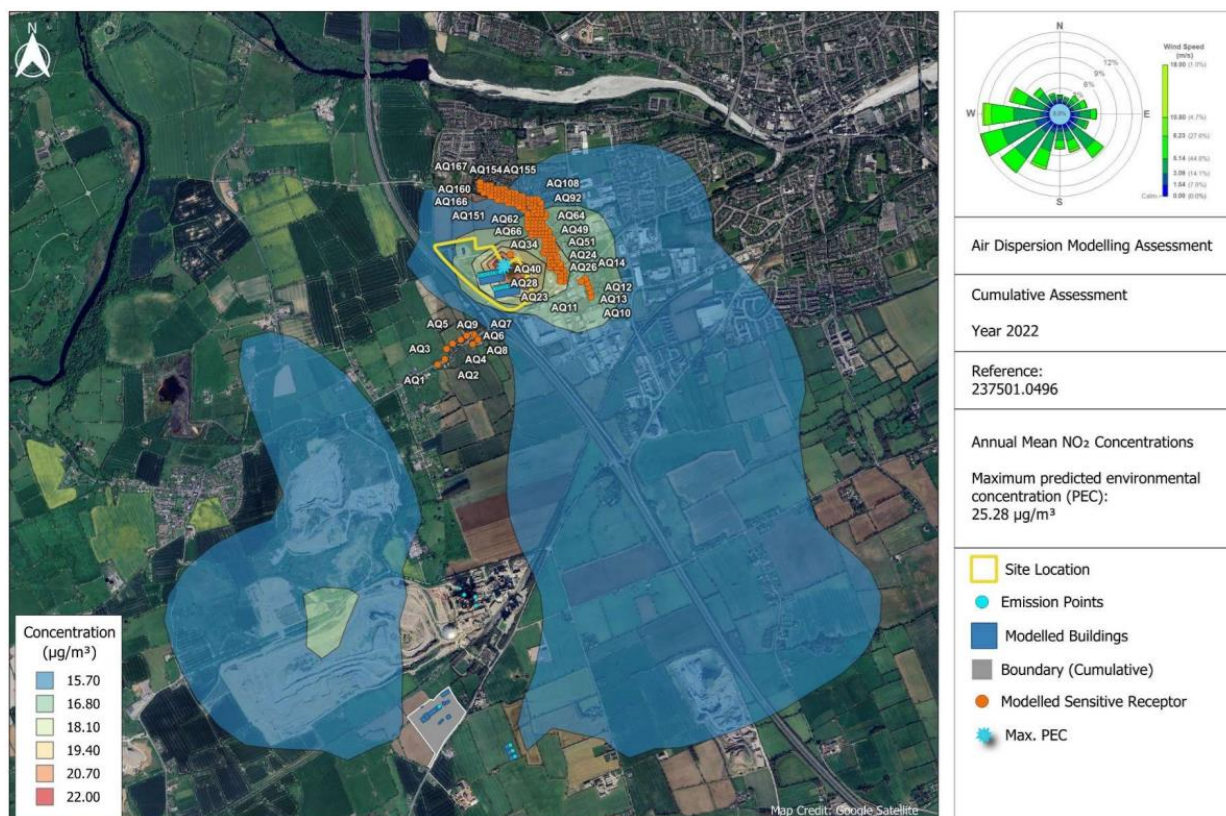
| Main channelled emissions impact      |                           |                                               |                                                  |                                                                  |                                  |                                                                          |
|---------------------------------------|---------------------------|-----------------------------------------------|--------------------------------------------------|------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------|
| Parameter                             | Averaging Period          | Background concentration (µg/m <sup>3</sup> ) | Process contribution to PEC (µg/m <sup>3</sup> ) | Predicted Environmental Concentration (PEC) (µg/m <sup>3</sup> ) | PEC as % of Air Quality Standard | Air Quality Standards/ Guidelines (µg/m <sup>3</sup> ) <sup>Note 1</sup> |
| Nitrogen oxides (as NO <sub>2</sub> ) | 99.8 %ile hourly (2024)   | 28                                            | 85.4                                             | 113.4                                                            | 57                               | 200                                                                      |
|                                       | Annual (2022)             | 14                                            | 11.3                                             | 25.3                                                             | 63                               | 40                                                                       |
| SO <sub>2</sub> (2022)                | 1-hour (99.73 %ile)       | 30                                            | 8.64                                             | Method A: 31.03<br>Method B<br>16.64                             | 9                                | 350                                                                      |
|                                       | 24-hour (99.18 %ile)      | 13                                            | 3.63                                             | Method A: 14.03<br>Method B<br>11.63                             | 11                               | 125                                                                      |
|                                       | Annual Mean               | 4                                             | 0.51                                             | Method A: 4.51<br>Method B<br>4.51                               | -                                | -                                                                        |
|                                       |                           |                                               |                                                  |                                                                  |                                  |                                                                          |
| PM <sub>10</sub> (2024)               | 24-hr Mean (as 90.4 %ile) | 22                                            | 0.594                                            | Method A: 22.21<br>Method B<br>13.59                             | 44                               | 50                                                                       |
|                                       | Annual Mean               | 13                                            | 0.207                                            | Method A: 13.21<br>Method B<br>13.21                             | 33                               | 40                                                                       |
| PM <sub>2.5</sub>                     | Annual Mean               | 8                                             | 0.166                                            | 8.166                                                            | 33                               | 25                                                                       |

|        |  |  |  |  |  |  |
|--------|--|--|--|--|--|--|
| (2022) |  |  |  |  |  |  |
|--------|--|--|--|--|--|--|

**Note 1:** Air Quality Standards Regulations, SI 739/2022, unless otherwise stated

As per Table 6.2 above, all the predicted ground level concentrations for parameters considered regarding human health for the Cumulative Operations Scenario are within the relevant air quality standards based on the operation of 50 of the 54 no. back-up generators using diesel fuel for 100 hours per generator per annum, as well as considering scheduled weekly testing and quarterly maintenance testing of all 54 no. generators at the installation. For the worst-case year modelled for the hourly standard (2024), emissions for the installation lead to an ambient ground level NO<sub>2</sub> concentration which is 57% of the maximum 1-hour limit value (99.8%ile), and in terms of the annual standard, for the worst-case year modelled (2022), emissions from the installation counted for 63% of the annual limit value at the worst-case receptor.





**Figure 6.2:** Cumulative Assessment – Annual Mean NO<sub>2</sub> (µg/m<sup>3</sup>)

Overall, regarding human health impacts for the Cumulative Operations Scenario, all the emissions for NO<sub>2</sub>, COPM<sub>10</sub>, PM<sub>2.5</sub> and SO<sub>2</sub> are predicted to be below and in compliance with the relevant ambient air quality standards. The maximum PEC at the worst-case receptor modelled for each pollutant are as follows:

- NO<sub>2</sub> annual mean: 63% / NO<sub>2</sub> maximum 1-hour (measures as 99.8<sup>th</sup>ile): 57%
- PM<sub>10</sub> annual mean: 33% / PM<sub>10</sub> maximum 24-hour (measured as 90.4<sup>th</sup>ile): 44%
- PM<sub>2.5</sub> annual mean: 33%
- SO<sub>2</sub> maximum 1-hour (measures as 99.7<sup>th</sup>ile): 9% / SO<sub>2</sub> maximum 24-hour (measured as 99.2<sup>nd</sup>ile): 11%
- CO (Figure not provided, however licensee states that that for all pollutants modelled including CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub> and for all modelled scenarios the concentrations are below the relevant ambient air quality standards at the worst-case receptor).

It is considered that the activity will not, cumulatively, or otherwise, cause exceedances of the applicable environmental standards. Ecological receptors are discussed below.

#### 6.1.1.2 Ecological Receptors – Cumulative Operation Scenario

The ecological site most impacted at the worst-case location with regard to PC is the River Boyne & River Blackwater SAC (002299). Emissions from the installation lead to a NO<sub>x</sub> process contribution of 1.46 µg/m<sup>3</sup>, and the background for the SAC is 6.3 µg/m<sup>3</sup> which summed is equivalent to 26% of the NO<sub>x</sub> critical level (30 µg/m<sup>3</sup>). When background concentrations are considered, the most impacted ecological site and Natura 2000 designated site is the Boyne Estuary SPA, which has a background concentration of 6.9 µg/m<sup>3</sup> but the highest PC is only 0.95 µg/m<sup>3</sup>. The PEC would also be 26% of the critical level.

In the case of SO<sub>2</sub>, the worst-case location with regard to PC at the ecological habitat site and Natura 2000 designated habitat site, the River Boyne and River Blackwater SAC, is 0.153 µg/m<sup>3</sup>, including background this is equivalent to 4% of the relevant critical level (20 µg/m<sup>3</sup>). With regard to PEC, the most impacted ecological site, and Natura 2000 designated site, is the Boyne Estuary SPA, with a predicted SO<sub>2</sub> process contribution of 0.091 µg/m<sup>3</sup> which including background is equivalent to 5% of the SO<sub>2</sub> critical level.

With regard to nitrogen deposition at ecological receptors, the worst-case nitrogen deposition flux with regard to PC is 0.186 kg/ha/yr at the River Boyne and River Blackwater SAC, below the mid-point critical load of 7.5 kg/ha/yr for the 'Alkaline fens' habitat type. When background concentrations are added, regarding PEC, the worst-case is 8.398 kg/ha/yr at the River Boyne and River Blackwater SPA. However, there is no comparable critical load levels for this SPA and the background deposition of 8.24 kg/ha/yr is contributing the most to the PEC.

With regard to acid deposition (as N) the most impacted ecological habitat site in terms of PC is the River Boyne & River Blackwater SAC. The total PEC acid deposition for the worse year is 0.513 keq/ha/yr. This is below the MaxCLminN of 0.714 keq/ha/yr for the sensitive species '*Lampetra fluviatilis*' in the SAC, indicating non-significant potential effects due to the installation and cumulative sites. With regard to PEC, the most impacted habitat site is the River Boyne & River Blackwater SPA with the total PEC acid deposition for the worse year of 0.604 keq/ha/yr. This is below the MaxCLminN of 0.714 keq/ha/yr for the sensitive species '*Alcedo atthis*' indicating the effects due to the installation and cumulative sites are not significant. Within Clogher Head SAC the total acid deposition (as N) is above the MaxCLminN for 'European Dry Heaths', however the PEC is within the upper range and is deemed as not significant and with the background contributing the most to PEC. The maximum NO<sub>2</sub> process contributions for which nitrogen deposition levels are derived are also below the limit of detection of 0.5µg/m<sup>3</sup>

With regard to acid deposition (as S), the most impacted ecological habitat site in terms of PC is the River Boyne & River Blackwater SAC. The PC is 0.018 keq/ha/yr and the total PEC acid deposition for the worst-case year is 0.518 keq/ha/yr, this is above the MinCLmaxS for the sensitive species '*Lampetra fluviatilis*' at 0.193 keq/ha/yr, however the PEC is within the upper MaxCLmaxS range of 4.748 keq/ha/yr, hence the predicted acid deposition within the SAC is not deemed to be significant.

The above results would indicate that the direct air emissions from the installation and cumulative sites as modelled would not have significant effects on the identified designated habitats and species.

Considering the above, the Recommended Determination includes the following conditions and limitations:

- The operation of the generators is restricted to no more than 100 hours per generator per annum, at no more than 90% load, based on the modelling assessment completed by the licensee (Schedule A.1). In addition, based on the modelling, Schedule A also limits the number of generators that can be operated simultaneously with a combined thermal input of no more than 330.21 MW<sub>th</sub> (based on 24 no. 6.82MW<sub>th</sub> Building A generators, 24 no. 6.79MW<sub>th</sub> Building B generators, 1 no. 1.55 MW<sub>th</sub> Building A back generator and 1 no. 2.02 Building B back-up generator). If one or more of the generators is unavailable due to maintenance, the licensee may operate mobile generators in lieu of the stationary generator(s) provided that the combined thermal input of the generators in operation does not exceed 330.21 MW<sub>th</sub>. These operating limitations are in line with the modelling completed by the licensee.
- The Recommended Determination also restricts the testing of the generators to no more than 25% load for a maximum of 30 minutes each per week, sequentially, and to no more than 90% load for a maximum of 1-hour, four hours per quarter sequentially (Schedule A.2). Schedule B.1 Emissions to Air requires the licensee to carry out monitoring of emissions in line with the Medium Combustion Plant Regulations.
- The Recommended Determination also requires the licensee to maintain a record of the type and quantity of fuel used, run times and loading. As HVO and diesel are stored in the same tanks, with a blend of both fuels being possible and with HVO being the fuel of choice by the licensee if supply is available, the RD requires monitoring of flow, NO<sub>x</sub>, CO, SO<sub>2</sub> and dust, as per the requirement of the MCP Regs.

### 6.1.2 Diffuse Emissions

No significant diffuse emissions are expected to arise from the proposed activity. Fluorinated gases are used at the installation, which will be subject to the F Gas Regulations (EU) No. 517/2014.

Condition 6 of the Recommended Determination requires the licensee to prepare and implement a programme for the identification and reduction of any diffuse emissions using an appropriate combination of best available techniques.

### **6.1.3 Dust**

There will be no dust emissions associated with the activity.

### **6.1.4 Odour**

There will be no odour emissions associated with the activity.

## **6.2 Emissions to Water/Ground/Sewer**

### **6.2.1 Emissions to Surface Waters**

There will be no direct process effluent discharged to surface water. Uncontaminated storm water may be discharged to surface water. The existing licence permitted indirect emissions of the evaporative cooling water discharge (from Building A) to the storm water drainage network. The Recommended Determination requires this practice to cease within six months of the reviewed licence issuing and evaporative cooling process water must not be discharged to the storm water network for Building B. This is further addressed in Section 6.3 Storm water discharges, below.

### **6.2.2 Emissions to ground/groundwater**

There will be no process effluent discharged to ground / groundwater.

### **6.2.3 Emissions to Sewer**

Foul domestic effluent arising from occupation of the site, including from the transformer compound and the Oldbridge Substation control building discharges to the IDA foul sewer network (outfall at emission point SE1). The IDA foul sewer network ultimately discharges into a regional pumping station before final treatment and disposal at Drogheda Waste Water Treatment Plant (WWTP)(D0041-01).

Drainage of rainwater from the top-up tank bund to the north of Building A is directed to foul sewer, passes through a class 1 bypass hydrocarbon interceptor and connects to the foul main at emission point SE1. Drainage of rainwater from the top-up tank bund to the east of Building B is directed to foul sewer, passes through a class 1 forecourt hydrocarbon interceptor, and connects to the foul main also at emission point SE1.

The drainage sump located in each of the diesel top-up tank concrete bunds contain a hydrocarbon detector, which automatically shuts off drainage from these sumps if fuel is detected, preventing any contaminated storm water from exiting the bund. These probes are also connected to the central critical alarm. Drainage from the top-up tank bund and the Oldbridge Substation transformer compound are directed to the site foul sewer network; and are equipped with hydrocarbon interceptors.

Rainfall which passes through the Building A and B back-up generator exhaust stacks is discharged to foul sewer via hydrocarbon interceptors before connecting to the main waste water pipe network.

There is no process water discharged to the foul water network on site (foul effluent only). No monitoring of the overall sewer discharge is proposed.

While Uisce Éireann has agreed to accept the discharge of foul emissions to the Drogheda WWTP, the responsibility for the discharge lies with IDA Ireland, the owners of the foul sewer within the industrial estate, into which the installation will discharge. The licensee has a contractual agreement with IDA Ireland to discharge to the foul sewer within the industrial estate. Therefore, it is in the remit of IDA Ireland to regularise issues in relation to the installation's discharge to the Uisce Éireann sewer.

### 6.3 Storm water discharges

Storm water discharges include storm water from roofs and hardstanding areas. The licensee is permitted only to discharge the evaporative cooling process water from Building A up to a period of six months of the date of grant of this licence. For Building B, evaporative cooling process water must not be discharged to the storm water network.

The residual cooling water associated with the evaporative cooling process for Building A is discharged from the cooling systems to the storm water network when the ambient air temperature is above a setpoint. This occurs typically five days of the year, when there is a heat wave in Ireland.

The storm water is passed through Class I hydrocarbon interceptors and a hydrodynamic solid separator (cyclonic separation) to capture any diesel spillages outside of the bulk storage bunds, as well as fuels from vehicles using the internal road network, prior to being discharged to the appropriately sized detention basin (capacity 6,144 m<sup>3</sup>). The interceptors are equipped with hydrocarbon level detectors that connect to the central critical alarm. SW1 discharges to the existing IDA storm water drainage network via a hydrobrake, which controls the discharge rate (39 l/s). The IDA storm water flows to the public storm water drainage network and discharges to the Boyne River (IE\_EA\_010\_0100).

For both Building A and Building B, air handling units (AHUs) provide conditioned air to the data centre buildings in order to maintain temperature, relative humidity and pressurisation in the data halls. The evaporative cooling system for the data halls operates in two modes; free cooling and evaporative cooling. Under the free cooling mode, conditioned air, at ambient air temperature, is passed across the IT servers located in the data halls, and this air is either recirculated or exhausted to atmosphere.

Under Building A's evaporative cooling mode, evaporative cooling water sumps prefill with mains water at 30.1°C and are maintained full (~60 L/unit) for operational readiness, when outside air temperature exceeds 30.5°C and IT equipment requires additional cooling. This water is used as the cooling medium to cool the ambient air that is introduced into the data halls. The majority of the mains water is evaporated in the process and no chemical dosing occurs. When the water is used for cooling, it is recirculated in a closed loop system. When a conductivity set point of 1,500 µS/cm is reached, the cooling water is discharged. When cooling water discharge is not occurring, evaporative cooling water within the Air Handling Unit (AHU) sumps is typically drained every 7 days to the storm water drainage network. This drain-down occurs only when the evaporative cooling system has remained unused for a continuous period of 7 days. However, the licensee has not provided conclusive evidence that the cooling process water is uncontaminated, and it is considered trade effluent, therefore, within six months of the reviewed licence issuing, the evaporative cooling water from Building A must be segregated from the storm water drainage network. In addition, as building B has not commenced processes, any evaporative cooling process water must not be discharged to the storm water network. Table 6.3.1 below gives details on the installation's storm water discharges to waters, the sources of potential contamination of these discharges, the type of on-site abatement, as well as details of the receiving water.

Table 6.3.1 Storm water discharges details

| Storm water discharge point details     |                                                              |                                                                                                                |                                                 |                                          |                                        |
|-----------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------------------------------------------------|------------------------------------------|----------------------------------------|
| Emission Reference                      | Monitored parameters (monitoring frequency)                  | Abatement                                                                                                      | Drainage areas                                  | Discharging to                           | Trigger levels established (Y/N)       |
| SW1 (with monitoring location at SW1-1) | Visual (weekly); pH, TOC, temperature, conductivity (weekly) | Class I full retention separators on the internal storm water drains from the fuel and generator area. Class I | Buildings, site roads, and walkways, AHU sumps, | Boyne River via public storm water main. | Required by Recommended Determination. |

| Storm water discharge point details |                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                  |                               |                |                                  |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------|----------------------------------|
| Emission Reference                  | Monitored parameters (monitoring frequency)                                                                                                                                                           | Abatement                                                                                                                                                                                                                                                        | Drainage areas                | Discharging to | Trigger levels established (Y/N) |
|                                     |                                                                                                                                                                                                       | by-pass separators on the storm water drains from internal hard standing areas and inlet to detention basin.<br><br>Class II by-pass separator on the storm water discharge from fuel unloading area, fuel tank farms, transformer compound and generator yards. | generator area and car parks. |                |                                  |
|                                     |                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                  |                               |                |                                  |
| Automatic diversion in place:       | There is one detention basin at the installation (6,144 m <sup>3</sup> capacity). Storm water discharge from the detention basin to the main storm water drain can be shut off using the hydro brake. |                                                                                                                                                                                                                                                                  |                               |                |                                  |

The Recommended Determination requires the licensee to maintain the storm water drainage system. The Recommended Determination also requires that the storm water discharge is visually inspected daily and monitored for pH, total organic carbon (TOC) conductivity and temperature weekly, and any other parameters as required by the Agency, in accordance with *Schedule B.5 Storm Water Discharge Monitoring*. Condition 3 of the Recommended Determination specifies that for Building B, the licensee must submit an action plan to the satisfaction of the Agency, within three months of grant of this licence, for the segregation of evaporative cooling process water from the storm water network.

The Recommended Determination contains standard conditions in relation to the storage and management of materials and wastes. The Recommended Determination also requires that accident and emergency response procedures are put in place. The controls pertaining to accidents and emergencies are addressed in Prevention of Accidents section of this report.

## 6.4 Noise

The site is located within the Drogheda IDA Business and Technology Park, situated on the Donore Road. The site is bounded to the west and south, by the M1 motorway and Donore Road, to the north agricultural land and to the south and east, commercial and retail developments. The nearest residential property is situated approximately 140 m northeast of the site boundary and forms part of a large housing development. A substantial residential area is located approximately 320 m to the north of the site. To the west, along the L1601 road, there is a cluster of residential dwellings, with the closest being roughly 220 m from the site boundary. Drogheda College is located adjacent to the northeastern boundary of the site. The Beacon Renal medical clinic is located approximately 70 m south of the site and is considered a noise-sensitive location (NSL).

The primary source of noise is expected to arise from the installation's building service plant (i.e. the AHU air intake, and the AHU air exhaust), as well as the operation of the generators during testing and emergency scenarios (i.e. generator air intake, generator air exhaust and generator engine exhaust).

In support of this licence revision application, the licensee has submitted a noise impact assessment in accordance with the Agency's NG4<sup>3</sup> Guidance. A baseline noise survey was carried out in 2019 at three locations, representative of residential noise-sensitive areas. The primary source of noise at these monitoring locations was road traffic from the M1 motorway, which runs along the western boundary of the installation.

Noise modelling has been used by the licensee to predict worst-case impacts of noise sources from the installation at seven NSLs and results of this model are presented in the Noise Impact Assessment.

The noise impacts from noise sources at the installation were assessed under three operating scenarios:

- A. Normal operations representative of the day-to-day operations whereby the energy demand of the data centre is provided from the national grid;
- B. Representative of an emergency situation due to a loss, reduction or instability of grid power supply, critical maintenance to power system or a request to grid electrical load, whereby all back-up generators for both Buildings A and B are operating at 100% load;
- C. Representative of potential noise impacts associated with day-to-day operations in addition to occasional testing of back-up generators (between 07:00 and 19:00hrs). Typically, one back-up generator is tested at a time, but in this scenario, two back-up generators, situated closest to the existing NSLs, are operating simultaneously.

From the predicted operational data presented in the noise impact assessment report, under scenario A (normal operating conditions) and scenario C (normal operating condition with testing of back-up generators), the installation is expected to comply with daytime (55 decibels (dB)), evening time (50 dB) and nighttime (45 dB) noise limits at the site boundary for all NSLs, with the exception of NSL05. Data from NSL05 indicated that, noise limits will be exceeded for the standard nighttime criteria of 45 dB under scenario A, in addition to both the standard evening time (50 dB) and nighttime (45 dB) criteria at this location under scenario C.

Under scenario B, which assumes all generators for both building A and B are operating simultaneously, the noise model predictions indicate that the installation is not expected to comply with the standard evening time (50 dB) and nighttime (45 dB) noise limits at all NSLs. Additionally, at NSL05, the predicted noise levels exceed the standard daytime (55 dB).

As part of the existing licence, a noise monitoring survey is carried out annually at four noise-sensitive locations in the vicinity of the site boundary. Data from an annual noise survey report from January 2025 indicates that the installation was compliant with the licence noise limits. There have been no noise complaints to date at the installation. An additional noise monitoring location has been proposed for inclusion in the vicinity of the Beacon Renal Building.

The licensee has proposed that, during emergency operations, a higher noise limit of 55 dB should be applicable for daytime, evening time and nighttime periods at NSLs and a noise limit of 65 dB should be applicable, in relation to commercial properties.

Given that the back-up generators could be in operation for extended periods of time (up to 100 hours per generator per annum) it is considered that the standard noise limits should apply at NSLs. The noise impact assessment report demonstrated that the NSLs are not within "quiet areas" or areas of "low background noise" as defined in the

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<sup>3</sup>Guidance Note for Noise: Licence Applications, Surveys and Assessments in relation to Scheduled Activities (NG4) 2016, as maybe amended or replaced by the Agency.

Agency's NG4 Guidance. As a result, the Recommended Determination requires compliance with the standard noise limits as per NG4 and are 55 dB  $L_{A_{r,T}}$ , 50 dB  $L_{A_{r,T}}$  and 45 dB  $L_{A_{eq}}$  for day, evening and nighttime, respectively.

As the predicted noise levels under scenario B (emergency operation of generators) may exceed standard noise limits at NSLs, the Recommended Determination includes a requirement for the licensee to update their existing Noise Management Plan (Condition 6). The updated Noise Management Plan will ensure that the necessary actions are taken onsite to ensure compliance with the noise limits at the NSLs, within six months of the reviewed licence issuing.

## 7 Waste generation

Certain wastes are generated on-site as part of the licensable activity, but given the nature of the activity, waste generation will be minimal. Small amounts of hazardous waste generated are stored either in a covered hardstanding space inside each building or in covered bunds in designated areas external to the building. Mobile retention bunds are available should liquid waste need to be stored at any given time. The storage areas house all hazardous wastes generated at the data storage facilities that are awaiting collection by the nominated hazardous waste contractor for recovery and/or disposal off-site.

The categories of waste that will be generated from the proposed activity will include dry mixed recyclables (c. 2.094 tonnes/annum), food/organic waste (c. 1.412 tonnes/annum), waste arising from maintenance activities including absorbents, filter materials, wiping cloths (c. 0.13 tonnes/annum), waste from oil filters (0.214 tonnes/annum), oily water from oil and water separators (178.64 tonnes/annum), used oil (5.7 tonnes/annum), and e-waste including miscellaneous parts and equipment (e.g. fans, hard drives, cables, etc.) (2.41 tonnes/annum). A full breakdown of list of waste streams that will be generated at the installation, including estimated quantities and conditions under which such waste streams will arise, has been provided in Attachment 8-1 of the application form. The actual quantities of waste generated will be advised to the Agency each year as part of the AER for the installation.

The licensee employs a number of measures at the installation for the prevention and/or minimisation of waste. The full list of wastes and waste measures are listed in attachments 8-1 and 8-1-2 of the application form.

As evidenced in *Attachment 8-1-2 Waste Hierarchy*, and in accordance with the hierarchy specified in the IED, waste generated at the site will, in order of priority, be minimised, be prepared for re-use, recycling, recovery or disposal.

## 8 Energy Efficiency and Resource Use

The operation of the installation involves the consumption of fuel (diesel and HVO), electricity and water. The quantities used in the previous calendar year for the existing installation are specified in attachment 4-6-1 of the application. The future usage in the proposed installation per year is given in Table 8.1 below.

Table 8.1: Resource Use Details

| Resource         | Quantity per annum    |
|------------------|-----------------------|
| Electricity      | 840,960 MWh           |
| Gas oil (diesel) | 3,371.99 tonnes *     |
| Public water     | 14,918 m <sup>3</sup> |

\* This is the maximum usage if no HVO used. If no diesel used the maximum HVO used would be 3,317.09 tonnes (attachment 4.6.2).

The licensee employs a variety of technology to maximise the efficient use of energy within the installation, including a load management system, regular preventative maintenance on equipment, heat recovery for office space as part of the fresh air ventilation system and efficient lighting systems.

An Energy Efficiency Management System (EnEMS) and Building Management System (BMS) will be developed and implemented at the installation. The EnEMS and BMS, which will form part of the site's Environmental Management System, will include the features listed in BAT 1 of the Reference Document on Best Available Techniques for Energy Efficiency.

Within the proposed EnEMS, electrical performance monitoring in respect of Power Usage Effectiveness (PuE) of the site will be continuous. The PuE is an indicator for measuring data centre energy efficiency. It is measured as a ratio of total amount of energy used by a computer data storage facility to the energy delivered to computing equipment. Ideally, a PuE should be 1.0.

In the application of BAT, Condition 7 of the Recommended Determination provides for the efficient use of resources and energy in all site operations. It requires an energy audit to be carried out and repeated at intervals as required by the Agency and the recommendations of the audit to be incorporated into the Schedule of Environmental Objectives and Targets as outlined in Condition 2 of the Recommended Determination.

The licensee has outlined that there are no plans to abstract groundwater for use in the installation.

## 9 Prevention of Accidents

A certain amount of accident risk is associated with the licensable activity.

Table 9.1: Potential accidents and measures for prevention/limitation of consequences

| Potential accidents & measures for prevention/limitation of consequences                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Potential for an accident or hazardous/ emergency situation to arise from activities at the installation.                                               | <p>Potential for fire due to large quantities of fuels stored at the installation, leading to potential for emissions to air, water and/or soil and groundwater.</p> <p>Potential spillages or leaks of fuels, oil and other liquid chemicals during delivery, storage or use.</p> <p>Malfunction of the plant equipment, including back-up generators, AHUs, etc., leading to the potential for fuel spills, or exceedances of the noise limits.</p> <p>Failure of the hydrocarbon interceptors leading to discharges of contaminated storm water.</p>                                                                                                                                                                                                                                           |
| Preventative/Mitigation measures to reduce the likelihood of accidents and mitigate the effects of the consequences of an accident at the installation. | <p>Provision and maintenance of adequate bunding. Inspection system to detect leaks in over ground pipes carrying materials other than water.</p> <p>All fuel storage tanks are fitted with high and low level alarms which alarm to a central system, identifying overfilling or a sudden loss of fuel within the tanks.</p> <p>Fuel storage tanks are located above ground in a designated fuel storage bund with an impervious base.</p> <p>Fuel delivery will take place within designated fuel unloading areas under Standard Operating Procedures (SOPs), which minimises risk of spills and spill containment. Clean-up kit shall be readily available on site.</p> <p>Testing of the integrity and water tightness of all tanks, bunding structures and containers every three years.</p> |

| Potential accidents & measures for prevention/limitation of consequences |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                          | <p>Operation and maintenance of plant and equipment carried out in line with manufacturer's recommendations.</p> <p>Provision of spill kits and firefighting equipment.</p> <p>Drainage sumps at fuel unloading bays and bulk tank concrete bunds contain hydrocarbon detectors, connected to the critical alarm system and will automatically shutoff drainage from these sumps if fuel is detected in the sump.</p> <p>Storm water drainage from the fuel storage and generator areas are equipped with full retention separators. Hardstanding areas are equipped with bypass separators.</p> <p>All interceptors at the installation are equipped with an oil warning system which is connected to the critical alarm system.</p> <p>Leak detection, refuelling procedures, contaminant and monitoring of run-off prior to discharge of collected water are all being carried out as standard.</p> <p>Drainage from the bunds will be diverted for collection and safe disposal.</p> |
| Additional measures provided for in the Recommended Determination        | <p>Accident prevention and emergency response requirements (Condition 9).</p> <p>Integrity of tanks to be assessed every 3 years and maintenance carried out as required (Condition 6).</p> <p>Leak detection systems must be applied to all storage tanks, containers, and drum storage areas that contain liquid material other than water. (Condition 3).</p> <p>Drainage from bunded areas to be treated as contaminated unless it can be demonstrated otherwise. Contaminated material to be diverted for collection and safe disposal (Condition 3).</p> <p>Storm water discharge points to be visually monitored on a daily basis (Condition 6).</p> <p>Firewater retention risk assessment (Condition 3).</p> <p>Procedures to be put in place to prevent accidents with a possible impact on the environment and to respond to emergencies so as to minimise the impact on the environment (Condition 9).</p>                                                                   |

## 10 Cessation of Activity

A certain amount of environmental risk is associated with the cessation of any licensable activity (site closure). For this installation the risk relates to the potential for soil, groundwater or surface water contamination.

The licensee has provided a list of measures to be taken in the event of site closure/cessation of activity. These measures are listed in Attachment 9-2-3 of the application form. Condition 10 of the Recommended Determination requires the proper closure of the activity with the aim of protecting the environment.

## Baseline Report

Where an activity involves the use, production or release of relevant hazardous substances, and having regard to the possibility of soil and groundwater contamination at the site of the installation, the IED requires operators to prepare a baseline report.

A baseline report was submitted with the application (Attachment-4-8-3). The report states that the site has previously been used for agriculture only, with no evidence of other past uses, prior to the construction of the ADSIL installation in 2021.

The report refers site investigation reports titled 'IGSL Site Investigation, Donore Road Drogheda, Industrial Development Authority, Clifton Scannell Emerson Associates, July 2000' and 'IGSL Ltd (2020) IDA Donore Road Drogheda Site Investigation Report June 2020.' No environmental soil or groundwater testing was undertaken during the site investigation conducted by IGSL in 2000. During the site investigation conducted in 2020, eighteen environmental soil samples were taken and analyses confirmed samples satisfy the criteria for inert waste.

Storm water from the site, inclusive of cooling water from building A currently, is discharged to a municipal storm drain via a hydrocarbon interceptor, ultimately draining to the Boyne Estuary (IE\_EA\_010\_0100). The Boyne Estuary is currently classified as having 'moderate' status under the water framework directive (WFD). Beneath the site lies the Drogheda Groundwater Body (IE\_EA\_G\_025), a regionally important karstified bedrock aquifer. This aquifer is considered to have low vulnerability to human induced contamination. According to the WFD, the groundwater body holds a 'good' status and is classified as 'not at risk'. The only planned emissions from this installation are emissions to storm water. There are no planned discharges to land or groundwater.

The activity involves the use of two relevant hazardous substances, bulk storage of diesel and HVO as fuel for back-up generators on site. Both fuels are to be stored within a bunded areas, designed to contain potential hazardous spills. These bunded areas will be subject to routine integrity testing and will be equipped with a high-level alarm system to detect overfilling.

Given the volume of hazardous substances stored on site and preventative measures in place, the risk of soil contamination and groundwater contamination is considered low. To further mitigate this risk, the Recommended Determination includes the following requirements:

- Appropriate bunding for tanks and drum storage areas, with routine integrity testing, and
- Storage of waste and hazardous materials in designated areas, with suitable protection against spillage and runoff.

The Recommended Determination requires that soil and groundwater monitoring for relevant hazardous substances be carried out every five years for groundwater, and every ten years for soil, in accordance with IED requirements.

## **11 Fit & Proper Person**

### Technical Ability

The licensee has provided details of the qualifications, technical knowledge and experience of key personnel. The licence application also includes information on the on-site management structure. It is considered that the licensee has demonstrated the technical knowledge required.

### Legal Standing

Neither the licensee nor any relevant person has relevant convictions under the EPA Act, or under any other relevant environmental legislation.

### ELRA, CRAMP and Financial Provision

The proposed installation was assessed for the requirements of Environmental Liabilities Risk Assessment (ELRA), Closure, Restoration and Aftercare Management Plan (CRAMP) and Financial Provision (FP), in accordance with Agency guidance. Under this assessment it has been determined that ELRA, CRAMP and FP were not required.

### Fit & Proper Conclusion

It is my view that the licensee can be deemed a Fit & Proper Person for the purpose of this licence review.

## **12 Submission**

While the main points raised in the submission are briefly summarised in the table below, the original submission should be referred to at all times for greater detail and expansion of particular points.

The issues raised in the submission are noted and addressed in this Inspector's Report and the submission was taken into consideration during the preparation of the Recommended Determination.

**Table 12.1:** Submissions

| <b>Submissions</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.                 | <b>Name &amp; Position:</b><br><br>Mrs Lisa Maguire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Organisation:</b><br><br>Health Service Executive | <b>Date received:</b><br><br>15 November 2024                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|                    | <p>Issues raised:</p> <p>Environmental Health made reference to:</p> <ul style="list-style-type: none"> <li>(i) Unavailability of public consultation documents on the EPA website regarding the licence application.</li> <li>(ii) Impacts to air quality,</li> <li>(iii) Noise emissions,</li> <li>(iv) Surface water and ground emissions; and</li> <li>(v) Climate change.</li> </ul> <p>The HSE are satisfied that if monitoring and mitigation measures are implemented (for air, noise, surface water and ground water emissions) in accordance with licence conditions, the installation will not pose a significant risk to public health. However, the National Environmental Health Service (NEHS) recommends that a licence condition regarding a public complaint's procedure should be included to ensure that a local resident can make a complaint to the licensee and that complaints are dealt with in a timely manner.</p> <p>The NEHS also recommends the inclusion of licence conditions which require the licensee to continuously investigate and implement technologies which reduce Greenhouse gas (GHG) emissions and should consider the use of</p> |                                                      | <p>Agency response: Submission noted, and issues are addressed in Sections 6.1, 'Emissions to Air, 6.2 Emissions to Water/Ground/Sewer, 6.4 'Noise, 7. Waste Generation, 8. Energy Efficiency and Resource Use'; and Sections 15.4.5 'EIA, Noise' and 15.4.6 'EIA, Air'.</p> <p>Consultation with a) Appropriate bodies, can be found at:<br/><a href="https://epawebapp.epa.ie/terminalfour/ippc/ippc-view-filter.jsp?regno=P1181-02&amp;filter=c&amp;docfilter=go">https://epawebapp.epa.ie/terminalfour/ippc/ippc-view-filter.jsp?regno=P1181-02&amp;filter=c&amp;docfilter=go</a></p> <p>As stipulated in Condition 11 of the licence, the licensee must record all complaints of an environmental nature related to the operation of the activity and a record must be kept of the response made in the case of each complaint. In addition, the EPA website includes a section 'Making an Environmental Complaint / Reporting Environmental Damage to the EPA' with regard to licenced facilities.</p> <p>Consultation with b) Specified bodies, were notified on 27 September 2024 in accordance with the provisions of the applicable licensing regulations, and a Notice for Public Consultation on Appropriate Assessment was issued on the 24 July 2025. Further information on the public participation process is available at:<br/><a href="http://www.epa.ie">http://www.epa.ie</a></p> <p>As stipulated in Condition 7, the licensee must carry out an audit of energy use and the energy efficiency of the site as required by the Agency and shall identify all practicable opportunities for: energy use reduction and</p> |

| Submissions |                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|             | renewable energy sources on site for the creation of electricity. | <p>efficiency; the use of alternate energy sources as a means of decreasing or offsetting the use of fossil energy. The recommendations of the audit shall be incorporated into the Schedule of Environmental Objectives and Targets under Condition 2 of the recommended determination.</p> <p>Condition 7 also requires the licensee to carry out a feasibility study of opportunities to increase the use of solar power, sustainable biofuels and other renewable energy options including energy storage and submit a report within six months of the date of grant of the reviewed licence on the study with recommendations for approval by the Agency on the options to decrease or offset their use (both directly and indirectly) of fossil-fuelled energy.</p> |

## 13 Consultations

### 13.1 Cross Office Consultation

I consulted Ann Lyng, Office of Environmental Enforcement (OEE) in relation to EPA charges, inspectors Deborah Foy and Denis Lucey in relation to site non-compliances and investigations, as well as Brid Horgan (OES Energy Licensing) with regard to emissions to water and Naoimh O'Regan (OES Energy Licensing) with regard to emissions to air.

### 13.2 Transboundary Consultations

There were no transboundary consultations undertaken as there were no transboundary impacts identified.

## 14 Appropriate Assessment

Appendix 2 lists the European Sites assessed, their associated qualifying interests and conservation objectives along with the assessment of the effects of the activity on the European Sites.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects is likely to have a significant effect on any European Site. In this context, particular attention was paid to the European Sites at River Boyne and River Blackwater SAC (002299), River Boyne and River Blackwater SPA (004232), Boyne Estuary SPA (004080), Boyne Coast and Estuary SAC (001957), River Nanny Estuary and Shore SPA (004158), North-West Irish Sea SPA (004236) and Clogher Head SAC (001459).

The activity is not directly connected with or necessary to the management of any European Site and the Agency considered, for the reasons set out below, that it cannot be excluded, on the basis of objective information, that the activity, individually or in combination with other plans or projects, will have a significant effect on any European Site and accordingly determined that an Appropriate Assessment of the activity was required, and for this reason determined to require the licensee to submit a Natura Impact Statement.

This determination has been made in light of the following reasons:

- Due to the nature and scale of the activity and the proximity to European Sites. The closest European Site is the River Boyne and River Blackwater SAC approximately 1 km to the north of the installation. There will be combustion emissions to air from the generation unit stacks. The emissions to air may

give rise to ambient air concentrations that could adversely affect qualifying interest habitats and species at European Sites. There is also the potential for effects on sensitive habitats within European Sites due to deposition.

- The proposed development is located within the hydrological catchment of the River Boyne and River Blackwater SAC, approximately 1 km to the south of the river and on the outskirts of Drogheda town. There are proposed emissions to surface water and the potential effects of these proposed emissions on the receiving European Site and its qualifying interests cannot be ruled out.

A Natura Impact Statement was received by the Agency on 25 September 2025.

An Inspector's Appropriate Assessment has been completed and has determined, based on best scientific knowledge in the field and in accordance with the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, pursuant to Article 6(3) of the Habitats Directive, that the activity individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site, in particular, the European Sites at River Boyne and River Blackwater SAC (002299), River Boyne and River Blackwater SPA (004232), Boyne Estuary SPA (004080), Boyne Coast and Estuary SAC (001957), River Nanny Estuary and Shore SPA (004158), North West Irish Sea SPA (004236) and Clogher Head SAC (001459), having regard to their conservation objectives and will not affect the preservation of these sites at favourable conservation status if carried out in accordance with this Recommended Determination and the conditions attached hereto for the following reasons:

- The installation is located in a dedicated serviced business park and is not located within a European site.
- Atmospheric dispersion modelling submitted by the licensee for NO<sub>x</sub>, NH<sub>3</sub>, SO<sub>2</sub>, CO, nitrogen and acid deposition, demonstrates that European Sites and their qualifying interests will not be adversely affected by air emissions from the installation. Under the licensed operation scenario, which includes the operation of 50 no. of the 54 no. back-up generators for up to 100 hours per generator per annum, the modelling assessment determined that process contributions (PC) of NO<sub>x</sub>, NH<sub>3</sub>, SO<sub>2</sub>, CO and nitrogen deposition from the installation remain within the relevant critical levels and loads applicable to the relevant European Sites. When PC from other projects and background levels (in-combination effects) are considered, the most impacted site in relation to NO<sub>x</sub> is the Boyne Estuary SPA which is 26% of the AQS and the most impacted site with regard to SO<sub>2</sub> is at the River Boyne and River Blackwater SAC which is 5% of the AQS. Emissions to air will be mitigated through imposing relevant emission limit values (ELVs) for NO<sub>x</sub>, CO, SO<sub>2</sub> and dust, to ensure compliance with the ambient air quality standards, applying operating restrictions on generators, establishing an ambient Air Quality Management Programme and implementing monitoring, maintenance and control measures. The Recommended Determination further restricts operations to control emissions from generators, including limiting operating hours. Air dispersion modelling demonstrates compliance with air quality standards for human health and vegetation, at or in the vicinity of the installation, when considered in combination with other plans or projects. The nearest European Site (River Boyne and River Blackwater SAC) is approximately 1 km from the installation boundary. It is considered that there will be no significant adverse effects on European Sites due to emissions to air from the installation.
- Climate impacts from the release of CO<sub>2</sub> emissions from the installation will be mitigated through the limitations set on the generator operations, energy efficiency conditions, and participation in the EU Emissions Trading System.
- Noise emissions will be mitigated by imposing daytime, evening and nighttime noise limits at sensitive locations the requirement to prepare and implement a Noise Management Plan, and monitoring, maintenance and control measures.
- Discharges to water from the installation consist solely of storm water runoff from buildings and hardstanding areas. The Recommended Determination requires that storm water discharge pass through, silt traps and Class I and Class II interceptors before discharge to the surface water network

prior to discharging to the River Boyne. In addition, the Recommended Determination also requires the licensee to maintain trigger levels for the storm water quality and implement a response programme to address exceedances, supported by regular visual inspections of storm water drains. Domestic effluent generated at the installation, along with storm water from the fuel tank farms, fuel unloading areas, transformer compound and the foul line from the fire sprinkler pumphouse will be discharged to the private IDA foul sewer before ultimately discharging to the Drogheda Waste Water Treatment Plant.

- The Recommended Determination contains conditions on the storage and management of materials and wastes. In addition, the Recommended Determination requires a documented Accident Prevention Procedure to be maintained that addresses hazards on-site, particularly in relation to the prevention of accidents with a possible impact on the environment.
- There are no direct process emissions to ground or groundwater from the installation. No existing soil/groundwater contamination beneath the installation is present. Nonetheless, due to the volume of diesel and/or HVO to be used or stored on-site, Condition 6 of the Recommended Determination requires the applicant to undertake periodic groundwater and soil monitoring for relevant hazardous substances. No adverse effects on European Sites or their water dependant habitats or species are predicted.
- Given the nature and scale of emissions, it is considered that the activity in combination with other plans or projects will not have a significant effect on European Sites.

There were no submissions on this application concerning Appropriate Assessment.

In light of the foregoing reasons, no reasonable scientific doubt remains as to the absence of adverse effects on the integrity of those European Sites as listed in Appendix 2.

## **15 Environmental Impact Assessment**

### **15.1 EIA Introduction**

This assessment is being undertaken in accordance with the requirements of Directive 2014/52/EU amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment. The application was accompanied by Environmental Impact Assessment Reports (EIARs) 'Attachment 6-3-6 –EIAR-ABP-Mar 2020', 'Attachment 6-3-6–EIAR-ABP-Apr 2021', and 'EIS Planning Attachment 6-3-6 EIAR Planning Apr 2022'.

As part of this environmental impact assessment, I have carried out an examination, analysis and evaluation of all the information provided by the licensee (including the EIARs), the existing licence, Register Number: P1181-01, information received through consultation, the documents associated with the assessments carried out by Meath County Council and An Bord Pleanála and their reasoned conclusion, and the issues that interact with the matters that were considered by those authorities and which relate to the activity, the written submission, as well as considering any supplementary information, where appropriate. All the documentation received was examined and I consider that the EIAR complies with the provisions of Article 5 of the 2014 EIA Directive when considered in conjunction with the additional material submitted with the application.

I am satisfied that the information contained in the EIAR's have been prepared by competent experts and that the environmental effects arising as a consequence of the activity have been satisfactorily identified, described and assessed.

Having specific regard to EIA, this Inspector's Report as a whole is intended to identify, describe and assess for the Agency the likely significant direct and indirect effects of the activity on the environment, as respects the matters that come within the functions of the Agency, for each of the following environmental factors: population and human health, biodiversity, land, soil, water, air and climate, the landscape, material assets and cultural heritage.

This Inspector's Report addresses the interaction between those effects and the related development forming part of the wider project. The cumulative effects, with other developments in the vicinity of the activities have also been

considered, as regards the combined effects of emissions. In addition, the vulnerability of the activity to risks of major accidents and/or disasters has been considered. The mitigation measures proposed to address the range of predicted significant effects arising from the activity have been outlined. This Inspector's Report provides conclusions to the Agency in relation to such effects.

A summary of the submissions made by third parties has been set out in the 'Submissions' section of this report. I am satisfied that the public have been given early and effective opportunity to participate in the environmental decision-making process.

## **15.2 Consultation with Planning Authorities in relation to EIA**

Consultation was carried out between Meath County Council, An Bord Pleanála and the Agency on 27 September 2024, and Meath County Council and An Bord Pleanála on 25 November 2024 under the relevant section of the EPA Act. Meath County Council or An Bord Pleanála did not provide any comments to the Agency on the licence application and the EIAR documentation received from the licensee.

## **15.3 Alternatives**

The matter of alternatives is addressed in Chapter 4 of the EIAR concerning this proposed development (Apr 2021) addressing a 'do nothing' scenario, as well as alternative locations, site layouts, designs, processes/technologies and mitigations.

The EIA documentation received from the licensee included a 'do nothing' scenario. However, the site is located in an established business park (IDA Business and Technology Park) and there is already a permitted development data centre operating at the site (Reg. No. P1181-01, 1 of 3 proposed for construction by the licensee). The site is specifically designed for large scale industrial activities with existing water, waste water and road access.

A Strategic Infrastructure Development (SID) application was made to An Bord Pleanála in November 2020 for the provision of the 110kV GIS substation and connection to the 110kV overhead line now built on site.

Should the 'do nothing' scenario be followed, the site would remain until such time that further planning permission be granted for an alternative development in line with relevant land zoning (Employment / Enterprise zone) as per the Meath Development Plan.

The EIA documentation received from the licensee details the licensee's reasoning for choosing the preferred location in Ireland with a suitable cool climate meaning lower energy input costs as well as the availability of skilled local workforces as some of the most important factors.

It also deals with alternative project locations and a rationale for selecting the east of the country as the preferred location for the data centre, which includes the existence of a number of high quality industrial parks with suitable zoned lands, water and waste water access, road access, suitable ground conditions and available infrastructure, as well as proximity to the licensee's existing facilities, preferred neighbouring activities (high technology, clean industry avoiding other potential sources of noise and vibration) and quantity of land to accommodate the development.

The EIA documentation received from the licensee deals with alternative site layouts and design, and includes preparations involving revisions of proposed buildings, orientations to optimise land space, architectural facades, location of roof plant, stack heights, roadways, parking and measures to promote biodiversity.

The EIA documentation received from the licensee includes options surrounding alternative processes/technologies and mitigation, and considered technical feasibility, environmental impact, efficiency, security, reliability and cost when finalising those chosen, particularly related to the minimisation of power and water consumption. Mitigation measures were reviewed with regard to the likely residual impact on the environment and considered avoidance, prevention and reduction as well as the effect on quality, duration of impact, probability and significance of effects.

In this regard, I consider that the matter of the examination of alternatives has been satisfactorily addressed and ultimately the location in Drogheda was selected for the reasons described above.

## 15.4 Likely Significant Direct and Indirect Effects

The likely significant direct and indirect effects of the activities on the following factors as set out in Article 3 of the EIA Directive are considered in this section:

- a) *population and human health,*
- b) *biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC,*
- c) *land, soil, water, air and climate,*
- d) *material assets, cultural heritage and the landscape,*
- e) *the interaction between the factors referred to in points (a) to (d).*

### 15.4.1 Population & Human Health

#### Identification, Description and Assessment of Effects

Population and human health are addressed in the EIA documentation received from the licensee. The installation is located in the Drogheda IDA Business and Technology Park, on the outskirts of Drogheda, and immediately adjacent to the M1 motorway. The immediate area is dominated by other industrial and commercial businesses in the industrial park, with the Drogheda Retail Park located c. 50 m south of the licenced site. The site is bounded to the east by the IDA Business and Technology Park, to the south and west by the Donore Road, and the M1, and to the north by agricultural lands, with some large residential developments located within 200 m of the eastern and north-eastern boundaries.

The potential direct and indirect effects on population and human health that come within the functions of the Agency, are associated with emissions to air, noise emissions, storm water discharges to water, and accidental emissions. Should emissions cause an exceedance of environmental quality standards, this could have implications for population and human health. The results of the air dispersion modelling submitted by the licensee indicate that the predicted concentrations will not breach the relevant air quality standards for human health. There is potential for significant effects in relation to noise when all generators are in operation. These aspects are addressed in the 'Noise' section of this report.

There is also the potential for accidental emissions to the environment, due to fire, explosion, or spillages. Accidental emissions to air, water or ground could occur in the event of a spill of chemicals, fuels, oils/lubricants, or due to a fire or explosion causing air pollution or soil, groundwater or surface water contamination, or due to plant malfunction causing an exceedance of noise limits. These aspects are addressed in 'Prevention of Accidents' section of this report.

Cumulative effects of the activity in relation to population and human health have been assessed. There is a potential for a significant cumulative effect in relation to air, water and noise emissions from the activity and other activities/developments. In addition to imposing operating time restrictions on the on-site generators and a requirement for process water to divert to foul drainage, the Recommended Determination includes a requirement to produce a Noise Management Plan. Therefore, it is considered that there is a potential for significant cumulative effects from the activity and other activities/developments for which mitigation measures will be placed.

#### Mitigation and Monitoring

Mitigation measures and monitoring in relation to population and human health are detailed in the following sections of this report: Emissions to Air, Emissions to Water/ Ground/ Sewer, Noise, and Prevention of Accidents.

#### Conclusions

I have examined all the information on population and human health, provided by the licensee, any information received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the

measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of population and human health.

### **15.4.2 Biodiversity**

#### **Identification, Description and Assessment of Effects**

Biodiversity is addressed in Chapter 8 of the EIARs. The EIARs describe the habitats and species at and in the vicinity of the installation. The installation is located in an industrial estate on a c. 18 hectare site. The site is already operating as a data storage facility, therefore the land is mostly developed. The site was agricultural land before development that had been left to return to scrub and was regarded as being of low ecological value. There were no rare or protected habitats or species identified or recorded during desktop and site surveys. The licensee also submitted a Natura Impact Statement on 25 September 2025.

The closest European Sites are the River Boyne and River Blackwater SAC (002299) and the River Boyne and River Blackwater SAC (004232) approximately 1 km and 1.3 km from the installation respectively. Refer to the Appropriate Assessment section for more detail on the other European Sites greater than 1.3 km from the installation.

There are no natural watercourses within the installation boundary, with the closest watercourse being the Sheephouse Stream, located c. 250m west of the installation, which flows into the River Boyne. There is no hydrological connection between the Sheephouse stream and the installation including the storm water discharges. Storm water is discharged into the River Boyne via the IDA storm water drainage network (refer to the 'Emissions to Water/Ground/Sewer' and 'Storm Water Discharges' sections of this report).

The potential direct and indirect effects on biodiversity are related to effects on aquatic flora and fauna and their habitats, due to effects on water quality due to storm water emissions, disturbance to fauna due to noise emissions, and effects due to air emissions (including NO<sub>x</sub> and nitrogen deposition). The effects identified and described above have been assessed in the following sections of this report: Emissions to Air, Storm Water Discharges, Noise, Prevention of Accidents and Appropriate Assessment.

Emissions to air arise from the combustion of fuel by the generators. The 'emissions to air' section of this report addresses air emissions and includes an assessment of air dispersion modelling, including potential impacts on vegetation. The effects on biodiversity relating to NO<sub>x</sub> emissions from the operation of the generators are identified, described and assessed. Air dispersion modelling was submitted for both data centre buildings on site, in addition to cumulative air dispersion modelling including Irish Cement Limited (P0030-06), Indaver Ireland Carranstown (W0167-03, W0167-04 since 25/09/2025) and SSE Generation Ireland Ltd. (P1225-01). The modelling of the NO<sub>x</sub> emissions demonstrated compliance with air quality standards for both human health and vegetation, which will provide protection of biodiversity. The PECs of SO<sub>2</sub>, nitrogen and acid deposition modelled from the installation at the closest European Sites did not exceed the relevant critical levels and loads for the sensitive qualifying interest habitats. However, should the applicant intend to add an additional data centre buildings in the future, then any emissions associated with those would be reconsidered as part of a future licence review application.

In relation to noise emissions associated with the operation of the activity, the nearest sensitive ecological receptor (River Boyne and River Blackwater SAC) is located approximately 1 km away from the installation. Given this distance to the nearest sensitive ecological receptor, there is no potential for significant impacts to qualifying interests as a result of emissions from the installation. Noise emissions associated with the operation of the activity are assessed in the 'noise' section of this report.

It is considered that there is no potential for significant effects on fauna (such as mammals and birds) due to air or noise emissions.

There is no evidence of any soil or groundwater contamination at the installation. Therefore, the risk to the nearest surface water is considered low. Refer to the 'Cessation of Activity' section of this report for further detail. The River

Boyne is located c. 1 km north of the installation. Storm water from the installation is discharged to the IDA storm water drainage network and ultimately to the River Boyne. It is considered that the storm water discharge is not likely to have a significant effect on the receiving water. Refer to the 'Storm water discharge' section of this report for further detail.

There is also the potential for accidental emissions to the environment, as described in Section 9 due to fire, explosion, leaks or spillages. Accidental emissions to air, water or ground could occur in the event of a spill of chemicals, fuels, oils or lubricants, or due to a fire or explosion causing air pollution, soil, groundwater and/or surface water contamination. This is addressed in 'Prevention of Accidents' section of this report.

Cumulative effects of the activity in relation to biodiversity have been assessed and it is considered that there is not likely to be a significant cumulative effect from the activity and other activities/developments. There are no likely significant direct, indirect or cumulative effects identified.

### **Mitigation and Monitoring**

Mitigation measures and monitoring in relation to biodiversity are detailed in the following sections of this report: Emissions to Air, Storm water discharges, Noise, Prevention of Accidents, and Appropriate Assessment.

### **Conclusions**

I have examined all the information on biodiversity, provided by the licensee, received through consultations, written submission, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of biodiversity.

#### **15.4.3 Land and Soil**

##### **Identification, Description and Assessment of Effects**

Land and soil are addressed in Chapter 6 of the EIARs (and Chapter 7 of the Oldbridge substation EIAR 2020). Detailed descriptions of the location, area and land use, including soil and geology information were provided. The information was obtained through desktop surveys as well as a site investigation from IGSL in 2020. The proposed installation is an extension of an existing data storage installation, therefore the land is already developed. The site is located within an industrial estate and is surrounded by agricultural, residential land and the M1 motorway directly to the west. The site is in an area zoned for development for high technology uses. No sites of geological heritage were identified on the site. The nearest geological heritage site is the Boyne Valley, approximately 1.7 km north of the site. The topography of the site slopes from east to west (approximately +56 to +48 metres above ordinance datum (mAOD)).

The site is in the catchment of the Boyne River. The bedrock aquifer underlying the site is classified as a regionally important aquifer which is described as karstified. The aquifer vulnerability under the site is classified as 'Low'. The aquifer is used for public water supply to the south and south-east of the site. The Kiltrough Public Water Scheme outer protection area borders the site to the south, the Kiltrough production well is located 4.5km to the southeast of the facility. The baseline report, also discussed in the 'cessation of activity' section of this report, describes the land as being unlikely to be contaminated due to lack of previous development on the site. It was formally agricultural land that was left fallow and to return to scrub. Further details of the site history and past land use are included in the Archaeology, Architectural and Cultural Heritage section of the EIARs.

Sandstone and shale till are the predominant soil types in the area followed by shales and sandstones till located southwest of the site. Made Ground is also present to the east, reflecting the urban land use in the wider area. Subsoil permeability in the study area is categorised as "Low" by the GSI. The site is located over Dinantian Carboniferous Limestone, while the specific rock unit is the Platin Formation.

The potential direct and indirect effects on land and soil are associated with emissions to air, emissions to water, accidental emissions and any historical soil or groundwater contamination. Should emissions cause an exceedance of environmental quality standards this could have implications for land and soil. The effects identified and described above have been assessed in the following section of this report: Storm water discharges, Prevention of Accidents and Cessation of Activity.

There is also the potential for accidental emissions to the environment. Accidental emissions to air, water or ground could occur if a chemical, fuel, oil or lubricant spill occurred or due to a fire or explosion, causing air pollution or soil, groundwater or surface water contamination. This is addressed in 'Prevention of Accidents' and 'Cessation of Activity' sections of this report.

Cumulative effects of the activity in relation to land and soil have been assessed and it is considered that there is not likely to be a significant cumulative effect from the activity and other activities/developments. There are no likely significant direct, indirect or cumulative effects identified.

### **Mitigation and Monitoring**

Mitigation measures and monitoring in relation to land and soil are detailed in the following sections of this report: Storm water Discharges, Prevention of Accidents, and Cessation of Activity.

### **Conclusion**

I have examined all the information on land and soil, provided by the licensee, received through consultations, the written submission, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects on land and soil.

## **15.4.4 Water (including Waste Water, Emissions to Sewer, Storm Water & Emissions to Ground)**

### **Identification, Description and Assessment of Effects**

Water is addressed in Chapter 7, 'Hydrology' of the EIARs. The installation is located in the catchment of the Boyne River (IE\_EA\_010\_0100), which flows east to the Boyne Estuary at Drogheda. There are no natural watercourses within the installation boundary. The closest watercourse is the Sheephouse Stream, a tributary of the River Boyne located c. 250 m west of the installation, which flows into the River Boyne (which is located c. 1 km north of the installation). The Sheephouse stream (also known as Stagrennan\_010 segment; IE\_EA\_07S320550) has 'moderate' status under the WFD for 2016-2021 (WFD status data from [www.epa.ie](http://www.epa.ie)). There is no hydrological connection between the Sheephouse stream and storm water discharges from the installation, additionally there are no direct hydrological pathways to the River Boyne.

Storm water run-off is attenuated on site prior to discharge (at one location, SW1) to the IDA surface water system and ultimately into the River Boyne, an SAC. The River Boyne is deemed a transitional waterbody and has a WFD status of 'Moderate' for 2016-2021. Residual cooling water associated with the evaporative cooling process in Building A may only be discharged to the storm water system as described in the 'Storm Water Discharges' section of this report. It is considered that the storm water discharges (including, for six months, Building A's evaporative cooling water) are not likely to have a significant effect on the receiving water. Refer also to the 'Storm Water' section of this report.

The Groundwater Body underlying the site is the Drogheda GWB (Code: IE\_EA\_G\_025). Under the WFD 2016-2021, the groundwater is of 'Good status', however currently 'At Risk' of not achieving good status. There is currently no process effluent discharge to sewer from the installation. There are no direct emissions to ground or groundwater. The application confirms that there is no evidence of any contamination beneath the site. Refer to the 'Cessation of Activity' section of this report. The EIARs included a site-specific flood risk assessment and states that the potential risk of flooding at the installation is low.

The potential direct and indirect effects on water relate to emission to sewer and discharge of storm water (including residual cooling water from Building A for a period of six months of date of grant of this licence) to surface water and accidental emissions. Should discharges or emissions cause an exceedance of Water Quality Standards in the receiving water, this could have potential effects on water quality, aquatic biodiversity and human health.

The effects identified and described above have been assessed in the following section of this report: Storm Water Discharges, Prevention of Accidents and Cessation of Activity.

There is also the potential for accidental emissions to water or groundwater, which could occur in the event of a fuel or chemical spill, or fire or explosion, with the potential to affect surface water/groundwater quality as well as aquatic habitats and species. However, the likelihood of accidental emissions to water is considered low in light of the measures outlined in the 'Prevention of Accidents' section above and in light of the conditions in the Recommended Determination. This is addressed in 'Prevention of Accidents' section of this report.

Cumulative effects of the activity in relation to water have been assessed and it is considered that there is not likely to be a significant cumulative effect from the activity and other activities/developments. There are no likely significant direct, indirect or cumulative effects identified.

### **Mitigation and Monitoring**

Mitigation measures and monitoring in relation to water are detailed in the following sections of this report: Emissions to Water/Ground/Sewer, Storm water discharges, Waste Generation, Prevention of Accidents, and Cessation of Activity.

### **Conclusions**

I have examined all the information on water (including Emissions to Water/Ground/Sewer, and Storm Water Discharges) provided by the licensee, received through consultations, written submissions, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects on water.

#### **15.4.5 Noise and Vibration**

##### **Identification, Description and Assessment of Effects**

Noise and vibration are addressed in Chapter 10 of the EIARs, in addition to noise assessment documentation received as part of the licence review.

The installation is situated within the Drogheda IDA Business and Technology Park. To the west and south, the installation is bounded by the M1 motorway and Donore Road, to the north, agricultural land and to the south and east, commercial and retail developments. The closest residential property to the installation has been identified approximately 140 m northeast of the installation boundary, and forms part of a large housing development. In addition to this, another residential area is located approximately 320 m to the north of the installation's boundary. To the west, along the L1601 road, there is a ribbon of residential dwellings, the closest being 220 m from the installation boundary. Drogheda College is located adjacent to the northeastern boundary of the site. The Beacon Renal medical clinic is located approximately 70 m south of the installation.

In support of this licence revision application, the licensee has submitted a noise and vibration assessment, which showed that the existing noise and vibration environment was dominated by road traffic, in addition to noise from aircraft activities.

The potential direct and indirect effects of noise and vibration associated with the operation of the activity are from the installation's building service plant which include, the AHU air intake, and the AHU air exhaust, as well as the

operation of the generators during testing and emergency scenarios (i.e. generator air intake, generator air exhaust and generator engine exhaust).

Noise arising from the installation could have the potential to cause nuisance for those living near the activity or to affect noise sensitive species. The effects have been assessed in the 'Noise' section of this report. Vibration due to the operation of the activity is considered not likely to have a significant effect.

Three operating scenarios were modelled and assessed to predict impacts of noise sources from the installation. Modelling was based on the application of varied noise limits dependent on time of day (daytime, evening or nighttime limits). Noise modelling conducted by the licensee demonstrates compliance with the standard daytime limits Noise modelling conducted by the licensee demonstrates compliance with the standard EPA daytime limits under normal operating conditions. However, under scenario B (all back-up generators in operation at one time), the assessment indicated that the applicant would not comply with standard evening (50 dB) and nighttime (45 dB) limits at the installation boundary, and at one noise sensitive location (NSL05), the predicted daytime level (55 dB) is also exceeded. Therefore, there is the potential for significant effects, noting that the nearest NSL is c. 70 m south of the installation boundary. The Recommended Determination includes a requirement for the licensee to update their existing Noise Management Plan with actions to ensure compliance with the standard noise limits which are 55 dB  $L_{A,T}$ , 50 dB  $L_{A,T}$  and 45 dB  $L_{Aeq}$  for day, evening and nighttime, respectively.

There is the potential for accidental noise emissions due to an explosion, emitting noise and vibration or noise due to plant malfunction. This is addressed in 'Prevention of Accidents' section of this report.

As part of the existing licence, a noise monitoring survey is carried out annually at four NSLs in the vicinity of the site boundary. Data from an annual noise survey report from January 2025 indicates that the installation was compliant with the licence noise limits. An additional noise monitoring location has been proposed for inclusion in the vicinity of the Beacon Renal building. The licensee has also provided additional information regarding background noise sources, including traffic, and this has been considered in the noise modelling. Given that there is the potential for significant effects from the activity alone, it is considered that there is also the potential for significant cumulative effects when all back-up generators are in operation at one time, in addition to other sources of noise in the vicinity.

### **Mitigation and Monitoring**

Mitigation measures and monitoring in relation to noise are detailed in the following section of this report: Noise.

### **Conclusions**

I have examined all the information on noise and vibration provided by the licensee, received through consultations, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of noise and vibration.

## **15.4.6 Air (including Dust and Odour)**

### **Identification, Description and Assessment of Effects**

Air is addressed in Chapter 9 of the EIARs received from the licensee. The potential direct and indirect effects on air, including dust and odour are associated with emissions to air (oxides of Nitrogen (NO<sub>x</sub>), Oxides of Sulphur (SO<sub>x</sub>), Carbon Monoxide (CO) and particulate matter from the generator stacks due to combustion of diesel and HVO. There is also the potential for indirect effects on habitats due to NO<sub>x</sub> emissions to air and nitrogen deposition.

Should emissions cause an exceedance of Air Quality Standards this could have implications for air quality, population and human health and biodiversity within and beyond the installation boundary. General site dust and odour emissions have the potential to impact human health and cause nuisance. However, the activity will not be a

significant source of odour or dust/particulates. The licensee carried out air dispersion modelling including from existing buildings on site as well as large emission installations offsite including Irish Cement, Indaver Carranstown Waste to Energy facility and SEE Generation Ireland Ltd and the effects identified and described above have been assessed and compared to relevant air quality standards for both the protection of human health and habitats in the following section of this report: Emissions to Air.

There is also the potential for accidental emissions to the environment, due to a fire or explosion. Accidental emissions to air could occur in the event of a fuel related fire or explosion causing air pollution, including dust and odour. This is addressed in the 'Prevention of Accidents' section of this report.

Should the applicant intend to add any additional data centre buildings in the future, then any emissions associated with those would be considered as part of a future licence review application.

Cumulative effects of the activity in relation to air have been assessed and it is considered that there is not likely to be a significant cumulative effect from the activity and other developments. There are no likely significant direct, indirect or cumulative effects identified.

### **Mitigation and Monitoring**

Mitigation measures and monitoring in relation to air are detailed in the following sections of this report: Emissions to Air.

### **Conclusions**

I have examined all the information on Air (including Dust and Odour) provided by the licensee, received through consultations as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of Air (including dust and odour).

## **15.4.7 Climate**

### **Identification, Description and Assessment of Effects**

Chapter 9.0 of the EIARs address Climatic Factors. Climate change is a significant global issue which affects weather and environmental conditions (air, water and soil) which consequently affects population and human health, material assets, cultural heritage, the landscape and biodiversity. Climate change is caused by warming of the climate system by enhanced levels of atmospheric Green House Gases (GHG's) due to human activities. GHG's are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), nitrogen trifluoride (NF<sub>3</sub>) and sulphur hexafluoride (SF<sub>6</sub>).

The Irish Government published Ireland's "Climate Action Plan 2025 (CAP 25)" on 15 April 2025, which is the third climate action plan to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021. The Climate Action and Low Carbon Development (Amendment) Act 2021 set legally binding targets of a 51% reduction of GHG emissions by 2030 compared to 2018 levels and net-zero emissions by 2050. The most recent Climate Action Plan 2025<sup>4</sup> sets out how these targets are to be met and includes a sectoral based approach that specifies sectoral emissions ceilings. The sectoral emissions ceilings outlined within the plan set out the maximum amount of GHG emissions that are permitted in different sectors of the economy, during a carbon budgetary period. In addition to CAP targets, individual county councils have also published their own Climate Change Strategies, which

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<sup>4</sup> Climate Action Plan 2025, We're Taking Climate Action, Government of Ireland.

[https://assets.gov.ie/static/documents/c491032e/DECC\\_Climate\\_Action\\_Plan\\_2025\\_Main\\_Report\\_-\\_Final\\_Web.pdf](https://assets.gov.ie/static/documents/c491032e/DECC_Climate_Action_Plan_2025_Main_Report_-_Final_Web.pdf)

outline the specific climate objectives for that local authority and associated actions to achieve the objectives. In 2024, Meath County Council published Meath County Council Climate Action Plan 2024 – 2029.

The potential direct effects on climate are from the temporary combustion of diesel and/or HVO in the back-up generators, such as during an outage in the national grid or for maintenance testing. CO<sub>2</sub> and N<sub>2</sub>O are the main GHGs applicable to the installation due to this combustion. The potential indirect effects on climate are from power plants feeding the National Grid from which the installation is powered under normal operation.

F-gases are used on-site for refrigeration. F-gases are controlled under the F-Gas regulations (F-Gas Regulation (EU) No. 517/2014) and are not addressed in the Recommended Determination.

The electricity demand from the installation is projected to be 840,960 MWh, the estimated total annual emissions of CO<sub>2</sub> from this electricity consumption is 190,309 tonnes CO<sub>2</sub> per year. This is calculated using the current SEAI emission factor for electricity consumption<sup>5</sup> (These figures were provided by the licensee as part of an RFI (Regulation 10 Reply – 22 September 2025) and the calculation was verified to be accurate).

As noted in Attachment 4.6.1, there is the potential, however unlikely to be required, for the generation of 9,600 MWh of non-renewable electricity by the on-site generators, if run for the maximum allowance of 100 hours per generator, per year. This unlikely maximum self-generation using diesel would equate to 10,516 tonnes CO<sub>2</sub> per year (provided by the licensee in RFI (Regulation 10 Reply – 22 September 2025). This is calculated from an estimated maximum yearly fuel usage of 3,920,915 litres of diesel and an emission factor of 2.682 kgCO<sub>2</sub>/l (figures provided by the licensee as part of the RFI response dated 22 September 2025 and the calculation were checked for accuracy using the current SEAI emission factor for diesel/gasoil).

The worst-case estimate of total annual emissions of CO<sub>2</sub> from the activity is therefore the MWh of non-renewables from diesel (no HVO blend) that could be generated by the installation from the generators, subtracted from electricity purchased. This equates to 831,360 MWh of electricity purchased from the grid and the maximum of 9,600 MWh of self-generated non-renewable electricity. The total maximum annual CO<sub>2</sub> emissions per year (calculated by the Agency from information provided by the licensee in Attachment 4.6.1 and RFI response dated 22 September 2025) would then be 198,652 tonnes, approximately 8,343 tonnes more CO<sub>2</sub> per year than from just grid electricity consumption. Given the installation relates to the combustion of fuel at data centres, such GHG emissions (including F-gases) are accounted for under the Buildings Sector Sectoral Emissions Ceilings (Buildings (Commercial and Public services) Sector). GHG emissions from the Buildings Sector (Commercial and Public services) in 2018 were 1.55 million tonnes of CO<sub>2</sub> equivalent, and by 2023 reduced to 1.39 million tonnes of CO<sub>2</sub> equivalent<sup>6</sup>. To put this in context, the installation alone (if using the unlikely worst case scenario above of both indirect and direct emission summed together) would account for approximately 14% of the CO<sub>2</sub> equivalent from the Buildings Sector (Commercial and Public) in 2023 (which was 1.39 million tonnes of CO<sub>2</sub> equivalent), or approximately 19.8% of the total 2026-2030 Sectorial Ceiling<sup>7</sup> (which is 5 million tonnes of CO<sub>2</sub> equivalent). If the potential direct emissions were solely put in the context of this ceiling then the installation's worst-case direct emissions would account for approximately 0.75% of the CO<sub>2</sub> equivalent from the Buildings Sector (Commercial and Public) in 2023, or approximately 1% of the total 2026-2030 Sectorial Ceiling. As the activity will result in a net increase in CO<sub>2</sub> emissions, the impact of these direct and indirect emissions from the installation will have a significant, negative impact on climate, and therefore mitigation measures are required.

The installation operates under a GHG Emissions Permit (GHG200-02) in accordance with the European Communities (Greenhouse Gas Emissions Trading) Regulations 2012, (SI 490 of 2012 and amendments). The GHG permit does not cover emissions of gases other than carbon dioxide. Estimated total annual emission of CO<sub>2</sub> from the activity is

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<sup>5</sup> SEAI, Conversion Factors. <https://www.seai.ie/data-and-insights/seai-statistics/conversion-factors>

<sup>6</sup> Ireland's Final Greenhouse Gas Emissions 1990-2023 (EPA, 2025).

<sup>7</sup> Ireland's Greenhouse Gas Emissions Projections 2024-2055 (EPA, 2025).

190,309 tonnes per year (solely grid electricity). The GHG permit does not set a limit on the quantity of CO<sub>2</sub> emitted by the installation. The operator must report each year all CO<sub>2</sub> emitted from the activity listed in the permit and surrender sufficient emissions trading allowances to cover the emissions of the previous calendar year. The quantity of allowances made available on the market or by free allocation is controlled at EU level and is reducing each year in order to ensure that overall emissions from the ETS sector meet the EU targets. As discussed above, since this site is part of the EU ETS, the impact of carbon dioxide emissions is addressed in that market-based scheme. A local impact on air quality from CO<sub>2</sub> is not expected and there is therefore no CO<sub>2</sub> limit in the recommended decision. Indirect emissions of CO<sub>2</sub> may arise due to the use of electricity from the national grid. These emissions are covered under the EU ETS at the generating plant, but the licensee is also required to address electricity usage as part of energy efficiency management.

In relation to cumulative effects, any combustion process will inevitably produce quantities of gases, including GHG, which have the potential to impact on climate. However, it is usually the other combustion gases that negatively impact air quality as opposed to the greenhouse gases. In this assessment, it has already been determined that CO<sub>2</sub> and NO<sub>x</sub> emissions from the installation will not significantly affect local air quality, individually or cumulatively.

However, any discussion of GHG emissions must be extended to national and global climate impact.

Given that this installation is subject to the EU ETS, I consider that the impact of direct and indirect CO<sub>2</sub> emissions from the installation are controlled under that legislation and that the impact of any other greenhouse gases will be minimal.

As stated in this section, the impact of these direct and indirect emissions from the installation will have a significant, negative impact on climate, and therefore mitigation measures are required. However, it must be noted the unlikely and much lesser contribution of the direct emission from the installation when compared to the indirect emissions due to the grid connection. To date the back-up generators have not been used to power the installation. They have only been used for testing and/or maintenance. The mitigation measures to diminish any climate impact are outlined below. It is considered that the likelihood of accidental emissions occurring which could affect climate is low in light of the measures outlined in the “Prevention of Accidents” section above and the proposed conditions in the Recommended Determination.

### **Mitigation and Monitoring**

Mitigation measures and monitoring in relation to climate are detailed in the following sections of the licence assessment part of this report: Emissions to Air, Prevention of Accidents and Energy Efficiency and Resource Use.

The effects of the emissions from the installation on climate will be mitigated as follows:

- (a) The installation is required to operate under a greenhouse gas permit under the EU Emissions Trading System (EU ETS) Directive, in accordance with the European Communities (Greenhouse Gas Emissions Trading) Regulations 2012, (SI 490/2012 and amendments). The current GHG permit will be updated if the Recommended Determination is approved. As this site is part of the EU ETS, the impact of carbon dioxide emissions is addressed in that market-based scheme. A local impact on air quality from CO<sub>2</sub> is not expected, and there is therefore no CO<sub>2</sub> limit in the Recommended Determination.
- (b) Indirect emissions arising from the use of electricity from the national grid in the installation are also covered under the EU ETS Directive.
- (c) The Recommended Determination requires the licensee to address electricity usage as part of energy efficiency management under the Schedule of Environmental Objectives and Targets (Condition 2).
- (d) The Recommended Determination also requires the licensee to carry out a feasibility study of opportunities to increase the use of solar power, sustainable biofuels, and other renewable energy options including energy storage (Condition 7).

- (e) Any leakage of potential F-gases on site will be monitored and controlled under the F-Gas regulations (F-Gas Regulation (EU) No. 517/2014).
- (f) Schedule A: Limitations imposes restrictions on the installation with respect to the number of back-up generators permitted to operate simultaneously and the hours of operations for each back-up generators.
- (g) Schedule B: Monitoring imposes strict monitoring frequencies on the operation of the generators.

## **Conclusions**

I have examined all the information on climatic factors provided by the licensee, received through consultations, the written submission, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable effects in terms of climatic factors.

### **15.4.8 Material Assets, Cultural Heritage and the Landscape**

#### **15.4.8.1 Material Assets (including resource use and waste generation)**

##### **Identification, Description and Assessment of Effects**

The EIA documentation received from the licensee addresses Material Assets, and includes information on traffic, transport, infrastructure, property, and resources (both natural and others), such as energy and water. Material assets such as roads and traffic and built services are dealt with in the decision of the Planning Authorities (Meath County Council and An Bord Pleanála) (ABP-310729-21) to grant permission for the development. The planning authority has considered the effect to be acceptable. The potential direct and indirect effects on material assets are the consumption of resources, in particular diesel, HVO and water. The estimated quantities of diesel, HVO and water to be used are provided in the 'Energy Efficiency and Resource Use' section of this report. The generators will operate on diesel and/or HVO and only during the circumstances outlined earlier in this report (i.e. under power interruption or testing scenarios), and the fuel is stored on-site. Usage will be dictated by the frequency of occurrence of these scenarios. The activity will also generate a certain amount of waste material, and the potential amounts generated are listed in the licence application.

The use of natural resources by the activity and the generation of wastes will not have significant effects in terms of material assets.

The effects identified and described above have been assessed in the following sections of this report: Waste Generation, Energy Efficiency and Resource Use, and Prevention of Accidents.

No significant cumulative effects on material assets have been identified. Therefore, there are no likely significant direct, indirect or cumulative effects identified.

##### **Mitigation and Monitoring**

Mitigation measures and monitoring in relation to material assets are detailed in the following sections of the licence assessment part of this report: Waste Generation, Energy Efficiency and Resource Use, and Prevention of Accidents.

##### **Material Assets Conclusions**

I have examined all the information on Material Assets provided by the licensee received through consultations, the written submission, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of Material Assets.

#### 15.4.8.2 Cultural Heritage

##### **Identification, Description and Assessment of Effects**

Cultural Heritage is addressed in Chapter 12 of the EIARs (Chapter 11 in the EIAR dated 2020) and provides information on potential direct and indirect effects on cultural heritage (including archaeology and architecture). Any loss of archaeological or architectural heritage could impact negatively on human beings. These matters are dealt with in the decision of the planning authority to grant planning permission for the developments on-site and the planning authority has considered the effect to be acceptable.

The installation is an existing data centre, with buildings, infrastructure and hardstanding areas. The EIARs detail how the site, which is located within an industrial park, is in an area with 'rich historical and archaeological heritage'. In addition, geophysical surveys and testing have found evidence of subsurface archaeological remains. For this reason, the planning authority imposed several conditions in the planning permissions for the site in relation to cultural heritage, including the requirement to have a suitable qualified archaeologist on site during the construction phase of the development (which has since been completed). However, there are no recorded archaeological monuments within the site boundary. There are several buildings or features of architectural significance and known archaeological features within 1 km of the installation. These are listed and discussed in the EIAR dated 2021, and include 21 recorded archaeological monuments (one ringfort, one enclosure, one cremation pit, four habitation sites, one timber circle, three fulachta fiadh, one metalworking site, and nine miscellaneous excavation sites) and 12 recorded archaeological finds including tools, a bell, a pricket candlestick, a processional cross, a spur, two boats, a food vessel, a jet necklace, unburnt skeletal remains, beads and a tough.

It is difficult to envisage any pathway by which emissions from the operation of the activity could impact any feature which might be present.

No significant cumulative effects on the cultural heritage have been identified. Therefore, there are no likely significant direct, indirect or cumulative effects identified.

##### **Mitigation and Monitoring**

There are no specific mitigation measures or monitoring proposed in the Recommended Determination.

##### **Cultural Heritage Conclusions**

The planning authority Meath County Council identified, described and assessed the likely significant direct and indirect effects of the development on cultural heritage concluding that *"the proposed development would not seriously injure the visual or residential amenities of the area or of property in the vicinity, and it would be acceptable in terms of road and traffic safety. The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area."*

The Recommended Determination does not propose to include any additional mitigation measures in relation to cultural heritage.

#### 15.4.8.3 The Landscape

##### **Identification, Description and Assessment of Effects**

Chapter 11 of the EIARs (Chapter 12 in the EIAR dated 2020) as well as the planning authority Meath County Council and An Bord Pleanála assessments address landscape and visual impacts. The potential direct and indirect effects on the landscape are visual impacts from the data centre buildings as well as the associated infrastructure from back-up generators and associated 25m high stacks. These matters are dealt with in the decision of Meath County Council and An Bord Pleanála to grant planning permission for the developments on-site and it has considered the effects to be acceptable *'It is considered that the impact is acceptable in terms of the ability of the development to integrate into the landscape'*.

The installation is located to the west side within the established IDA Business and Technology Park on the south western outskirts of Drogheda and is approximately 18 hectares, occupying lands between the south western residential environs of Drogheda and the M1 motorway. The 8-hectare Drogheda Retail Park is immediately to the south of the installation and lands to the north of the site are agricultural use. The 2021 EIAR states that the external boundaries of the business park include substantial early mature mixed woodland planting along the southern, western and northern boundaries and that the site is not considered to be significant or sensitive from a landscape and visual aspect.

Emissions from the operation of the activity will not affect the landscape of the area. It should be noted that a third data centre building is proposed within the licence boundary in future for which an assessment on landscape will need to be considered.

The Meath County Development Plan 2013-2019 includes a Landscape Character Assessment as set out in Appendix 7 of the plan and the associated maps. The proposed development site area is identified on Map 01 as being within the Coastal Landscape, and part of Area 7: Coastal Plains. The licensed site is within the southern urban environs of Drogheda and the edge of three distinct Landscape Character Types and Landscape Character Areas.

Any disturbance of the landscape has the potential to impact human beings and their enjoyment of the surrounding area due to visual impacts. These matters are dealt with in the decision of Meath County Council and An Bord Pleanála to grant planning permission for the developments on-site and it has considered the effects to be acceptable.

No significant cumulative effects on the landscape have been identified. Therefore, there are no likely significant direct, indirect or cumulative effects identified.

### **Mitigation and Monitoring**

There are no specific mitigation measures or monitoring proposed in the Recommended Determination.

### **The Landscape Conclusions**

Meath County Council (MCC) as the Planning Authority and An Bord Pleanála have identified, described and assessed the likely significant direct and indirect effects of the development on the landscape concluding with MCC concluding that:

*‘Generally, the visual impact from the proposed viewpoints is slight to moderate and there is no inter-visibility between the development and the protected views at the monuments’ of Newgrange, Knowth and Dowth. Viewpoint 11 is already dominated by the Mary McAleece Boyne Valley Bridge and the Irish Cement Plant in Platin. The development will be quite visible in this view but considering the other industrial and infrastructure items visible it is considered acceptable.’ By comparison, the proposed development has the effect of extending the length of the existing data centre building but does not materially affect its height.’*

*‘I am satisfied predicted landscape and visual impacts can be avoided, managed and mitigated by the measures which form part of the proposed development, the proposed mitigation measures and through suitable conditions. I am satisfied, therefore, that the proposed development would not have any unacceptable direct, indirect or cumulative landscape and visual impacts’*

The location from which the installation is most visually prominent according to An Bord Pleanála *‘I consider the development would be most prominent from the adjacent residential properties to the north and north-east, as shown in viewpoints 3 and 4, but I do not consider the impact would be significant or unacceptable. In reaching this conclusion, I have had regard to the zoning context, the absence of protected views from these residential areas and the absence of architectural designations or protected structure buildings’*

The Recommended Determination does not propose to include any additional mitigation measures in relation to landscape.

### **Overall Conclusions for Material Assets, Cultural Heritage and the Landscape**

I have examined all the information on material assets, cultural heritage and the landscape provided by the licensee, received through consultations, written submission, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of Material Assets, Cultural Heritage and the Landscape.

#### **15.4.9 Interactions Between Environmental Factors**

Interactions of effects are considered in Section 17 of the EIARs. The most significant interactions between the factors as a result of the activity are summarised below.

Cumulative effects of the activity in relation to atmospheric emissions, population and human health have been assessed. There is a potential for a significant cumulative effect in relation to air emissions from the activities burning of fossil fuels and other developments in the region, such effects are addressed in the Air Emissions Section. The Recommended Determination imposes operating time restrictions on the on-site generators.

Noise effects of the activity in relation to population and human health have been assessed. There is a potential for noise from the activity during periods of back-up generator use, such effects are addressed in the Noise section. The Recommended Determination imposes operating time restrictions on the on-site generators and a requirement to produce a Noise Management Plan.

Discharge to water and biodiversity have been assessed for interactions of their effects. There is a potential for accidental discharges, such effects are addressed in the Water section and the Recommended Determination contains conditions with regard to surface water capture mechanisms, discharge controls and management before release from the site to receiving waterbodies.

Landscape effects of the installation with population and biodiversity have been assessed. There is the potential for visual effects from buildings and emission stacks in particular for some nearby residential areas, such effects are addressed as offset with the planting of semi mature trees at the boundary to aid landscape and biodiversity once sufficiently matured.

Climate effects and all other environmental factors, the activity will generate GHG's as discussed in the 'Climate' section of this report. The cumulative effects of GHG emissions from the installation will contribute to climate change which in turn will have effects on all interrelated environmental factors. Such effects and mitigation are addressed in the 'Climate' section of the report.

As demonstrated such effects are considered not to be likely or significant including where mitigation measures have been prescribed.

#### **Conclusions**

I have considered the interaction between population and human health, biodiversity, land, soil, water, air, climate, landscape, material assets, cultural heritage and the interaction of the likely effects identified throughout this report. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects in terms of the interaction between the foregoing environmental factors.

#### **15.4.10 Vulnerability of the Project to Risks of Major Accidents and or Disasters**

The EIARs describe the expected effects deriving from the vulnerability of the activity to risks of major accidents and/or disasters that are relevant to the activity. This is dealt with in Chapter 2 of the EIARs.

The licensee has addressed potential major accidents and disasters, including natural disasters such as landslides, seismic activity, volcanic activity and flooding/flood risk and sea level rise, as well as man-made disasters such as industrial accidents, including fires and explosions. Minor accidents including spills/leaks have also been considered.

Based on the installation's topography and location, the natural disasters listed above are unlikely to occur at the installation. Furthermore, a flood risk assessment was conducted, confirming that the installation is not at risk of flooding.

The installation is not classified as a Seveso/Control of Major Accident Hazards (COMAH) facility. Under the COMAH Regulations, the threshold quantities of diesel that trigger the lower-tier and upper-tier requirements are 2,500 tonnes and 25,000 tonnes, respectively. The maximum potential quantity of diesel stored on the site is 64 tonnes and this does not exceed the thresholds outlined in the COMAH Regulations<sup>8</sup>. Building A and B both have a 40,000-litre fuel storage top-up tank adjacent to their building, and the bund capacity (54.87m<sup>3</sup>) is within EPA guidance for 110% of the capacity of the largest tank or drum within the bunded area. Additionally Building A's 26 no. emergency generators have 16,000 litres double-skinned steel belly tanks while Building B's 26 no emergency generators have 17,500 litres double-skinned steel belly tanks.

It is further noted, under The COMAH Regulations 2015, that the installation is not located within the consultation distance of any COMAH site that is notified to the HSA.

The Inspector's assessment is dealt with in the 'Prevention of Accidents' section of this report.

### **Mitigation and Monitoring**

The mitigation and monitoring measures in relation to the vulnerability of the project to risks of major accidents and disasters specified in the Recommended Determination are outlined in the 'Prevention of Accidents' section of this report.

### **Conclusions**

I have examined all the information on major accidents and/or disasters provided by the licensee, received through consultations, written submission, as well as considering any supplementary information, where appropriate. I am satisfied that the potential effects identified will be avoided, managed and mitigated by the measures identified and through the proposed conditions of the Recommended Determination. I am, therefore, satisfied that the operation of the activity is not likely to have any unacceptable direct or indirect effects as a result of major accidents and/or disasters.

#### **15.5 Reasoned Conclusion on the significant effects**

Having regard to the examination of environmental information contained above, and in particular to the content of the EIARs and supplementary information provided by the licensee, and the HSE submission in the course of the application, it is considered that the potential significant direct and indirect effects of the activity on the environment are as follows:

- Effects on air quality due to emissions to air from generators through combustion of diesel and/or HVO,
- Noise emissions associated with the operation of the installation,
- Accidental emissions to air, surface water, ground or groundwater from fire, explosion, leaks or spillages,
- Storm water discharges (including evaporative cooling water from Building A for six months post the granting of the reviewed licence) to the River Boyne, and
- Effects on climate due to the release of CO<sub>2</sub> emissions to air.

Having assessed those potential effects, I have concluded as follows:

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<sup>8</sup> Chemical Act (Control of Major Accidents Hazards involving Dangerous Substances Regulations 2015 (S.I. No. 209 of 2015)

- Emissions to air will be mitigated by imposing operating restrictions on the generators; and implementing other monitoring, maintenance and control measures;
- Noise emissions will be mitigated by imposing daytime, evening time and nighttime noise limits at noise-sensitive locations, the requirement to prepare and implement a Noise Management Plan, and monitoring, maintenance and control measures;
- Accidental emissions to air, surface water, ground or groundwater from fire, explosion, leaks or spillages will be prevented and mitigated through accident and emergency requirements, tank, container and drum storage requirements and inspection and integrity testing of pipes, tanks and bunds;
- Storm water discharges (including evaporative cooling water) to the Boyne River will be mitigated through the requirement to segregate evaporative cooling process water from the storm water network within six months of date of grant of this licence and additionally the requirement for oil separators and silt traps, establishment and maintenance of trigger levels and a response programme to address exceedances and visual inspection of storm water drains; and
- Effects on climate due to direct release of CO<sub>2</sub> emissions from the installation will be mitigated through limitations on the generators which includes an operating hour restriction, conditions relating to energy efficiency and alternative energy sources, and through a requirement to participate in the EU Emissions Trading System (ETS).

Having regard to the effects (and interactions) identified, described and assessed throughout this report, I consider that the monitoring, mitigation and preventative measures proposed will enable the activity to operate without causing environmental pollution, subject to compliance with the Recommended Determination. The conditions of the Recommended Determination and the mitigation measures proposed will significantly reduce the likelihood of accidental emissions occurring and limit the environmental consequences of an accidental emission should one occur.

## **16 EPA Charges**

The annual enforcement charge recommended in the Recommended Determination is €5,479, which reflects the anticipated enforcement effort required and the cost of monitoring. This represents an increase when compared to the Agency's 2024 enforcement charge of €1,358. This is due to 2024's pro rata payment from the licence being issued and a risk category as determined by the licensee's compliance of Category C2.

## **17 Recommendation**

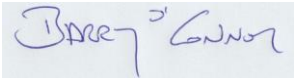
The Agency, in considering an application for a licence or the review of a licence, shall have regard to section 83 of the EPA Act. The Agency shall not grant a licence or revised licence unless it is satisfied that emissions comply with relevant emission limit values and standards prescribed under regulation. In setting such limits and standards, the Agency must ensure they are established based on the stricter of both the limits and controls required under BAT, and those required to comply with any relevant environmental quality standard. The Agency shall perform its functions in a manner consistent with section 15 of the Climate Action and Low Carbon Development Act 2015 as amended.

The RD specifies the necessary measures to provide that the installation shall be operated in accordance with the requirements of section 83(5) of the EPA Act and has regard to the AA and EIA. The assessment is consistent with section 15 of the Climate Action and Low Carbon Development Act 2015 as amended. The Recommended Determination gives effect to the requirements of the EPA Act and has regard to the submission made.

This report was prepared by Barry O'Connor, assisted by Katelyn Grant, Rebecca McGovern and Gemma Heenan.

I recommend that a Proposed Determination be issued subject to the conditions and for the reasons as drafted in the Recommended Determination.

Signed

A handwritten signature in blue ink, reading "Barry O'Connor", is displayed within a light blue rectangular box.

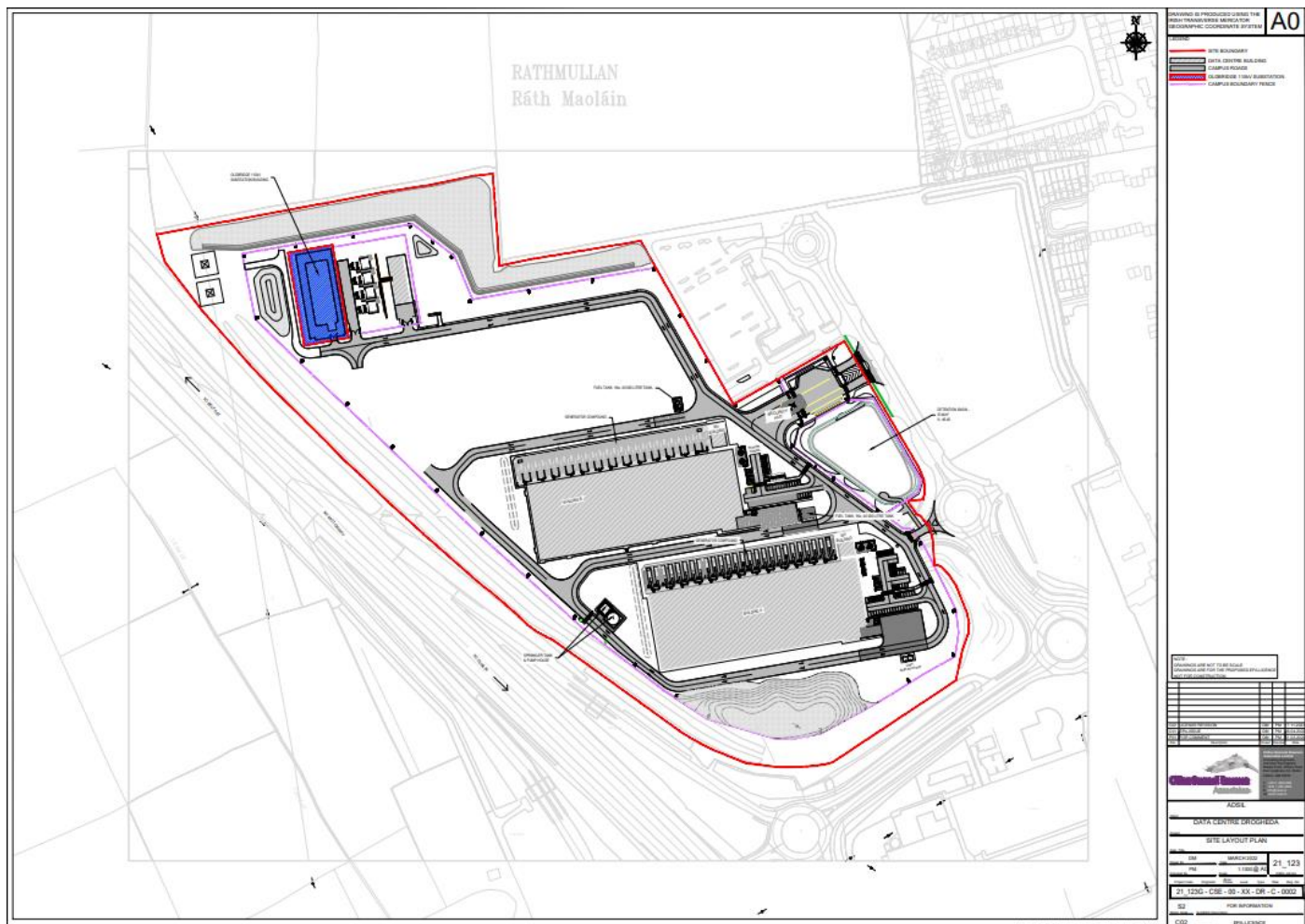
Barry O'Connor

**Procedural Note**

In the event that no objections are received to the Proposed Determination on the application, a licence will be granted in accordance with section 87(4) of the EPA Act, as soon as may be after the expiration of the appropriate period.

## Appendices

### Appendix 1 Site Layout



## **Appendix 2    Appropriate Assessment**

Appendix 2 Assessment of the effect(s) of the activity on European Site(s) and proposed mitigation measures.

| Site Code | Site Name                          | Qualifying Interests (* denotes priority habitat)                                                                                                                                                                                                                                                                                                   | Conservation Objectives                                                                                                                                                                 | Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
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| 002299    | River Boyne & River Blackwater SAC | <p><b>Habitats</b></p> <p>7230 Alkaline Fens</p> <p>91E0 Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (Alno-Padion, Alnion incanae, Salicion albae)*</p> <p><b>Species</b></p> <p>1099 River Lamprey (<i>Lampetra fluviatilis</i>)</p> <p>1106 Salmon (<i>Salmo salar</i>)</p> <p>1355 Otter (<i>Lutra lutra</i>)</p> | NPWS (2021) Conservation Objectives: River Boyne and River Blackwater SAC 002299. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. | <p>The River Boyne and River Blackwater SAC is approximately 1 km to the north of the installation.</p> <p>The SAC consists of several rivers, draining substantial areas of land within Meath and Westmeath, along with smaller areas of Cavan and Louth. This SAC is designated for two habitats and two fish species in addition to otters.</p> <p>Air: There are 54 air emissions points from back-up generators on site. Air emissions associated with the combustion of diesel and/or HVO from back-up generators on site have a potential to impact air quality, which in turn, could affect habitats and species. Certain habitats can be particularly sensitive to nitrogen deposition. Air dispersion modelling has shown that emissions from the generators at the installation will not cause an exceedance of air quality standards (AQS) for the protection of vegetation either individually or in combination with other industries in the vicinity of the installation, and consequently, will not cause exceedances of air quality standards at the River Boyne and River Blackwater SAC, located ~1 km away. Therefore, emissions to air from the installation will not have an adverse effect on qualifying interest habitats or species.</p> <p>Mitigation measures have been outlined in the Recommended Determination and include emission limits and controls for emissions to air. In addition to the measures outlined above, back-up generators at the installation will not operate for more than 100 hours per generator</p> |

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|  |  |  |  | <p>per year. Refer to the 'Emissions to Air' section of this report.</p> <p>Noise: Noise emissions from the installation have the potential to disturb qualifying interest animal species, such as fish and otters, within the vicinity of the installation. Given the close proximity of the SAC to the installation, there is potential for the qualifying interests to occur within the zone of influence of the installation. Otters have not been recorded on the site or within close proximity to the installation boundary. Aquatic species, such as the qualifying interests listed, are less likely to be affected by noise emissions from the installation, as noise decreases as it passes from air into water.</p> <p>The main source of noise from the installation are the operation of back-up generators. Mitigation measures have been outlined in the Recommended Determination and include noise limits of 55dB <math>L_{Ar,T}</math> during daytime hours, 50dB <math>L_{Ar,T}</math> in the evening and 45dB <math>L_{Ar,T}</math> at night at noise sensitive locations (NSL).</p> <p>With noise limits specified in the Recommended Determination and the implementation of mitigation measures, it is considered that there will be no adverse effects on qualifying interests. Refer to the 'Noise' section of this report.</p> <p>Water: Changes in water quality have the potential to indirectly or directly affect habitats and species, particularly those that are aquatic or water dependant. Such changes may reduce available food sources or impact habitats. Storm water from the installation is discharged via municipal drainage to the River Boyne, which flows into the River</p> |
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|        |                             |                                                                                                                                                                                                                                        |                                                                                                                                                                                   | <p>Boyne and River Blackwater SAC approximately 1.5 km downstream.</p> <p>Mitigation measures include pollution prevention infrastructure (such as silt traps, hydrocarbon interceptors and detention basin), the establishment of trigger values for stormwater discharges, implementation of a response programme for exceedances, as well as bunding of fuel storage tanks with regular integrity testing. Refer to 'Storm Water Discharges' section of this report.</p> <p>Waste water is directed to municipal sewerage and treated at the Drogheda WWTP. Refer to the 'Emissions to Water/Ground/Sewer' section of this report.</p> <p>Potential for Accidents: There is the potential for accidents or emergency situations to arise from the operation of the activity, which could affect habitats and species.</p> <p>Mitigation measures include bunding, integrity testing, accident prevention and emergency response requirements. Refer to the 'Prevention of Accidents' Section of this report.</p> |
| 001957 | Boyne Coast and Estuary SAC | <p><b>Habitats</b></p> <p>1130 Estuaries</p> <p>1140 Mudflats and sandflats not covered by seawater at low tide</p> <p>1310 Salicornia and other annuals colonizing mud and sand</p> <p>1330 Atlantic salt meadows (<i>Glauco-</i></p> | <p>NPWS (2012) Conservation Objectives: Boyne Coast and Estuary SAC 001957. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p> | <p>The Boyne Coast and Estuary SAC is approximately 5.2 km to the east of the installation boundary. The SAC spans most of the of the tidal and intertidal sections of the River Boyne, inclusive of intertidal sands and mudflats, saltmarshes, marginal grasslands in addition to sand dune systems. The site is of high conservation value, supporting multiple habitats, including one with priority status for important bird populations.</p> <p>Air: There are 54 air emissions points from back-up generators on site. Air</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|  |  | <p><i>Puccinellietalia maritima</i>)</p> <p>2110 Embryonic shifting dunes</p> <p>2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes)</p> <p>2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*</p> |  | <p>emissions associated with the combustion of diesel and/or HVO from back-up generators at the installation have a potential to impact air quality, which in turn, could affect habitats and species. Certain habitats can be particularly sensitive to nitrogen deposition.</p> <p>Air dispersion modelling has shown that emissions from the back-up generators at the installation will not cause an exceedance of AQs for the protection of vegetation either individually or in combination with other industries in the vicinity of the installation, and consequently, will not cause exceedances of air quality standards at the Boyne Coast and Estuary SAC, located ~5.2 km away. Therefore, emissions to air from the installation will not have an adverse effect on qualifying interest habitats.</p> <p>Mitigation measures have been outlined in the Recommended Determination and include emission limits and controls for emissions to air. In addition to the measure outlined above, back-up generators at the installation will not operate for more than 100 hours per generator per year. Refer to the 'Emissions to Air' section of this report.</p> <p>Noise: Noise emissions from the installation have the potential to disturb qualifying interest animal species, within the vicinity of the installation. There are no noise sensitive qualifying interest species for the Boyne Coast and Estuary SAC.</p> <p>Water: Changes in water quality have the potential to indirectly or directly affect habitats and species, particularly those that are aquatic or water dependant. Some of the qualifying interests in the Boyne Coast and Estuary SAC are water</p> |
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|        |                  |                                                                                                                           |                                                                                                                                             | <p>dependant. Changes in water quality may impact habitats. Storm water from the installation is discharged via municipal drainage to the River Boyne, which flows into the Boyne Coast and Estuary SAC, approximately 7.5 km downstream of the installation.</p> <p>Mitigation measures include pollution prevention infrastructure (such as silt traps, hydrocarbon interceptors and detention basin), the establishment of trigger values for storm water discharges, implementation of a response programme for exceedances, as well as bunding of fuel storage tanks with regular integrity testing. Refer to the 'Storm Water Discharges' section of this report.</p> <p>Waste water is directed to municipal sewerage and treated at the Drogheda WWTP. Refer to the 'Emissions to Water/Ground/Sewer' section of this report.</p> <p>Potential for Accidents: There is the potential for accidents or emergency situations to arise from the operation of the activity, which could affect habitats and species.</p> <p>Mitigation measures include bunding, integrity testing, accident prevention and emergency response requirements. Refer to the 'Prevention of Accidents' Section of this report.</p> |
| 001459 | Clogher Head SAC | <p><b>Habitats</b></p> <p>1230 Vegetated sea cliffs of the Atlantic and Baltic Coasts</p> <p>4030 European dry heaths</p> | NPWS (2017) Conservation Objectives: Clogher Head SAC 001459. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, | <p>The Clogher Head SAC is located approximately 13.5 km north-east of the installation boundary. This coastal SAC is designated for two habitat types.</p> <p>Clogher Head SAC is considered outside the Zone of Influence for air and noise emissions, water discharges and the potential for accidents due to</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|        |                                      |                                                          | Regional, Rural and Gaeltacht Affairs.                                                                                                                                                  | the distance from the installation boundary.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| 004232 | River Boyne and River Blackwater SPA | <b>Birds</b><br>A229 Kingfisher ( <i>Alcedo atthis</i> ) | NPWS (2024) Conservation Objectives: River Boyne and River Blackwater SPA 004232. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage. | <p>The River Boyne and River Blackwater SPA is approximately 1 km to the north of the installation boundary. The SPA consists of several rivers, draining substantial areas of land within Meath and Westmeath, along with smaller areas of Cavan and Louth. This SPA is designated for kingfishers and holds high ornithological significance, supporting a nationally important population of the species.</p> <p>Air: There are 54 air emissions points from back-up generators on site. Air emissions associated with the combustion of diesel and/or HVO from back-up generators at the installation have the potential to impact air quality, which in turn, could affect habitats and species. Certain habitats can be particularly sensitive to nitrogen deposition.</p> <p>Air dispersion modelling has shown that emissions from the back-up generators at the installation will not cause an exceedance of AQs for the protection of vegetation either individually or in combination with other industries in the vicinity of the installation, and consequently, will not cause exceedances of air quality standards at the River Boyne and River Blackwater SPA. Therefore, emissions to air from the installation will not have an adverse effect on qualifying interest habitats.</p> <p>Noise: Birds species can be sensitive to disturbances from noise. Regarding the results from noise modelling for the installation, in addition to noise emission limits specified in the Recommended Determination, it is considered that there will be limited potential for disturbance due to the</p> |

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|        |                   |                                                                                                                        |                                                                                                                           | <p>noise from the activity. Refer to the 'Noise' section of this report. (See above assessment and mitigation measures for the River Boyne and River Blackwater SAC).</p> <p>Water: Changes in water quality have the potential to indirectly or directly affect habitats and species, particularly those that are aquatic or water dependant. Such changes may reduce available food sources or impact habitats. Storm water from the installation is discharged via municipal drainage to the River Boyne, which flows into the River Boyne and River Blackwater SPA approximately 1.5 km downstream. (See above assessment and mitigation measures for the River Boyne and River Blackwater SAC).</p> <p>Refer to the 'Storm Water Discharges' section of this report.</p> <p>Waste water is directed to municipal sewerage and treated at the Drogheda WWTP. Refer to the 'Emissions to Water/Ground/Sewer' section of this report.</p> <p>Potential for Accidents: There is the potential for accidents or emergency situations to arise from the operation of the activity, which could affect habitats and species.</p> <p>Mitigation measures include bunding, integrity testing, accident prevention and emergency response requirements. Refer to the 'Prevention of Accidents' Section of this report.</p> |
| 004080 | Boyne Estuary SPA | <p><b>Habitats</b><br/>A999 Wetlands and Waterbirds</p> <p><b>Birds</b><br/>A048 Shelduck (<i>Tadorna tadorna</i>)</p> | NPWS (2013) Conservation Objectives: Boyne Estuary SPA 004080. Version 1. National Parks and Wildlife Service, Department | The Boyne Estuary SPA is approximately 4 km to the east of the installation. The SPA spans most of the River Boyne Estuary, which drains a substantial river catchment. The estuary is generally less than 500 m wide, with intertidal flats and sandy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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|  | <p>A130 Oystercatcher (<i>Haematopus ostralegus</i>)</p> <p>A140 Golden Plover (<i>Pluvialis apricaria</i>)</p> <p>A141 Grey Plover (<i>Pluvialis squatarola</i>)</p> <p>A142 Lapwing (<i>Vanellus vanellus</i>)</p> <p>A143 Knot (<i>Calidris canutus</i>)</p> <p>A144 Sanderling (<i>Calidris alba</i>)</p> <p>A156 Black-tailed Godwit (<i>Limosa limosa</i>)</p> <p>A162 Redshank (<i>Tringa tetanus</i>)</p> <p>A169 Turnstone (<i>Arenaria interpres</i>)</p> <p>A195 Little Tern (<i>Sterna albifrons</i>)</p> | <p>of Arts, Heritage and the Gaeltacht.</p> | <p>stretches near the river mouth. It is fringed in places by Atlantic-type salt marshes. The river channel is navigable, dredged, and defined by training walls with occasional breaches.</p> <p>This coastal SPA is of significant ornithological importance, supporting internationally important numbers of Black-tailed Godwit and nationally important populations of nine other wintering wildfowl species.</p> <p>Air: There are 54 air emissions points from back-up generators on site. Air emissions associated with the combustion of diesel and/or HVO from back-up generators at the installation have a potential to impact air quality, which in turn, could affect habitats and species. Certain habitats can be particularly sensitive to nitrogen deposition.</p> <p>Air dispersion modelling has shown that emissions from the back-up generators at the installation will not cause an exceedance of AQs for the protection of vegetation either individually or in combination with other industries in the vicinity of the installation, and consequently, will not cause exceedances of air quality standards at the Boyne Estuary SPA. Therefore, emissions to air from the installation will not have an adverse effect on qualifying interest habitats.</p> <p>Noise: Birds species can be sensitive to disturbances from noise. Regarding the results from noise modelling for the installation, in addition to noise emission limits specified in the Recommended Determination, it is considered that there will be limited potential for disturbance due to the noise from the activity. Refer to the 'Noise' section of this report. (See above assessment and mitigation</p> |
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|        |                                   |                                                 |                                                                                | <p>measures for the River Boyne and River Blackwater SAC).</p> <p>Water: Changes in water quality have the potential to directly affect wetland habitats and bird species. Such changes may also indirectly impact or reduce available food sources within these habitats. Storm water from the installation is discharged via municipal drainage to the River Boyne, which flows into the Boyne Estuary SPA.</p> <p>Mitigation measures include pollution prevention infrastructure (such as silt traps, hydrocarbon interceptors and detention basin), the establishment of trigger values for stormwater discharges, implementation of a response programme for exceedances, as well as bunding of fuel storage tanks with regular integrity testing. Refer to 'Storm Water Discharges' section of this report.</p> <p>Waste water is directed to municipal sewerage and treated at the Drogheda WWTP. Refer to the 'Emissions to Water/Ground/Sewer' section of this report.</p> <p>Potential for Accidents: There is the potential for accidents or emergency situations to arise from the operation of the activity, which could affect habitats and species.</p> <p>Mitigation measures include bunding, integrity testing, accident prevention and emergency response requirements. Refer to the 'Prevention of Accidents' Section of this report.</p> |
| 004158 | River Nanny Estuary and Shore SPA | <b>Habitats</b><br>A999 Wetlands and Waterbirds | NPWS (2012) Conservation Objectives: River Nanny Estuary and Shore SPA 004158. | The River Nanny Estuary and Shore SPA is comprised of the River Nanny estuary and adjacent shoreline, featuring intertidal flats, saltmarsh, and beach habitats and is located                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|  |  | <p><b>Birds</b></p> <p>A130 Oystercatcher (<i>Haematopus ostralegus</i>)</p> <p>A137 Ringer Plover (<i>Charadrius hiaticula</i>)</p> <p>A140 Golden Plover (<i>Pluvialis apricaria</i>)</p> <p>A143 Knot (<i>Calidris canutus</i>)</p> <p>A144 Sanderling (<i>Calidris alba</i>)</p> <p>A184 Herring Gull (<i>Larus argentatus</i>)</p> | <p>Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.</p> | <p>approximately 8 km from the installation boundary. This SPA is designated for several bird species and the wetlands habitats they rely upon. The SPA holds significant ornithological importance, providing habitat for five species of wintering waterbirds, and one gull species, present in nationally important numbers.</p> <p>Air: There are 54 air emissions points from back-up generators on site. Air emissions associated with the combustion of diesel and/or HVO from back-up generators at the installation have a potential to impact air quality, in turn, could affect habitats and species. Certain habitats can be particularly sensitive to nitrogen deposition.</p> <p>Air dispersion modelling has shown that emissions from the back-up generators at the installation will not cause an exceedance of AQs for the protection of vegetation either individually or in combination with other industries in the vicinity of the installation, and consequently, will not cause exceedances of air quality standards at the River Nanny Estuary and Shore SPA. Therefore, emissions to air from the installation will not have an adverse effect on qualifying interest habitats.</p> <p>Noise: Birds species can be sensitive to disturbances from noise. Regarding the results from noise modelling for the installation, in addition to noise emission limits specified in the Recommended Determination, it is considered that there will be limited potential for disturbance due to the noise from the activity. Refer to the 'Noise' section of this report. (See above assessment and mitigation</p> |
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|        |                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                    | <p>measures for the River Boyne and River Blackwater SAC).</p> <p>Water: The European Site is considered to be outside the Zone of Influence for discharges to water and the potential for accidents due to the distance and lack of a hydrological connection.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 004236 | North-West Irish Sea SPA | <p><b>Birds</b></p> <p>A001 Red-throated Diver (<i>Gavia stellata</i>)</p> <p>A003 Great Northern Diver (<i>Gavia immer</i>)</p> <p>A009 Fulmar (<i>Fulmarus glacialis</i>)</p> <p>A013 Manx Shearwater (<i>Puffinus puffinus</i>)</p> <p>A017 Cormorant (<i>Phalacrocorax carbo</i>)</p> <p>A018 Shag (<i>Phalacrocorax aristotelis</i>)</p> <p>A065 Common Scoter (<i>Melanitta nigra</i>)</p> <p>A179 Black-headed Gull (<i>Chroicocephalus ridibundus</i>)</p> <p>A182 Common Gull (<i>Larus canus</i>)</p> <p>A183 Lesser Black-backed Gull (<i>Larus fuscus</i>)</p> <p>A184 Herring Gull (<i>Larus argentatus</i>)</p> <p>A187 Great Black-backed Gull (<i>Larus marinus</i>)</p> | <p>NPWS (2023) Conservation Objectives: North-west Irish Sea SPA 004236. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.</p> | <p>Located approximately 9 km to the east of the installation boundary, the North-West Irish Sea SPA is a marine SPA, off the coast of Ireland. This SPA is a vital resource for marine birds, consisting predominantly of estuaries, bays, and coastal habitats that provide feeding and roosting areas during winter months and migration season. Offshore waters support seabirds for foraging. This SPA is ecologically linked to several existing SPAs in the region and is designated for a range of bird species. It holds significant ornithological importance, supporting internationally important populations of Manx Shearwater, Great Northern Diver, and Cormorant.</p> <p>Air: There are 54 air emissions points from back-up generators on site. Air emissions associated with the combustion of diesel and/or HVO from back-up generators at the installation have a potential to impact air quality, which in turn, could affect habitats and species. Certain habitats can be particularly sensitive to nitrogen deposition.</p> <p>Air dispersion modelling has shown that emissions from the back-up generators at the installation will not cause an exceedance of AQs for the protection of vegetation either individually or in combination with other industries in the vicinity of the installation, and consequently, will not cause exceedances of air quality standards at the North-West Irish Sea</p> |

|  |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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|  |  | <p>A188 Kittiwake<br/>(<i>Rissa tridactyla</i>)</p> <p>A192 Roseate Tern<br/>(<i>Sterna dougallii</i>)</p> <p>A193 Common Tern<br/>(<i>Sterna hirundo</i>)</p> <p>A194 Arctic Tern<br/>(<i>Sterna paradisaea</i>)</p> <p>A199 Guillemot (<i>Uria aalge</i>)</p> <p>A200 Razorbill (<i>Alca torda</i>)</p> <p>A204 Puffin<br/>(<i>Fratercula arctica</i>)</p> <p>A862 Little Gull<br/>(<i>Hydrocoloeus minutus</i>)</p> <p>A885 Little Tern<br/>(<i>Sterna albifrons</i>)</p> |  | <p>SPA. Therefore, emissions to air from the installation will not have an adverse effect on qualifying interest habitats.</p> <p>Noise: Birds species can be sensitive to disturbances from noise. Regarding the results from noise modelling for the installation, in addition to noise emission limits specified in the Recommended Determination, it is considered that there will be limited potential for disturbance due to the noise from the activity. Refer to the 'Noise' section of this report (See above assessment and mitigation measures for the River Boyne and River Blackwater SAC).</p> <p>Water: Changes in water quality have the potential to indirectly or directly affect habitats and species, particularly those that are aquatic or water dependant. Storm water is discharged (via municipal drainage to the River Boyne) and ultimately onto the North-West Irish Sea SPA.</p> <p>Mitigation measures include pollution prevention infrastructure (such as silt traps, hydrocarbon interceptors and detention basin), the establishment of trigger values for storm water discharges, implementation of a response programme for exceedances, as well as bunding of fuel storage tanks with regular integrity testing. Refer to the 'Storm Water Discharges' section of this report.</p> <p>Waste water is directed to municipal sewerage and treated at the Drogheda WWTP. Refer to the 'Emissions to Water/Ground/Sewer' section of this report.</p> |
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### Appendix 3 Relevant Legislation

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| <b>The following European instruments are regarded as relevant to this application assessment and have been considered in the drafting of the Recommended Determination.</b> |
| Industrial Emissions Directive (IED) (2010/75/EU)                                                                                                                            |
| Environmental Impact Assessment (EIA) Directive (2011/92/EU as amended by 2014/52/EU)                                                                                        |
| Habitats Directive (92/43/EEC) as amended & Birds Directive (2009/147/EC) as amended                                                                                         |
| Water Framework Directive [2000/60/EC]                                                                                                                                       |
| Waste Framework Directive (2008/98/EC)                                                                                                                                       |
| Groundwater Directive (80/68/EEC) and 2006/118/EC                                                                                                                            |
| Medium Combustion Plant Directive (EU) 2015/2193                                                                                                                             |
| Air Quality Directives (2008/50/EC and 2004/107/EC)                                                                                                                          |
| Energy Efficiency Directive (2018/2002/EU)                                                                                                                                   |
| Environmental Liability Directive (2004/35/CE)                                                                                                                               |

#### Appendix 4 Other CIDs/BREF/BAT documents relevant to this assessment

| Commission Implementing Decisions                                                                                                                                                                                                   | Publication Date |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Commission Implementing Decision (EU) 2021/2326 of 30 November 2021 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants | November 2021    |
| Horizontal BREF                                                                                                                                                                                                                     | Publication date |
| Reference Document on the Best Available Techniques on Emissions from Storage                                                                                                                                                       | July 2006        |
| Reference Document on the Best Available Techniques for Energy Efficiency                                                                                                                                                           | February 2009    |
| Reference Document on the application of Best Available Techniques to Industrial Cooling Systems                                                                                                                                    | December 2001    |

#### Appendix 5 Relevant BAT Compliance Conditions

| BAT Conclusions for Large Combustion Plant (CID 2021/2326/EU) |                                                                                                         |                                                                                                                                                                                                                                                                                                                   |                                                                     |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| BAT No.                                                       | BAT Requirement                                                                                         | Proposed technique/RD requirements                                                                                                                                                                                                                                                                                | Relevant Condition / Schedule                                       |
| 1                                                             | Environmental Management System                                                                         | Environmental Management System will be developed and implemented.                                                                                                                                                                                                                                                | Condition 2                                                         |
| 2                                                             | Determine the net electrical efficiency and/or the net total fuel utilisation of the combustion unit    | N/A.                                                                                                                                                                                                                                                                                                              | N/A                                                                 |
| 3                                                             | Monitor key process parameters relevant for emissions to air                                            | N/A. The installation's back-up generators are below the LCP threshold of 50 MW <sub>th</sub> .                                                                                                                                                                                                                   | Schedule B.1                                                        |
| 4                                                             | Monitor emissions to air with at least the frequency given in BAT 4 and in accordance with EN standards | N/A. The installation's back-up generators are below the LCP threshold of 50 MW <sub>th</sub> .                                                                                                                                                                                                                   | Schedule B.1                                                        |
| 5                                                             | Monitor emissions to water from flue-gas treatment                                                      | N/A. No flue gas treatment is proposed.                                                                                                                                                                                                                                                                           | N/A                                                                 |
| 6                                                             | Ensure optimised combustion and to use an appropriate combination of the techniques given in BAT 6      | <p>The following techniques will be employed:</p> <ul style="list-style-type: none"> <li>• Maintenance of the combustion system,</li> <li>• Advanced control system,</li> <li>• Good design of the combustion equipment,</li> <li>• Fuel choice – Diesel and HVO must meet the relevant CEN standards.</li> </ul> | <p>Condition 2<br/>Condition 3<br/>Condition 6<br/>Schedule B.1</p> |

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| 7  | To reduce emissions of ammonia to air from the use of selective catalytic reduction (SCR) and/or selective non-catalytic reduction (SNCR)                                                                                             | N/A. SCR, SNCR not used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                | N/A                                                      |
| 8  | To ensure, by appropriate design, operation and maintenance, that the emission abatement systems are used at optimal capacity and availability                                                                                        | N/A. There are no emission abatement systems proposed or installed.                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A                                                      |
| 9  | Quality assurance/quality control programmes for all the fuels used                                                                                                                                                                   | Full characterisation of the fuel used is undertaken by the vendor typically every 12 months to EN standards and supplied to ADSIL.                                                                                                                                                                                                                                                                                                                                                     | Condition 2                                              |
| 10 | Implement a management plan (as part of the environmental management system) to reduce emissions to air and/or to water during other than normal operating conditions (OTNOC)                                                         | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A                                                      |
| 11 | Monitor emissions to air and/or to water during OTNOC                                                                                                                                                                                 | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A                                                      |
| 12 | In order to increase the energy efficiency of combustion units operated $\geq 1,500$ h/yr BAT is to use an appropriate combination of the techniques given in BAT 12                                                                  | N/A. There are no gasification and/or IGCC units.                                                                                                                                                                                                                                                                                                                                                                                                                                       | N/A                                                      |
| 13 | In order to reduce water usage and the volume of contaminated waste water discharged, BAT is to use the technique given below: <ul style="list-style-type: none"> <li>• Water recycling</li> <li>• Dry bottom ash handling</li> </ul> | N/A. No waste water produced from the combustion processes.                                                                                                                                                                                                                                                                                                                                                                                                                             | N/A                                                      |
|    | To prevent the contamination of uncontaminated waste water and to reduce emissions to water, BAT is to segregate waste water streams and to treat them separately                                                                     | All waste water streams are separated physically, to prevent accidental cross contamination of clean water runoff. Storm water discharges include storm water from roofs and hardstanding areas. Surface water runoff from possible oil contaminated areas will be protected by oil/water separators. The licensee is permitted only to discharge the evaporative cooling process water from Building A up to a period of six months of the date of grant of this licence. For building | Condition 2<br>Condition 3<br>Condition 5<br>Condition 6 |

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|    |                                                                                                                                                                                                                                                                                                                                                                                     | <p>B, evaporative cooling process water must not be discharged to the storm water network.</p> <p>Evaporative Cooling Process Water to be separated from storm water.</p> <p>Domestic effluent generated at the installation and storm water from the fuel tank farms, fuel unloading areas, transformer compound and the foul line from the fire sprinkler pump house will be discharged to the private IDA foul sewer before ultimately discharging to the Drogheda Waste Water Treatment Plant.</p> <p>There will be no direct process effluent discharged to surface water. Uncontaminated storm water may be discharged to surface water.</p>   |                                                                                                 |
| 15 | To reduce emissions to water from flue-gas treatment                                                                                                                                                                                                                                                                                                                                | N/A. No flue gas treatment is proposed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | N/A                                                                                             |
| 16 | To reduce the quantity of waste sent for disposal from the combustion process                                                                                                                                                                                                                                                                                                       | N/A. There are no combustion and/or gasification process, and abatement techniques wastes generated from the emergency generators.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | N/A                                                                                             |
| 17 | <p>To reduce noise emissions, BAT is to use one or a combination of the techniques given below:</p> <ul style="list-style-type: none"> <li>Operational measures,</li> <li>Low-noise equipment,</li> <li>Noise attenuation,</li> <li>Noise-control equipment,</li> <li>Appropriate location of equipment</li> </ul>                                                                  | <p>Noise assessments indicate that the operational noise of the plant is unlikely to have significant adverse effects. Operational measures, low noise equipment, will be applied at the installation in accordance with BAT 17.</p> <p>The RD specifies noise emission limits, annual noise surveys and a noise management plan including a requirement for the licensee to update their existing Noise Management Plan (Condition 6). Data from an annual noise survey report from January 2025 indicates that the installation was compliant with the licence noise limits. There have been no noise complaints at the existing installation.</p> | <p>Condition 2</p> <p>Condition 4</p> <p>Condition 5</p> <p>Condition 6</p> <p>Schedule B.4</p> |
| 32 | <p>To prevent or reduce NO<sub>x</sub> emissions to air from the combustion of HFO and/or gas oil in reciprocating engines, BAT is to use one or a combination of the techniques given below:</p> <ul style="list-style-type: none"> <li>Low-NO<sub>x</sub> combustion concept in diesel engines,</li> <li>Exhaust-gas recirculation (EGR)</li> <li>Water/steam addition</li> </ul> | <p>Low NO<sub>x</sub> combustion concept techniques are applicable to the back-up generators. In respect of the SCR applicability assessment in BAT 32, SCR technique is not applicable to combustion plants operated &lt; 500 h/yr. According to Schedule A, the back-up generators on site cannot be operated more than 100 h/yr.</p>                                                                                                                                                                                                                                                                                                              | N/A                                                                                             |

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|    | <ul style="list-style-type: none"> <li>• Selective catalytic reduction (SCR)</li> </ul>                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                  |             |
| 33 | In order to prevent or reduce emissions of CO and volatile organic compounds to air from the combustion of HFO and/or gas oil in reciprocating engines, BAT is to use one or both of the techniques given below.                                                                                                                                                                  | <p>N/A as the back-up generators and fire sprinkler pumps are below the LCP threshold.</p> <p>An advanced control system is used on all generators to control the combustion efficiency and support the prevention and/or reduction of emissions.</p> <p>Oxidation catalysts are not applicable to combustion plants operated &lt; 500 h/yr.</p> | N/A         |
| 34 | <p>In order to prevent or reduce SO<sub>x</sub>, HCl and HF emissions to air from the combustion of HFO and/or gas oil in reciprocating engines, BAT is to use one or a combination of the techniques given below:</p> <ul style="list-style-type: none"> <li>• Fuel choice</li> <li>• Dust Sorbent injection (DSI)</li> <li>• Wet flue-gas desulphurisation (wet FGD)</li> </ul> | Fuel choice – the sulphur content of the fuel used in the generators will not exceed 0.1% by mass.                                                                                                                                                                                                                                               | Condition 2 |
| 35 | <p>In order to prevent or reduce dust and particulate-bound metal emissions from the combustion of HFO and/or gas oil in reciprocating engines, BAT is to use one or a combination of the techniques given below:</p> <ul style="list-style-type: none"> <li>• Fuel choice</li> <li>• Electrostatic precipitator (ESP)</li> <li>• Bag filter</li> </ul>                           | The Installation uses fuel with a low ash (< 0.01 % m/m) or metals (e.g. mercury) content.                                                                                                                                                                                                                                                       | Condition 2 |
| 36 | To increase the energy efficiency of gas oil combustion in gas turbines, BAT is to use an appropriate combination of the techniques given in BAT 12 and BAT 36                                                                                                                                                                                                                    | N/A. The installation does not have gas turbines.                                                                                                                                                                                                                                                                                                | N/A         |
| 37 | To prevent or reduce NO <sub>x</sub> emissions to air from the                                                                                                                                                                                                                                                                                                                    | N/A. The installation does not have gas turbines.                                                                                                                                                                                                                                                                                                | N/A         |

|    |                                                                                                                                                                   |                                                   |     |
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|    | combustion of gas oil in gas turbines, BAT is to use one or more of the techniques in BAT 37                                                                      |                                                   |     |
| 38 | In order to prevent or reduce CO emissions to air from the combustion of gas oil in gas turbines, BAT is to use one or more of the techniques specified in BAT 38 | N/A. The installation does not have gas turbines. | N/A |
| 39 | BAT-associated emission levels for SO <sub>2</sub> and dust emissions to air from the combustion of gas oil in gas turbines                                       | N/A. The installation does not have gas turbines. | N/A |