



OFFICE OF ENVIRONMENTAL SUSTAINABILITY

INSPECTOR'S REPORT ON AN INDUSTRIAL EMISSIONS LICENCE REVIEW, LICENCE REGISTER NUMBER P1186-02

TO:	EPA BOARD
FROM:	Bríd Horgan
DATE:	16 April 2026
APPROVAL:	This Report has been cleared for submission to the Board by Programme Manager, Tara Higgins. Signed: _____ <i>Tara Higgins</i> _____
APPLICANT:	Amazon Data Services Ireland Limited
CRO NUMBER:	390566
LOCATION/ADDRESS:	Clonsaugh Business and Technology Park, Dublin 17
APPLICATION DATE:	31 July 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 2021/2326/EU). All relevant BREF documents are listed in the appendices to this report.
Activity description/background:	The operation of five data storage buildings (Buildings W, X, Y, U and V) containing data halls. Under normal operating conditions, the installation will be supplied with electricity from the national grid. The installation contains a total of 52 no. back-up generators (of which only 45 no. will operate at any one time). The backup generators will only be used outside of normal operating conditions such as when there is an interruption to the grid supply. The back-up generators will operate on diesel and/or HVO and each generator will not operate for more than 150 hours per year.

Additional information received:	Yes (04 March 2025, 13 March 2025, 04 April 2025, 23 June 2025, 24 June 2025, 29 August 2025, 06 October 2025, 17 October 2025, 10 November 2025, 17 November 2025, 28 November 2025)	
No. of submissions received:	1	
Environmental Impact Assessment required: No	Stage 2 Appropriate Assessment required: No	
Site visit: 19 August 2025	Site notice check: 30 August 2024	

1 Introduction

Amazon Data Services Ireland Limited, hereafter referred to as the licensee, currently operates a data storage installation, under Industrial Emissions Licence Register Number P1186-01, in Clonshaugh Business and Technology Park, Dublin 17. The installation provides secure data storage services, and distribution of information to individuals, businesses and organisations. The currently licensed installation consists of three two-storey data storage buildings (Buildings W, X and Y) and ancillary elements. The licensee has applied for a review of its Industrial Emissions Licence (Reg. No.: P1186-01) to extend the installation to include two additional two-storey data storage buildings (Buildings U and V) and ancillary elements. There will be an additional 50 employees for Buildings U and V, bringing the total employees at the installation to approximately 150.

Figure 1 shows the location of each data storage building. Figure 2 shows the layout of the existing installation (Building X, Y and W) and Figure 3 shows the layout of the extended installation (Building U and V). The total installation (including the existing and extended installation) will cover approximately 9.963 hectares (ha) in total.

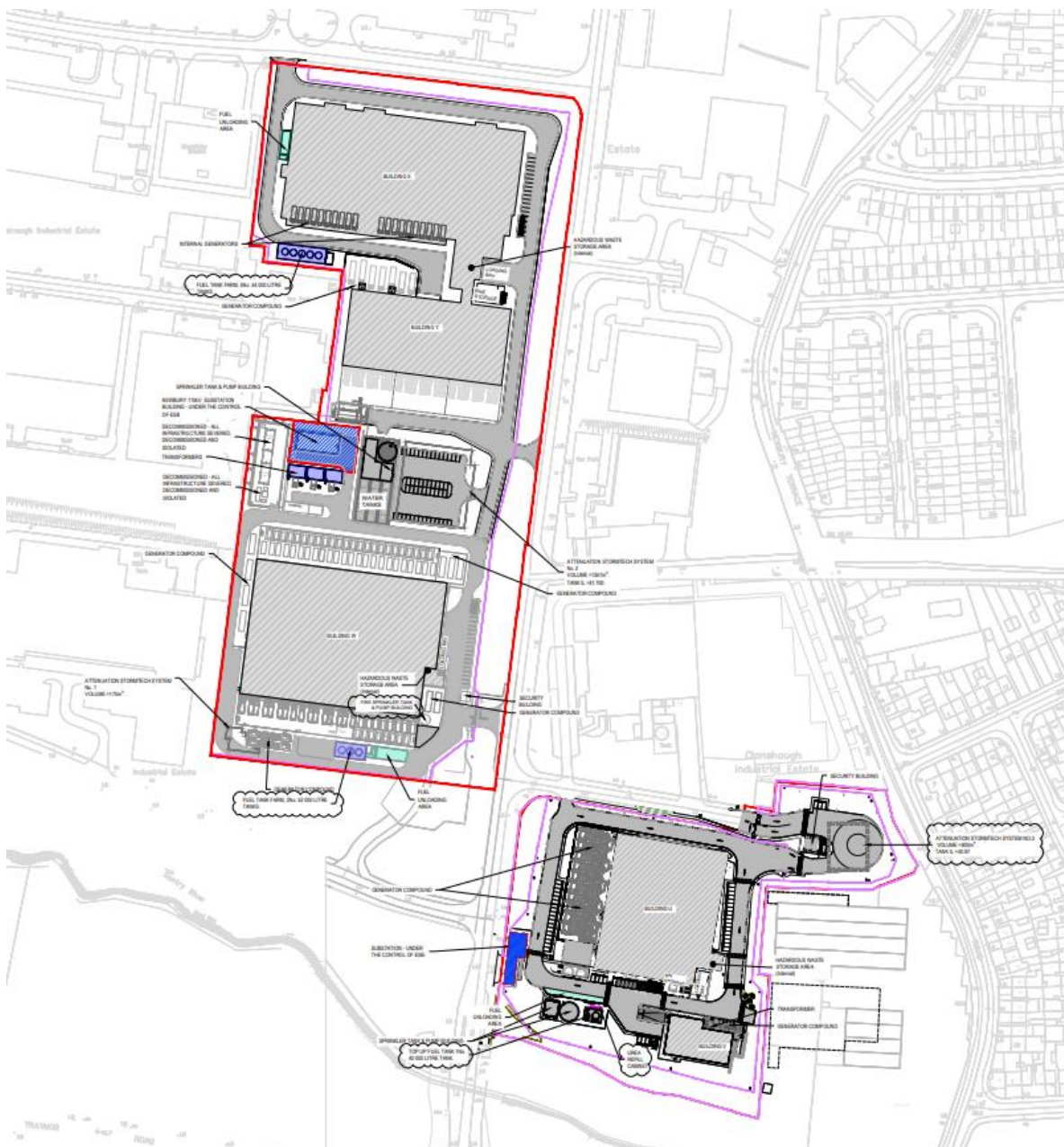


Figure 1: Site Layout Plan (Licence Application Drawing: 21_123F - CSE - 00 - XX - DR - C – 0002)

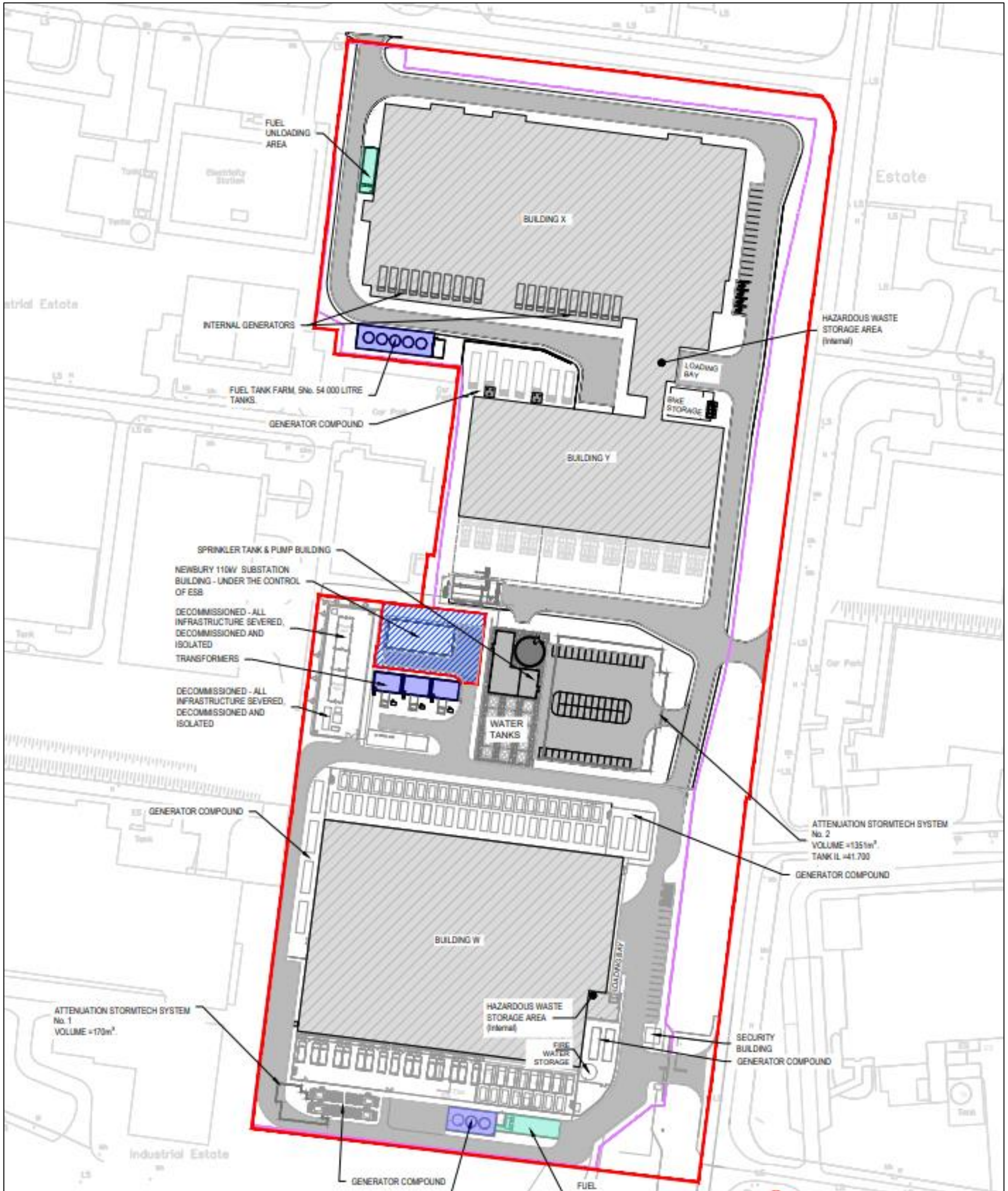


Figure 2: Site Layout Plan (Licence Application Drawing: 21_123F - CSE - 00 - XX - DR - C - 0002)- Building X, Y and W

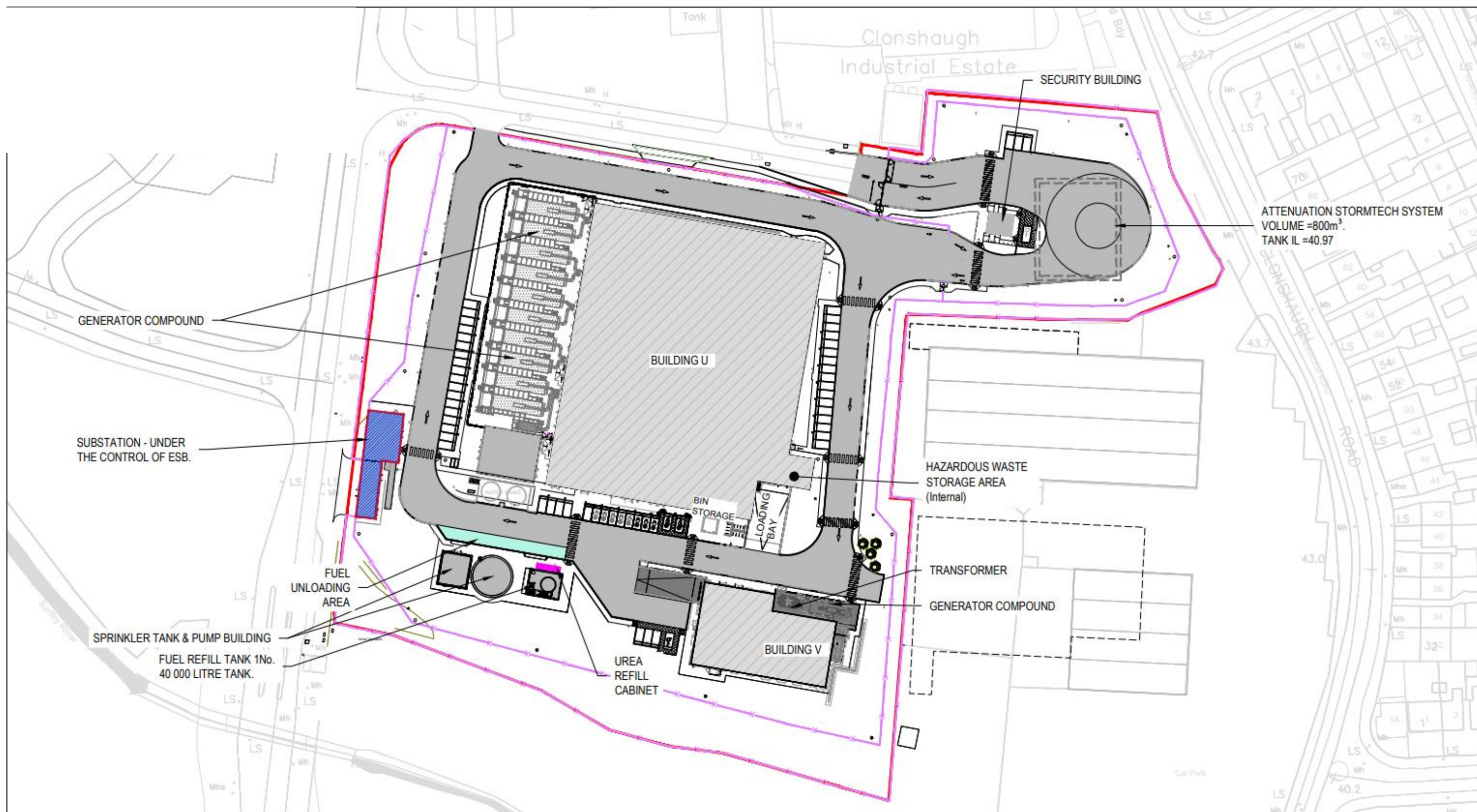


Figure 3: Site Layout Plan (Licence Application Drawing: 21_123F - CSE - 00 - XX - DR - C - 0002)- Building U and V

The installation requires a continuous supply of electricity to operate. During normal operating conditions, the installation is supplied with electricity from the national grid. Outside of the normal operating conditions, the installation is first supplied with electricity by the on-site uninterruptible power supplies (UPSs) and then by some or all of the on-site back-up generators. Outside of routine testing and maintenance, the operation of the back-up generators is typically only required in the event of a loss, reduction or instability of grid power supply; critical maintenance of power systems; or a request from the utility supplier to reduce grid electricity load. No electricity will be exported from the installation to the national grid.

The existing licensed installation contains 40 no. 5.44 MW_{th} back-up generators, 2 no. 0.337 MW_{th} fire sprinkler pumps and 2 no. 0.423 MW_{th} fire sprinkler pumps. Given that the combined thermal input of the generators at the existing licensed installation is 219.12 MW_{th}, this exceeded the 50 MW_{th} threshold of Class 2.1 First Schedule of the EPA Act 1992, as amended, and therefore required an Industrial Emissions Licence which was granted by the Agency on the 15 June 2023.

In July 2024, the licensee applied to the Agency for a revised Industrial Emissions Licence. The extension to the installation includes 10 no. 6.49 MW_{th} back-up generators, 1 no. 3.6 MW_{th} back-up generator, 1 no. 2.19 MW_{th} back-up generator and 2 no. 0.57 MW_{th} fire sprinkler pumps. The combined thermal input from the installation will be 290.95 MW_{th}, comprising 219.12 MW_{th} from the existing installation and 71.83 MW_{th} from the extended installation. The back-up generators for the two new proposed buildings, Buildings U (excluding the 1 no. 2.19 MW_{th}) and V (1 no. 3.6 MW_{th}) are each fitted with Selective Catalytic Reduction (SCR) units to reduce emissions of NO_x.

The IDA manages Clonsaugh Business and Technology Park, which is situated approximately 6 km north of Dublin's city centre and less than 3 km south-east of Dublin Airport. Clonsaugh Business & Technology Park accommodates a range of technology and industrial type uses including commercial, retail, manufacturing, and data centre uses. To the south of the installation are sports ground facilities and to the east of Clonsaugh Business & Technology Park are residential estates. The closest occupied residential properties to the existing licensed installation are located approximately 145 m east of the installation boundary along the Clonsaugh Road, while the closest occupied residential properties to the proposed extended installation are approximately 28 m to the east. There are also occupied residential properties off the Oscar Traynor Road less than 150 m south of the proposed extended installation. The Santry River is approximately 40 m south of the installation. The M1 and M50 motorways run parallel to the western boundary of the business park.

2 Description of activity

The existing licensed installation is occupied by three data storage buildings and ancillary elements. These ancillary elements include loading bays, maintenance and storage spaces, associated water tanks, sprinkler tanks, pump house and electrical rooms, security and utility spaces, underground foul and storm water drainage networks, attenuation storm cells (referred to as attenuation stormtech systems), internal road network, and site landscaping. The site includes the Newbury 110 kV Substation, which is owned and under the control of the ESB.

The extended installation includes two additional two-storey data storage buildings, a separate substation owned and under the control of the ESB and ancillary elements. The ancillary elements include loading bays, maintenance and storage spaces, office administration areas, electrical and mechanical plant rooms, with plant at roof level, sprinkler tank and pump house, security and utility spaces, underground foul and storm water drainage networks, attenuation stormtech systems, internal road network with car and cycle parking, and site landscaping. Building U (one of the two new proposed buildings) has solar panels at roof level.

The power requirements for the existing licensed installation are provided via a connection to the Newbury (ESB) Substation located to the north of Building W and to the south of Building Y. The power requirements for the extended installation will be provided via a connection to a separate ESB substation located to the west of Building U (shown in Figure 3). The installation (including the extended installation) is supported by back-up generators that are located

either in designated external generator compounds (Buildings W, Y, U and V) or a designated internal generator compound (Building X). These generators provide the necessary power to ensure the data centre buildings continue to operate in the event of a temporary failure of electricity supply from the national electricity grid. An uninterruptible power source (UPS) system (battery installation) is also provided for the short-term transition from mains power to the back-up generators. There is no interconnectivity between the generators in the different buildings.

The water supply to the installation (existing licensed and extended) is sourced predominantly from mains water supply and some from harvested rainwater when available. The installation has a demand for potable supply for cleaning, drinking and sanitary facilities, cooling equipment and for firefighting.

The air handling units (AHUs) provide conditioned air to maintain temperature, relative humidity and pressurisation in the data storage rooms. The AHUs operate under two modes: Free Cooling and Evaporative Cooling. Free Cooling mode uses outside air, whereas Evaporative Cooling mode uses water from the mains supply as the cooling media. Duty and standby units are in place to ensure cooling is available at all times. Building V (one of the two new proposed buildings) does not utilise evaporative cooling. Instead, it operates a mechanical air-cooling system, which is refrigerant based. In the mechanical cooling system, refrigerant circulates within a sealed, closed-loop cycle to remove heat from the air.

The main emissions from the installation consist of emissions to air from the generators (routine testing, maintenance & outside of normal installation operating conditions, i.e. back-up operation of the generators), emissions to sewer, noise emissions, storm water discharges and evaporative cooling process water.

3 Planning Status

A number of planning applications have been made for the area within the installation boundary. Details of the relevant planning applications and permissions have been provided with the application.

The main planning permissions relevant for the activity are those granted by Dublin City Council on:

02 April 2012 (3534/11), 19 August 2013 (2688/13), 24 October 2013 (2979/13), 05 July 2019 (2229/19), 18 November 2020 (3200/20), and most relevant for this review on 24 August 2022 (3641/21).

The Agency granted an IE licence for the installation on 15 June 2023 and the licensee subsequently applied for a licence review on 31 July 2024.

The licensee has submitted two Environmental Impact Assessment Screening reports as part of the licence review application, Attachment-6-3-2-EIA Screening-Licence-Apr 2022 and Attachment-6-3-2-EIA Screening-Planning-Aug 2022. The former addresses the site of the current licence boundary, while the latter addresses the site to be included as part of the licence review. Both reports conclude that a mandatory EIA is not required for the installation and that there are no likely significant environmental effects on the receiving environment from the installation that would warrant the preparation of an EIA.

The Agency has had regard to the reasoned conclusions reached by the planning authority 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 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 not likely to have a significant effect on the environment, and accordingly an EIA is not required.

EIA, as respects the matters that come within the functions of the Agency, is not required for the activity to which the above licence application relates due to the following reasons:

The activity is below the specified threshold of project types 3. (a) and 10. (a) 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.

10. (a) Industrial estate development projects, where the area would exceed 15 hectares.

Having considered the information provided by the licensee, which satisfies the requirements of Annex II A of the EIA Directive, and the mitigation measures proposed by the licensee, it has been determined that the activity is not 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:

- Due to the nature and scale of the activity, which is below the threshold set out in project type 3. (a) in Part 2 of Schedule 5 of the Planning and Development Regulations 2001 as amended. As stated in the application documentation, the installation has a total rated thermal input of 290.95 megawatts thermal (MW_{th}), comprising of 219.12 MW_{th} from the existing installation and 71.83 MW_{th} from the extended installation. Therefore, the installation will be below the 300 megawatt (MW) heat output threshold for project type 3. (a) above.
- Due to the location of the installation, which is on an approximately 9.9 hectare site within Clonsaugh Business & Technology Park, Dublin 17. The installation is approximately 4km from the nearest European site (South Dublin Bay and River Tolka Estuary SPA), approximately 20km from the nearest Natural Heritage Area (Skerries Island NHA) and approximately 1.3km from the nearest proposed Natural Heritage Area (Santry Demesne pNHA).
- There are 40 diesel-powered back-up generators, four diesel-powered emergency back-up fire sprinkler pumps and eight fuel tank emergency breather vents at the existing installation. There are 12 diesel-powered back-up generators, two diesel-powered emergency back-up fire sprinkler pumps and one fuel tank emergency breather vent proposed. Air dispersion modelling submitted by the licensee for the entire installation has demonstrated that combustion emissions to air will not have a significant adverse effect on human health or ecological receptors. Predicted ambient ground level pollutant concentrations will be below the relevant air quality standards for the parameters modelled (nitrogen dioxide (NO₂), ammonia (NH₃), carbon monoxide (CO), particulate matter (PM₁₀ and PM_{2.5}) and sulphur dioxide (SO₂), under all operational scenarios assessed.
- Emissions to sewer (other than sanitary effluent) consist of storm water run-off from fuel tank farms, associated fuel unloading bays and transformer compound. This effluent will be discharged to the foul sewer that connects to the EPA-licensed Ringsend WWTP (Waste Water Licence D0034-02 held by Uisce Éireann). Ringsend WWTP provides secondary treatment with a plant capacity of approximately 2.1 million population equivalent, which is currently exceeded at the plant. Treated effluent from the Ringsend WWTP is discharged to the Liffey Estuary Lower (Water Framework Directive Code: IE_EA_090_0300). According to EPA Maps, the Transitional Waterbody Water Framework Directive (WFD) Status 2016-2021 for the Liffey Estuary Lower is 'Moderate'. The Coastal Waterbody WFD Status 2016-2021 for Dublin Bay is 'Good'. Taking into account the nature of the discharge, it is considered that it will not have a significant effect on the environment in the vicinity of the Ringsend WWTP discharge in Dublin Bay.
- In addition to stormwater runoff from impermeable areas on the site there are emissions to surface water of residual cooling water from the evaporative cooling units. Evaporative cooling water is discharged at ambient temperature to the storm water network. The stormwater will be discharged to an off-site stormwater network via hydrocarbon interceptors. The outfall of this stormwater network flows into Santry

River (Water Framework Directive Code: IE_EA_09S010300) which connects to the North Bull Island transitional water body (approximately 5 km downstream of the installation), and ultimately Dublin Bay. The stormwater discharges from the installation are not considered significant.

- The activity will not generate significant dust emissions.
- A noise impact assessment submitted by the licensee has demonstrated that noise emissions arising from the installation will not have a significant effect on the environment at noise sensitive locations.
- There are no direct pathways to either the soil or groundwater environment.
- The cumulative effect with other existing and/or approved projects will not be significant.

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 LCP CID 2021/2326 EU), as well as in the BREF documents specified in Appendix 4 of this Inspector's Report. A detailed BAT assessment was carried out by the licensee and included in Attachment 4-7-1 of the licence application. Appendix 5 of this Inspector's Report sets out the applicable BAT Conclusions, the specific techniques employed and the relevant condition/schedule in the RD.

Given that the total capacity at the installation exceeds the threshold for a licence under Class 2.1 of the EPA Act 1992, as amended, BAT at the installation level was assessed against LCP CID 2021/2326/EU. However, due to the rated thermal input of the individual combustion plants being less than 50 MW_{th}, (maximum thermal input to an individual generator is 6.49 MW and each generator will have its own stack), the plant-level BAT Conclusions set in the LCP CID, including BAT AELs and monitoring requirements, do not apply. The Medium Combustion Plant (MCP) Regulations 2017, SI 595/2017 (hereafter referred to as the MCP Regulations) apply to combustion plants greater than 1 MW and less than 50 MW. The MCP Regulations state that the Agency may prescribe stricter emission limit values for a medium combustion plant where it considers such is necessary for the protection of human health or the environment. The EPA Act 1992, as amended, states that the Agency may grant a licence subject to such conditions as it considers appropriate. Even though the individual generators are less than 15 MW_{th} input, installation-level BAT Conclusions have been applied in the Recommended Determination (RD) due to the scale of the overall installation including the large number of individual generators (52 no.) and large capacity for fuel to be stored at the installation. Examples of installation-level BAT conclusions included in the RD include those relating to Environmental Management Systems (Condition 2) and Energy Efficiency (Condition 7). The applicable emission limit values and monitoring requirements in the RD are those set out in the MCP Regulations, which can be considered BAT at plant level for combustion plants with a rated thermal input equal to or greater than 1 MW and less than 50 MW.

Parameters to be monitored, as per the MCP Regulations, have been included in the RD and are specified in the section 6. Emissions (below) of this Inspector's Report. The monitoring frequency of emissions to air have been set out in the RD and are in line with, or tighter than, the requirements of the MCP Regulations. The general BAT conclusions in LCP CID 2021/2326/EU were considered when specifying requirements in the RD related to Selective Catalytic Reduction (SCR).

I consider that the applicable BAT Conclusions and MCP Regulations requirements are addressed through the technologies and techniques as described in the application, as well as the conditions and limits specified in the RD.

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

The main channelled emissions at the installation arise from the 52 no. back-up generators (A3-1 to A3-52). Exhaust gases from the combustion process within the back-up generators will be discharged to atmosphere via individual stacks.

At the existing licensed installation:

- Building W has 13 no. 5.44 MW_{th} back-up generator stacks (A3-01 to A3-13), with a minimum height of 6 m above ground level.
- Building X has 20 no. 5.44 MW_{th} back-up generator stacks (A3-14 to A3-33), with a minimum height of 16 m above ground level.
- Building Y has 7 no. 5.44 MW_{th} back-up generator stacks (A3-34 to A3-40), with a minimum height of 16 m above ground level.

At the extended installation:

- Building U will have 10 no. 6.49 MW_{th} back-up generator stacks and 1 no. 2.19 MW_{th} back-up generator stack (A3-41 to A3-51), all with a minimum height of 25 m above ground level.
- Building V will have 1 no. 3.6 MW_{th} back-up generator stack (A3-52), with a minimum height of 15.6 m above ground level.

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 supplier to reduce electricity grid load. The licensee proposes that for both the existing and extended installation, the generators may operate using gas oil (diesel) or HVO (Hydrotreated Vegetable Oil) fuel, with a preference to use only HVO when supply is available. The licensee details that a combination of both diesel and HVO may be used, and that HVO and diesel 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. Each of the generators is a Medium Combustion Plant (MCP). 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 that this exemption be applied to all of the generators at the installation, as each generator will operate for a maximum of 150 hours per year. Attachment 7-4-2 Emissions to Atmosphere- Minor and Potential Emissions of the documentation submitted as part of the licence review application, lists NO_x, CO, SO₂, PM₁₀ and PM_{2.5} as parameters emitted from the back-up generators.

As part of the application, air dispersion modelling was carried out to predict the ambient pollutant concentrations resulting from the operation of the generators. The modelling was carried out in accordance with published Agency guidance (AG4), and was considered sufficiently detailed and conservative to assess the impact of the emissions to air. The modelling used five years of meteorological data (2018 – 2022) from Dublin Airport, which is located less than 3 km north-west of the installation. Modelling of NO₂, CO, PM₁₀, PM_{2.5}, SO₂ and NH₃ emissions was undertaken. Attachment-7-1-3-2-Air Emissions Impact Assessment, dated 29 August 2025, details that SCR reduction of 10% for NO_x for the relevant generators using SCR at the two proposed new buildings, Building U and Building V, was used in the modelling assessment. For background concentrations, EPA data from Zone A was used, except for NH₃ where the background concentration was derived using the Air Pollution Information System (APIS) website. Terrain data and building downwash was incorporated into the modelling assessment. Two of the back-up generators in each of Buildings W, X and U and one of the back-up generators in Building Y were modelled as “catcher” generators to provide redundancy for the other back-up generators, i.e. 45 no. of the 52 no. back-up generators were assumed to be running simultaneously in the event of a power failure to the installation. The air dispersion model was based on emissions

from diesel. The licensee considers that the modelling of emissions from diesel appropriately accounts for HVO use as emissions from HVO are likely to be equivalent to or lower than those from diesel.

The scenarios modelled, using the US EPA Methodology, included:

- I. Licensed Operations by the Installation: This includes the back-up operation of 45 no. of the 52 no. generators using diesel fuel for 150 hours per year. The scenario also includes the following:
 - a. testing of all 52 no. back-up generators: testing once per week of all 52 no. back-up generators on the campus at 25% load for a maximum of 30 minutes each, one generator at a time, sequentially,
 - b. testing of all 52 no. back-up generators, periodically tested on an individual basis at 100% load for a maximum of 16 hours per year. This is incorporated into the dispersion model as each generator operating on an individual basis, at 100% load, for four hours, once per quarter (assumed to be January, April, June and October for the purpose of this assessment), and
 - c. all testing is assumed to only occur between 8am and 5pm, Monday to Friday.
- II. Cumulative Impact Scenario: The modelling includes the following installations as part of the cumulative impact assessment for NO_x:
 - a. separate data storage installation operated by the licensee (Licence Reg. No. P1171-01) to the north-west of the subject installation and
 - b. two additional data centres, referred to as the Dataplex data centre (located at the eastern boundary of Licence Reg. No. P1171-01) and Digital Realty data centre, located directly north of Building U.

Table 6.1. summarises the air emissions modelling results for the “Licensed Operations by the Installation” scenario at the worst-case locations at and beyond the installation boundary .

Licensed Operations Scenario

Table 6.1: Predicted impact of the existing and proposed main channelled emissions to air.

Main channelled emissions impact						
Parameter	Averaging Period	Background concentration (µg/m ³) ^{Note 1}	Process contribution to PEC (µg/m ³) ^{Note 1}	Predicted Environmental Concentration (PEC) (µg/m ³) ^{Note 1}	PEC as % of Air Quality Standard ^{Note 2}	Air Quality Standards/ Guidelines (µg/m ³) ^{Note 1, Note 3}
Nitrogen Oxides (as NO ₂)	99.8%ile hourly (2021)	30	155.7	185.7	93	200
	Annual (2020)	15	21.1	36.1	90	40
	Ecosystem NO _x Baldoyle Bay SAC (2020)	10.90	0.27	11.17	37	30
	Ecosystem NO _x Baldoyle Bay SPA (2020)	11.14	0.27	11.41	38	30

Main channelled emissions impact						
Parameter	Averaging Period	Background concentration ($\mu\text{g}/\text{m}^3$) ^{Note 1}	Process contribution to PEC ($\mu\text{g}/\text{m}^3$) ^{Note 1}	Predicted Environmental Concentration (PEC) ($\mu\text{g}/\text{m}^3$) ^{Note 1}	PEC as % of Air Quality Standard ^{Note 2}	Air Quality Standards/ Guidelines ($\mu\text{g}/\text{m}^3$) ^{Note 1, Note 3}
	Ecosystem NO _x South Dublin Bay & River Tolka SPA (2021)	29.8	0.05	29.85	99.5	30
	Ecosystem NO _x Santry Demesne pNHA (2021)	17.1	0.43	17.53	58	30
	Ecosystem NO _x North Dublin Bay pNHA (2022)	28.8	0.15	28.95	97	30
	N Deposition Baldoyle Bay SAC	6.0	0.038	6.038	N/A	5-10
	N Deposition Baldoyle Bay SPA	6.0	0.038	6.038	N/A	5-10
	N Deposition South Dublin Bay SAC	7.058	0.007	7.065	N/A	5-10
	N Deposition Santry Demesne pNHA	7.0	0.062	7.062	N/A	10-20
	N Deposition North Dublin Bay pNHA	7.6	0.022	7.622	N/A	5-10
CO	Maximum Daily 8-Hour Mean (2020 & 2022)	3.7 mg/m ³	0.32 mg/m ³	4.02 mg/m ³	40	10 mg/m ³
NH ₃	Annual (2018 & 2022)	1.5	0.1	1.6	0.89	180 (UK Environmental Guidelines)
	Max 1-Hourly (2022)	3	11	14	0.56	2,500 (UK Environmental Guidelines)

Main channelled emissions impact						
Parameter	Averaging Period	Background concentration ($\mu\text{g}/\text{m}^3$) ^{Note 1}	Process contribution to PEC ($\mu\text{g}/\text{m}^3$) ^{Note 1}	Predicted Environmental Concentration (PEC) ($\mu\text{g}/\text{m}^3$) ^{Note 1}	PEC as % of Air Quality Standard ^{Note 2}	Air Quality Standards/ Guidelines ($\mu\text{g}/\text{m}^3$) ^{Note 1, Note 3}
	99th%ile of 1-Hour Means (2018)	3	1.2	4.2	1.4	300 (Danish Environmental Guidelines)
	Ecosystems NH ₃ Baldoyle Bay SAC (2019)	1.3	0.0006	1.301	43	3
	Ecosystems NH ₃ Baldoyle Bay SPA (2019)	1.373	0.0006	1.374	46	3
	Ecosystems NH ₃ Howth Head SAC (2022)	1.077	0.0003	1.077	108	1
	Ecosystems NH ₃ Santry Demesne pNHA (2019)	1.5	0.00109	1.501	50	3
	Ecosystems NH ₃ Royal Canal pNHA (2018)	2.2	0.00007	2.20007	220	1
SO ₂	1 hour (99.7%ile) (2021)	51	26.39	53.01	15	350
	24 hour (99.2%ile) (2021)	20	9.23	22.01	18	125
	Annual (2020)	4	1.06	5.06	N/A	N/A
	Ecosystem SO ₂ Baldoyle Bay SAC (2022)	1.6	0.007	1.607	8	20
	Ecosystem SO ₂ Baldoyle Bay SPA (2022)	1.773	0.007	1.780	9	20
	Ecosystem SO ₂ North Dublin Bay SAC (2022)	9.416	0.004	9.420	47	20

Main channelled emissions impact						
Parameter	Averaging Period	Background concentration ($\mu\text{g}/\text{m}^3$) ^{Note 1}	Process contribution to PEC ($\mu\text{g}/\text{m}^3$) ^{Note 1}	Predicted Environmental Concentration (PEC) ($\mu\text{g}/\text{m}^3$) ^{Note 1}	PEC as % of Air Quality Standard ^{Note 2}	Air Quality Standards/ Guidelines ($\mu\text{g}/\text{m}^3$) ^{Note 1, Note 3}
	Ecosystems SO ₂ North Bull Island SPA (2022)	9.416	0.004	9.420	47	20
	Ecosystem SO ₂ Santry Demesne pNHA (2021)	2.1	0.0112	2.111	11	20
	Ecosystems SO ₂ North Dublin Bay pNHA (2022)	9.9	0.004	9.904	50	20
PM ₁₀	Annual Mean (2020)	16	0.958	16.96	42	40
	24-hr Mean (as 90.4th%ile) (2020)	23	2.483	23.96	48	50
PM _{2.5}	Annual Mean (2020)	10	0.96	10.96	44	25

Note 1: Units for deposition are kg/ha/yr.

Note 2: The licensee's assessment methodology explains that the worst-case concentration (process contribution) was added to the background concentration to give the worst-case predicted environmental concentration (PEC), except for PM₁₀ 24 hour, SO₂ 1 hour and SO₂ 24 hour where other relevant formulae were used.

Note 3: Air Quality Standards Regulations 2022, SI 739/2022, unless otherwise stated.

There are other emission points to air at the installation which, due to their emission characteristics, are not considered environmentally significant and are therefore regarded as minor emissions. The installation will have 6 no. diesel powered fire sprinkler pumps (2 x 0.423 MW_{th}, 2 x 0.337 MW_{th} and 2 x 0.57 MW_{th}). These are less than 1 MW thermal input and have been designated as out of scope of the air modelling assessment by the licensee as it is not expected that they would cause any significant impacts on ambient air quality, considering their smaller scale (compared to the emergency back-up generators) and the low number required for use at any one time. Potential emissions which include vents from bulk fuel tanks are not considered as part of this impact assessment, and are not included in the RD.

As can be seen from Table 6.1 above, all the predicted ground level concentrations for air emissions considered regarding human health are within the relevant air quality standards, based on the operation of 45 no. of the 52 no. generators using diesel fuel for 150 hours per year, as well as considering scheduled weekly testing and quarterly maintenance testing of all 52 no. generators at the installation.

The following is noted:

- The concentrations of NO₂ (including background concentrations) in the worst-case year modelled are, at most, 93% of the 1-hour limit value (as a 99.8th percentile), and 90% of the annual limit value, at the worst-case receptor modelled.
- Modelled concentrations of SO₂ (including background concentrations) are, at most, 15% of the maximum 1-hour limit value (measured as a 99.7th%ile), and 18% of the maximum 24-hour limit value (measured as a 99.2nd%ile), at the worst-case receptor.
- In the worst-case year, concentrations of CO (including background) are 40% of the maximum 8-hour limit value, at the worst-case receptor modelled. It is noted that most of the CO is from background concentration, and the process concentration of CO is 3.2 % of the CO air quality standard.
- Concentrations of PM₁₀ (including background) are 48% of the maximum ambient 24-hour limit value (measured as a 90.4th%ile) and 42% of the annual limit value at the worst-case location off-site, with concentrations of PM_{2.5} reaching a maximum of 44% of the annual mean limit value.

Ecological receptors are discussed below.

6.1.1.1 Ecological Receptors – Licensed Operation Scenario

According to the licensee's Attachment-7-1-3-2-Air Emissions Impact Assessment dated 29 August 2025, the ecological site with the potential to be most impacted by air emissions from the installation is the Santry Demesne pNHA. Air emissions from the installation lead to a NO_x process contribution of 0.43 µg/m³ at this location, which is equivalent to 1.4% of the NO_x AQS (30 µg/m³). However, when background concentrations are included, the most impacted ecological site is North Dublin Bay pNHA, which would be 97% of the AQS. The Natura 2000 designated sites with the potential to be the most impacted by air emissions from installation are the Baldoyle Bay SAC and Baldoyle Bay SPA. The modelling assessment predicted a NO_x process contribution of 0.27 µg/m³ at each site, however when background concentrations are included the most impacted is the South Dublin Bay & River Tolka SPA which would be 99.5% of the AQS.

Air emissions from the installation lead to an ambient NH₃ concentration (including background), which is at most 220% of the annual limit value at the worst-case location, the Royal Canal pNHA. The modelling assessment predicted a NH₃ process contribution of 0.0006 µg/m³ at the Baldoyle Bay SAC and the Baldoyle Bay SPA, however when background levels are included the most impacted site is the Howth Head SAC, which would be 108% of the AQS. It should be noted that the exceedances at the Royal Canal pNHA and Howth Head SAC are primarily due to the background concentrations exceeding the critical load value for both sites. An annual critical level of 1 µg/m³ for NH₃ has been applied to each site, whilst the background concentrations for NH₃ at the sites are 2.2 µg/m³ and 1.077 µg/m³ respectively. Attachment-7-1-3-2-Air Emissions Impact Assessment of the application details that the locations of the maximum concentrations for ammonia are close to the boundary of the installation, with concentrations decreasing with distance from the installation.

In the case of SO₂, the worst-case process contribution at the Santry Demesne pNHA is 0.0112 µg/m³, which is equivalent to 0.056% of the relevant AQS (20 µg/m³); however when background concentrations are included, the most impacted ecological site is North Dublin Bay pNHA, which is 50% of the AQS. The most impacted Natura 2000 designated sites are the Baldoyle Bay SAC and Baldoyle Bay SPA, with a predicted SO₂ process contribution of 0.007 µg/m³ each; however when background concentrations are considered, the most impacted sites are North Dublin Bay SAC and North Bull Island SAP which would be 47% of the AQS.

With regard to nitrogen deposition at ecological receptors, the worst-case nitrogen deposition flux (including background levels) is 7.622 kg/ha/yr at the North Dublin Bay pNHA and 7.065 kg/ha/yr at the South Dublin Bay SAC. Given the process contribution from the installation is less than 1% of the lower limit of the critical load range assigned to North Dublin Bay pNHA and South Dublin Bay SAC; i.e. 5 - 10 kg/ha/yr for the habitat type 'Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)' (North Dublin Bay pNHA) and 'Shifting coastal dunes' (South Dublin Bay SAC), the effect of nitrogen deposition from the installation on these ecological receptors is not significant.

Cumulative Impact Scenario

A cumulative assessment was undertaken for NO_x. Emissions of CO, SO₂, NH₃ and PM₁₀ were not assessed cumulatively against human health air quality standards, as these were considered by the licensee to be below the threshold at which cumulative assessment is required.

Table 6.2 gives details of the predicted impact of the proposed channelled emissions to air under the cumulative impact scenario.

Table 6.2: Predicted impact of the channelled emissions to air under the cumulative impact scenario.

Main channelled emissions impact- Cumulative						
Parameter	Averaging Period	Background concentration (µg/m ³) ^{Note 1}	Cumulative process contribution to PEC (µg/m ³) ^{Note 1}	Predicted Environmental Concentration (PEC) (µg/m ³) ^{Note 1}	PEC as % of Air Quality Standard	Air Quality Standards/ Guidelines (µg/m ³) ^{Note 1, Note 2}
Nitrogen Oxides (as NO ₂)	99.8%ile hourly (2021)	30	158.6	188.60	94.3	200
	Annual (2020)	15	24.1	39.08	97.7	40
	Ecosystem NO _x Baldoyle Bay SAC (2019)	10.9	0.57	11.47	38	30
	Ecosystem NO _x Baldoyle Bay SPA (2019)	11.14	0.57	11.71	39	30
	Ecosystem NO _x South Dublin Bay & River Tolka SPA (2021)	29.8	0.11	29.91	99.7	30
	Ecosystem NO _x Santry Demesne pNHA (2021)	17.1	1.09	18.19	61	30
	Ecosystem NO _x North Dublin Bay pNHA (2022)	28.8	0.30	29.10	97	30
	N Deposition Baldoyle Bay SAC	6.0	0.076	6.076	N/A	5-10
	N Deposition Baldoyle Bay SPA	6.0	0.076	6.076	N/A	5-10

Main channelled emissions impact- Cumulative						
Parameter	Averaging Period	Background concentration ($\mu\text{g}/\text{m}^3$) ^{Note 1}	Cumulative process contribution to PEC ($\mu\text{g}/\text{m}^3$) ^{Note 1}	Predicted Environmental Concentration (PEC) ($\mu\text{g}/\text{m}^3$) ^{Note 1}	PEC as % of Air Quality Standard	Air Quality Standards/ Guidelines ($\mu\text{g}/\text{m}^3$) ^{Note 1, Note 2}
	N Deposition South Dublin Bay SAC	7.058	0.014	7.072	N/A	5-10
	N Deposition Santry Demesne pNHA	7.0	0.147	7.147	N/A	10-20
	N Deposition North Dublin Bay pNHA	7.6	0.041	7.641	N/A	5-10
SO ₂	Ecosystem SO ₂ Baldoyle Bay SAC (2021)	1.6	0.012	1.612	8	20
	Ecosystem SO ₂ Baldoyle Bay SPA (2021)	1.773	0.012	1.785	9	20
	Ecosystem SO ₂ North Dublin Bay SAC (2022)	9.416	0.007	9.423	47	20
	Ecosystems SO ₂ North Bull Island SPA (2022)	9.416	0.007	9.423	47	20
	Ecosystem SO ₂ Santry Demesne pNHA (2021)	2.1	0.024	2.124	11	20
	Ecosystems SO ₂ North Dublin Bay pNHA (2022)	9.9	0.007	9.907	50	20

Note 1: Units for deposition are kg/ha/yr.

Note 2: Air Quality Standards Regulations 2022, SI 739/2022, unless otherwise stated.

As can be seen from Table 6.2 above, the predicted ground level concentrations of NO₂ under the cumulative impact scenario, are within the relevant air quality standards. The concentrations of NO₂ (including background concentrations) in the worst-case year modelled are, at most, 94.3% of the 1-hour limit value (as a 99.8th percentile), and 97.7% of the annual limit value, at the worst-case receptor modelled.

Ecological receptors are discussed below.

6.1.1.2 Ecological Receptors – Cumulative Impact Scenario

The ecological site with the potential to be most impacted by the process contribution from the installation and cumulative sites, is the Santry Demesne pNHA. Cumulative emissions lead to a NO_x process contribution of 1.09 µg/m³ at this location, which is equivalent to 3.6% of the NO_x AQS (30 µg/m³). However, when background concentrations are included, the most impacted ecological site is North Dublin Bay pNHA, which would be 97% of the AQS. The Natura 2000 designated sites most impacted by cumulative process contribution emissions include the Baldoyle Bay SAC and Baldoyle Bay SPA. The modelling assessment predicted a cumulative NO_x process contribution of 0.57 µg/m³, however when background concentrations are included, the most impacted site is the South Dublin Bay & River Tolka SPA, which would be 99.7% of the AQS.

The licensee has stated that as there are no facilities within a 1 km radius of the installation with the potential for cumulative effects relating to NH₃ emissions. Therefore, the cumulative effects of NH₃ are the same as for the licensed operation scenario.

In the case of SO₂, the worst-case ecological receptor predicted process contribution from the installation and cumulative sites at the Santry Demesne pNHA is 0.024 µg/m³, which is equivalent to 0.12% of the relevant AQS (20 µg/m³). However, when background levels are included, the most impacted ecological site is North Dublin Bay pNHA, which is 50% of the AQS. In relation to the most impacted Nature 2000 designated sites, the modelling assessment predicted a cumulative SO₂ process contribution of 0.012 µg/m³ at the Baldoyle Bay SAC and Baldoyle Bay SPA. However, when background levels are included, the most impacted sites are North Dublin Bay SAC and North Bull Island SPA, which would be 47% of the AQS.

With regard to nitrogen deposition flux in the cumulative impact scenario, the ecological receptors with the worst-case nitrogen deposition flux (including background levels) are 7.641 kg/ha/yr at the North Dublin Bay pNHA and 7.147 kg/ha/yr at the Santry Demesne pNHA. The cumulative process contribution of 0.041 kg/ha/yr is equivalent to 0.82% of the lower limit of the critical load range for 'Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*)' for North Dublin Bay pNHA. The result is below the critical load range assigned to the habitat type 'Broadleaved deciduous woodland' for Santry Demesne pNHA. Therefore, the effect of nitrogen deposition on these ecological sites is not considered as significant. The Natura 2000 designated site most impacted in the cumulative impact scenario is South Dublin Bay SAC, with a predicted nitrogen deposition flux (including background) of 7.072 kg/ha/yr. Taking into consideration the cumulative emissions being within the critical load range of 5 - 10 kg/ha/yr for the habitat 'Shifting coastal dunes', and the distance to the SAC, which is approximately 6.7 km south of the installation, the effect of nitrogen deposition from the installation on South Dublin Bay SAC is not significant.

6.1.1.3 Summary

The licensee proposes to monitor for CO only. The MCP Regulations require monitoring of NO_x and CO for gas oil. The MCP Regulations also require the monitoring of SO₂ and dust, in addition to NO_x and CO, when MCP plants are operating on a liquid fuel other than gas oil (such as HVO). The existing licence (Reg. No. P1186-01) requires monitoring of CO, NO_x and flow, irrespective of the fuel used, and includes monitoring of SO₂ and dust 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 RD requires monitoring of flow, NO_x, CO, SO₂ and dust.

All of the back-up generators for Building U (excluding the 1 no. 2.19 MW_{th} generator) and Building V (excluding the 1 no. 3.6 MW_{th} generator) are each fitted with a Selective Catalytic Reduction (SCR) unit. The licensee states within Attachment 4-7-1 Large Combustion Plants BAT Reference Document of the application documentation that the SCR abatement system includes electronic sensors, and checks for proper urea injection, to ensure that the catalyst is functioning effectively to reduce NO_x emissions. A NO_x reduction of 10% by the SCR abatement has been assumed for these generators in the modelling assessment. The EPA Act 1992, as amended, states that the Agency may grant a licence subject to such conditions as it considers appropriate. Monitoring of NH₃ and SO₃ for generators with SCR abatement has been included in the RD (in line with BAT 4 of LCP CID 2021/2326/EU).

Considering the above, the RD includes the following conditions and limitations:

- The operation of each generator is restricted to 150 hours per year at 100% load, with no more than 248.11 MW_{th} operating simultaneously (based on the operational scenario of number of operational generators at any one time and thermal input of each of these individual generators, excluding 'catcher' generators at each building). In the event that one or more of the 'catcher' generators are unavailable due to maintenance, the licensee may operate mobile generator(s) in lieu of the 'catcher' generator(s) provided that the combined thermal input of the generators in operation does not exceed 248.11 MW_{th} (Schedule A of the RD). These operating limitations are in line with the modelling completed by the licensee.
- The RD also restricts the testing of the generators to no more than once per week at 25% load for a maximum of 30-minutes each, one generator at a time, sequentially, and to no more than 100% load for a maximum of 4-hours, once per quarter, one generator at a time, sequentially (Schedule A).
- For generators with SCRs, the RD requires continuous monitoring of NH₃.
- Schedule B and Schedule C of the RD requires the licensee to carry out monitoring and control of emissions in line with the MCP Regulations and as otherwise detailed in this Inspector's Report.
- The RD also requires the licensee to maintain a record of the type and quantity of fuel used, run times and loading, under both testing/maintenance and operating scenarios (Condition 11).

6.1.2 Fugitive Emissions

Gases will be used on site which are subject to the F-gas Regulations (EU No. 517/2014).

At the licensed installation there have been four incidents of uncontrolled releases related to F-gases recorded since September 2023 (one incident occurred in September 2023, with the likely cause detailed as plant or equipment maintenance, two other incidents occurred in April 2024 with the likely cause for both listed as equipment malfunction and one incident occurred in January 2026 with the likely cause listed as monitoring equipment malfunction/maintenance).

Condition 6 of the RD requires the licensee to prepare and implement a programme for the identification and reduction of any fugitive 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 process effluent discharged directly to surface water.

6.2.2 Emissions to ground/groundwater

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

6.2.3 Emissions to Sewer

Emissions to sewer from the installation comprise of domestic effluent from welfare facilities, such as toilets and canteen facilities, and storm water drainage from the fuel tanks farms, unloading bays and transformer compound. The installation will have a total of five no. sewer emission points; there are four existing foul sewer emission points (SE1 to SE4), and one additional foul sewer emission point is proposed (SE5).

For the existing site:

- Emission point SE1 caters for storm water flows from the fuel tank farm and fuel unloading area at Building W.
- Emission point SE2 caters for domestic effluent from Building W, the Newbury substation and storm water from the associated transformer yard.
- Emission point SE3 caters for domestic effluent from Building X, storm water from the fuel tank farm and fuel unloading area bays associated with Buildings X and Y.
- Emission point SE4 caters for domestic effluent from Building Y only.

For the extended site:

- Emission point SE5 will cater for domestic effluent from Buildings U and V and a foul line from the fire sprinkler pumphouse.

The drainage system catering for storm water from the fuel tank farms, fuel unloading areas, and the transformer compound associated with the existing site, and the foul line from the fire sprinkler pump house serving Buildings U and V, are equipped with Class I and Class II full retention hydrocarbon interceptors. The locations of these interceptors are illustrated on Drawing 21_123F-CSE-00-XX-DR-C-1200 (Rev C06). The hydrocarbon interceptors are equipped with high level sensors and oil detection systems, which are connected to the Building Management System.

All emissions to sewer discharge into the IDA foul drainage network, which ultimately discharges to Ringsend Waste Water Treatment Plant (Licence Reg. No.: D0034-02) for treatment. Ringsend WWTP is designed to provide secondary treatment. Treated effluent from the Ringsend WWTP is discharged to the Liffey Estuary Lower. According to EPA Maps, the coastal water quality for Dublin Bay has a reported status of good for the period 2019-2024.

While Uisce Éireann is required to comply with its Waste Water Discharge Authorisation (Licence Reg. No.: D0034-02) for Ringsend WWTP, the responsibility for the emissions into Ringsend WWTP lies with IDA Ireland, the owners of the foul sewer within the industrial estate. The licensee has a contractual agreement with the IDA to emit to the foul sewer within the industrial estate. Therefore, it is in the remit of the IDA to regularise issues in relation to the installation's emission to the Uisce Éireann treatment plant.

Uisce Éireann, under section 99E of the EPA Act, gave its consent for discharges from the installation, specifying certain ELVs, as well as certain other conditions and monitoring requirements for emission points SE1, SE2 and SE3. These ELVs and monitoring requirements have been incorporated into *Schedule B.3 Emissions to Sewer* and *Schedule C.3 Control of Emissions to Sewer* of the RD. Uisce Éireann did not include ELVs or monitoring for emission point SE4 (which caters for domestic effluent from Building Y only) or emission point SE5 (which will cater for domestic effluent from Buildings U and V and a foul line from the fire sprinkler pumphouse). Therefore, the RD does not contain ELVs or monitoring requirements for emission points SE4 and SE5.

6.2.4 Other emissions to ground/groundwater

There will be no process emissions discharged to ground or groundwater.

6.3 Storm water discharges

The installation will have a total of three no. storm water emission points; there are two existing storm water emission points (SW1 and SW2) licensed under the existing IE Licence Reg. No. P1186-01, and one additional storm water emission point (SW3) at the extended installation.

Storm water arising from the existing installation, which comprises of rain water from impermeable areas (aside from the fuel tank farms, fuel unloading areas and transformer compounds) and residual cooling water associated with the evaporative cooling process, will continue to discharge into the IDA storm sewer at SW1 and SW2. All storm water associated with the proposed new buildings, U and V, which will comprise of rain water from all impermeable areas and residual cooling water, is to discharge into the IDA storm sewer at SW3.

All storm water arising within the installation will be directed through attenuation tanks and Class I full retention or bypass and forecourt interceptors, prior to being discharged at a controlled rate into the IDA storm sewer. The hydrocarbon interceptors are equipped with high level sensors and oil detection systems which are connected to the Building Management System. The IDA storm sewer discharges into the Santry River which is located to the south of the site. The Santry River flows approximately 5.15 km east, to the North Bull Island transitional water body, and ultimately into Dublin Bay.

It is noted that hydrogen peroxide dosing of the cooling system (AHUs and pipelines) only occurs when a positive Legionella sample has been detected in a unit. For the purpose of Legionella management, the RD restricts the use of chemicals to hydrogen peroxide, unless otherwise approved by the Agency (Condition 2).

Air Handling Units (AHUs) provide conditioned air to maintain temperature, relative humidity and pressurisation in the data storage rooms. The cooling units operate under 2 modes: Free Cooling (utilising outdoor air during normal atmospheric temperatures, no water is consumed in this mode) and Evaporative (Adiabatic) Cooling (uses mains water as the cooling medium when ambient temperatures exceed the capacity of free cooling). The evaporative cooling water is sourced from the mains water supply provided by Uisce Éireann and does not require any chemical treatment when operational.

6.3.1 Evaporative cooling process water

Operation when evaporative cooling is required

The evaporative cooling water sumps in Buildings W, X and Y prefill when the ambient air temperature reaches 24.6°C. Units enter into evaporative cooling mode when the air temperature rises above 25°C. Evaporative cooling water recirculates through the sump over the evaporative pads. Fresh mains water tops up the sump as the cooling water is circulated and evaporated and when conductivity in the sump reaches 1,500 µS/cm. When the temperature drops below 24.6°C and evaporative cooling is no longer required, each evaporative cooling unit automatically drains its sump to storm water (approximately 60 litres per unit). No flow meters are installed on the cooling water discharges. The licensee has provided a conservative estimate of the maximum potential evaporative cooling discharge for the existing installation (approximately 117 m³ per day), which was calculated based on the system design and available on-site water storage. The number of AHU cooling units installed is as follows: Building W has 49, Building X has 32 and Building Y has 136.

Regular draining/ maintenance

Anti-stagnation drain-down occurs when the evaporative cooling system has remained unused for a continuous period of 7 days, to prevent stagnation and minimise the risk of Legionella growth within the system. Anti-stagnation drain-down, drains the mains water from within pipework, through the sump, to the storm water network. The anti-stagnation drain-down results in a minimum of 40 litres per unit per flush cycle being discharged to the storm water

network. This is approximately 1.96 m³ for Building W, approximately 1.28 m³ for Building X and approximately 5.44 m³ for Building Y per flush cycle.

For the new Building U, the cooling system is designed for winterised operation from 1 October to 31 March annually. However, according to the licensee, it has remained in winterisation since entering operation, as ambient temperatures have not exceeded the system set points. There are essentially no emissions/ discharges from this building's air handling units when in winterisation as there is no anti-stagnation drain-down process when the system is winterised. The anti-stagnation drain-down would be at minimum 40 litres per unit (approximately 1.44 m³ per flush cycle). Building U has 36 AHUs installed, each with two x 60-litre sumps.

Evaporative process cooling water from the AHUs in Building W, Y and X discharge to the storm water drainage network. For the extended installation, the licensee proposes that evaporative process cooling water from the AHUs in Building U will discharge to the storm water drainage network. There are no evaporative cooling systems in Building V.

As part of the licence application documentation (response to Further Information Request dated 29 August 2025), the licensee has provided the expected quality parameters of the anti-stagnation drain-down and evaporative cooling water discharges. The licensee has stated that they have been unable to capture representative sampling data and therefore based the expected quality parameters on historical sampling of *mains water* and based on *estimates* provided by the Amazon Data Services Ireland Limited Waters Team. The licensee states that evaporative cooling discharge shows relatively elevated concentrations of dissolved minerals and salts due to recirculation and evaporative concentration and that the cooling water discharges are *essentially* uncontaminated and pose no risk of environmental pollution [emphasis on words in this paragraph was added by Inspector].

Condition 3.17 of the current licence (Reg. No. P1186-01) required the licensee to carry out a study on the feasibility of diverting evaporative cooling water to sewer and to submit the report to the Agency for approval within twelve months of date of grant of the licence (within twelve months post 15 June 2023). Documentation submitted to the OEE and supplied as part of the licence review application states that the licensee: "initiated a sampling program to capture monitoring data in order to carry out an evaporative cooling water quality assessment of discharge prior to any mixing with surface water generated from rainfall precipitation within the confined of the licensed site. This dataset was to be used to carry out an assessment in the feasibility to reroute evaporative cooling water from surface water discharge to the foul water network and to demonstrate the perceived environmental benefit of such an approach." However, according to the licensee, challenges were encountered such as unpredictable timing of evaporative cooling cycles based on ambient temperatures and negligible discharge volumes making it impractical to isolate and capture representative samples. According to the licensee, factors such as these have made it impractical for Amazon Data Services Ireland Limited to capture representative sampling data, despite having a methodology in place to sample the discharge directly from the AHUs. Given the challenges encountered, the licensee proposes not to reroute the evaporative cooling discharge to the foul water network.

From 2023 – 2025 there have been nine non-compliances and three minor incidents in relation to storm water. The non compliances related to where visual inspection or weekly sampling of the storm water was not undertaken and regarding elevated pH levels.

Based on the information available, the Inspector has determined that the licensee has not provided sufficient evidence that the evaporative cooling process water (including but not limited to circulated cooling water, water drained/flushed from air handling system pipework and water from air handling unit sump tanks) is uncontaminated and the licensee has not proposed alternatives to discharging to storm water (e.g. the licensee has not proposed any of the following: ELVs for an emission to surface water, diverting to foul sewer or containing the emissions so it can be tankered off-site to a suitable disposal vendor). It should be noted that both the current licence Reg. No. P1186-01 and the RD define storm water as 'rainwater run-off from roof and non-process areas'. The evaporative cooling process water does not fall within this definition of storm water.

Therefore, the RD requires the following for the evaporative cooling process water emissions related to each building (including but not limited to circulated cooling water, water drained/flushed from air handling system pipework and water from air handling unit sump tanks):

- For the new Buildings U and V, evaporative cooling process water must not be discharged to the storm water network.
- For the existing Buildings W, X and Y,
 - The licensee must submit an action plan to the satisfaction of the Agency, within three months from the date of grant of the revised licence, for the segregation of evaporative cooling process water from the storm water network.
 - This action plan must outline the measures to segregate evaporative cooling process water from the storm water network and the separate treatment of evaporative cooling process water.
 - The licensee must segregate evaporative cooling process water from the storm water network within six months of date of grant of this licence.

As the RD requires that the emissions of evaporative cooling process water to the storm water network must cease within 6 months, the licensee may need to adopt an interim solution (within the constraints of the RD) to cease these emissions to storm water within 6 months of the date of grant of the licence. Through the plan to be submitted to OEE, the licensee may propose a longer-term solution that may take longer than 6 months (in addition to implementing an appropriate interim solution that will cease the evaporative cooling process water emissions to storm water within 6 months of date of grant of the licence). The licensee must follow the required processes to implement the relevant changes such as through Technical Amendment or licence review as appropriate.

The table 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 (discharge point)	Visual (daily); pH, Total Organic Carbon (TOC), Temperature & Conductivity (weekly)	Class I by-pass interceptor, Attenuation tank.	All hardstanding areas (aside from fuel tank farm, fuel unloading area and transformer yard); evaporative process cooling water from Building W	Clonsaugh Business Park storm sewer and Santry River	Required by RD
SW2 (discharge point)	Visual (daily); pH, Total Organic Carbon (TOC), Temperature & Conductivity (weekly)	Class I by-pass interceptor, Attenuation tank.	All hardstanding areas (aside from fuel tank farm, fuel unloading area and transformer yard); evaporative process cooling water from Buildings Y and X.	Clonsaugh Business Park storm sewer and Santry River	Required by RD
SW3 (discharge point)	Visual (daily); pH, Total Organic Carbon	Class I by-pass interceptor,	All hardstanding areas; evaporative	Clonsaugh Business Park	Required by RD

Storm water discharge point details					
Emission Reference	Monitored parameters (monitoring frequency)	Abatement	Drainage areas	Discharging to	Trigger levels established (Y/N)
	(TOC), Temperature & Conductivity (weekly)	Class I full retention and Class I forecourt interceptor, Attenuation tank.	process cooling water from Building U and V.	storm sewer and Santry River	
Automatic diversion in place:	No. Manual diversion is in place on SW1 and SW2. The RD requires that in the event of fire, or a spillage to storm water, that the storm water collection system must provide for the automatic diversion of storm water for collection and appropriate management.				

The RD requires the licensee to maintain the storm water drainage system. Storm water trigger levels were submitted by the licensee to OEE under Condition 6.10.2 of the existing Licence Reg. No. P1186-01; however these levels were rejected by OEE. Condition 6 of the RD requires the licensee to establish trigger values in storm water in accordance with EPA guidance. The RD requires that the storm water discharge is visually inspected (daily) and monitored for pH, TOC, temperature and conductivity (weekly), in accordance with *Schedule B.5 Storm Water Discharge Monitoring* of the RD.

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

6.4 Noise

The main sources of noise at the extended installation will be from the operation of the back-up generators, air handling units, coolers and fans. The existing Buildings X, Y and W are located close to the main entrance to Clonsaugh Business and Technology Park, located off the Oscar Traynor Road, whilst the proposed new Buildings U and V are located on the opposite side of the entrance. The business park accommodates a range of technology and industrial type uses and is bounded by the M50/M1 to the west, the Santry River to the south with Oscar Traynor Road beyond, residential properties to east and the R139 to the north. The nearest residential property is approximately 28 m east of the boundary of the installation. Other residential developments are approximately 300 m (west) and 135 m (south) of the site boundary. In addition, there are a number of commercial and industrial operations located on lands to the north, east, south and west of the site.

As part of the existing licence, a noise monitoring survey is carried out annually at five noise-sensitive locations outside the site boundary. Historical data from these surveys indicate that the installation is consistently compliant with the licence limits for noise. Since Licence Reg. No. P1186-01 was issued, no noise complaints have been received.

Baseline noise measurements, which were taken at eight locations in the vicinity of the installation, demonstrated that the site is not within a "quiet area" or in an area of "low background noise" as defined in the Agency's NG4¹ Guidance.

¹ Guidance Note for Noise: Licence Applications, Surveys and Assessments in relation to Scheduled Activities (NG4) (2016) as may be amended or replaced by the Agency.

The existing environment is dominated by traffic noise from the R139, M50 and M1, aircraft activity associated with Dublin Airport, and noise associated with agricultural machinery.

The location of baseline noise measurements are shown in Figure 6.4.1 and the nearest NSLs are shown in Figure 6.4.2.

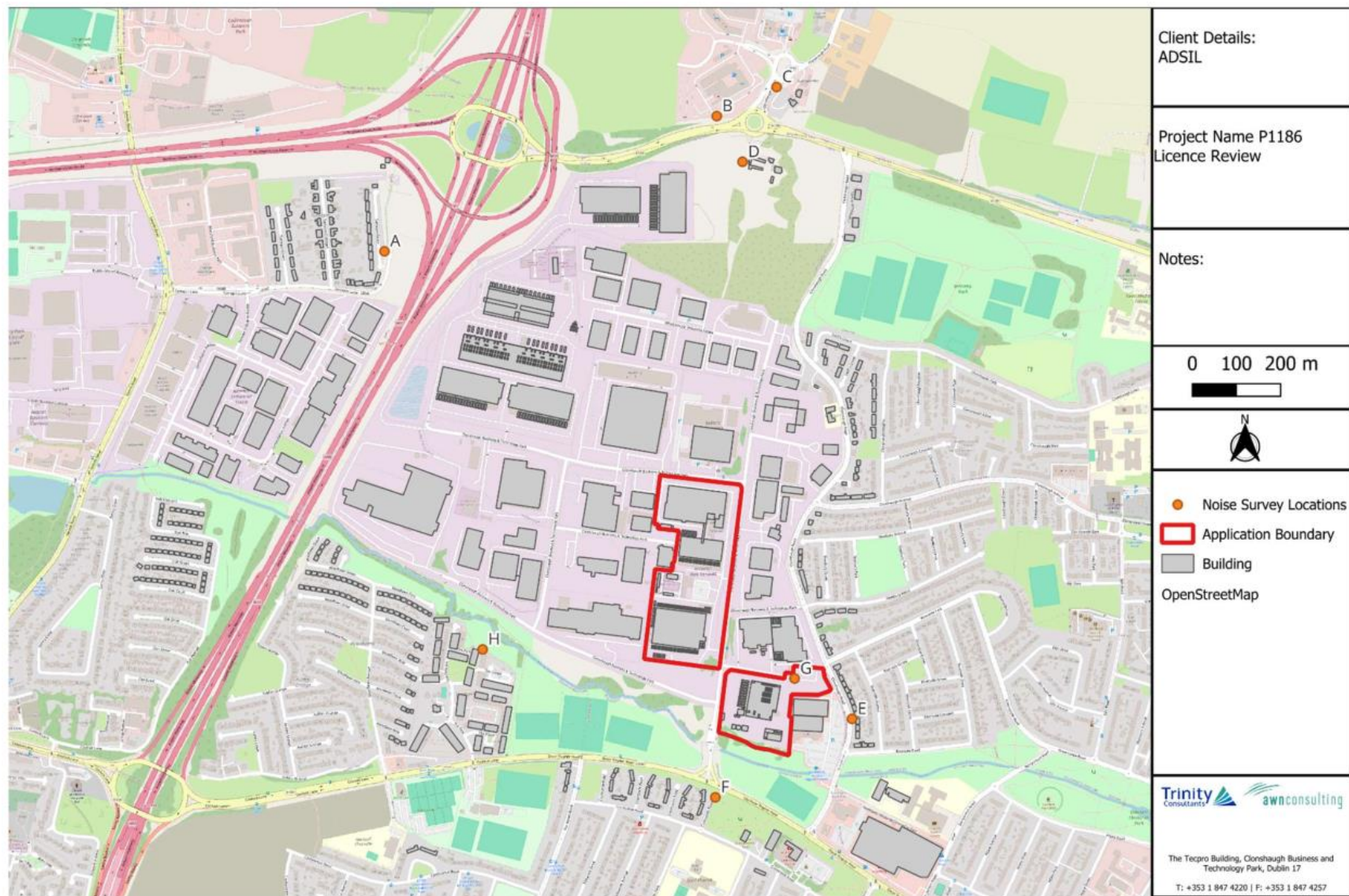


Figure 6.4.1: Noise Monitoring Locations (A, B, C, D, E, F, G and H) [source: Figure 3: Attachment 7-1-3-2 – Noise Impact Assessment]



Figure 6.4.2: Noise Assessment Locations [source: Figure 5: Attachment 7-1-3-2 – Noise Impact Assessment]

Noise modelling has been used by the licensee to predict worst-case impacts of noise sources from the installation at nearby noise sensitive locations (NSLs). Three operational scenarios were assessed; *Scenario A* where no back-up generators are operating, *Scenario B* is representative of a situation whereby all back-up generators are running at 100% load, and *Scenario C* is representative of generator testing scenario, where one generator (in this instance, the eastern most generator associated with Building W), is tested at 100% load and during daytime hours only. Modelling results indicate that the predicted noise levels at the NSLs are within the day, evening and nighttime noise limits as per NG4² for Scenario A and Scenario C³.

However, under Scenario B, it is evident that the installation would not be able to comply with the standard evening (50 dB L_{Ar,T}) and nighttime noise limits (45 dB L_{Ar,T}). The licensee has proposed that a daytime, evening and nighttime limit of 55 dB LA_{eq} is applicable under Scenario B and refers to the UK NHS document titled *Health Technical Memorandum 08-01: Acoustics (HMSO, 2013)* and Section 4.4.1 of NG4 whereby licensed sites which have certain equipment which only operate in urgent events such as grid power failure (e.g. standby diesel generators), may be permitted to exceed the standard noise limit values during such events. However, this approach is not considered applicable for Scenario B, in that each of the 52 no. back-up generators could potentially operate for an extended period (up to 150 hours per annum). Therefore, the standard noise limit values are applied at the noise sensitive locations.

Given that the nearest sensitive ecological receptor (i.e. Santry Demesne pNHA) is located approximately 1.3 km west of the installation, the licensee concludes that based on the separation distance, operational noise from the installation is expected to be inaudible at this site.

In regard to cumulative noise, there is the potential for an exceedance of the evening and nighttime noise level when operating under Scenario B.

As there is the potential for an exceedance of the evening and nighttime noise limits at NSLs when the installation is operating alone and cumulatively, the RD (Condition 6) requires that the Noise Management Plan be updated and implemented within six months of date of grant of the licence.

Noise conditions and emission limit values, which apply at the noise sensitive locations, have been included in the RD.

7 Waste generation

Certain wastes are generated on site as part of the licensable activity. Waste generated on site mainly comprises of waste from maintenance activities such as oily water, discarded electrical and electronic equipment, and mixed municipal waste. The total quantity of waste generated in 2024 was approximately 153 tonnes. It is expected that the entire extended installation will generate approximately 226 tonnes per annum.

All waste materials are segregated into appropriate categories and stored in appropriate bins or other suitable receptacles in designated, easily accessible areas in the site. Hazardous waste generated, such as containers that previously held hazardous substances or waste generated during maintenance activities, are placed in lined and hazardous labelled waste bins located internally near the unloading bays.

Oil captured by the hydrocarbon interceptors is held within the interceptor tanks. The oily water is removed directly from each interceptor by a specialised contractor by means of a vacuum tanker. The contractor removes the waste at the time of cleaning for off-site recovery and/or disposal. The quantity of waste oil from the generators will be minor.

² Guidance Note for Noise: Licence Applications, Surveys and Assessments in relation to Scheduled Activities (NG4) (2016) as may be amended or replaced by the Agency.

³ Daytime noise limit applicable for Scenario C as only one back-up generator will be tested at any one time and only during day time hours.

An external contractor is employed to maintain the generators and replace the oils as required. Waste oils as well as oily rags and used filters are collected and removed from site by the external contractor. Waste commercial batteries are not stored on site. These are removed offsite for appropriate recovery and/or disposal by the contractor in charge of maintaining the electrical equipment.

Non-hazardous waste such as domestic waste arising from offices and other staff areas include paper and office waste as well as dry mixed recyclables and compost food wastes. These wastes are separated at each of the individual data storage facilities and then emptied into skips/larger bins externally for collection by the nominated waste contractor.

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 of the application form, 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 and electricity. The quantities currently used per annum and estimated quantities for the entire installation, as specified in Attachment 4-6-1 (Water-Energy usage Rev) of the application and RFI response dated 04 March 2025, are given below.

Table 8.1: Resource Use Details

Resource	Current quantity per annum for existing installation	Estimated quantity per annum for extended installation
Electricity (purchased)	248,720 MWh	318,799 MWh
Gas Oil (Diesel)	1,083.2 tonnes	3,716.32 tonnes (150 hours of operation and testing per generator)
Hydrotreated Vegetable Oil (HVO)	-	3,655.82 tonnes (150 hours of operation and testing per generator)
Water (Public Supply)	17,886 m ³	18,972 m ³
Other Water (rainwater)	-	792 m ³

The licensee employs a variety of technology to maximise the efficient use of energy within the installation, including a Building Management System (BMS) and an Electrical Power Management System (EPMS) which are in place to track the operation of critical sub-units and report back on energy efficiency of each section. In addition, the licensee has developed an energy efficiency management system (ENEMS) which sets out the energy targets for the installation.

The licensee is required to address resource use and energy efficiency. Energy efficiency will be integrated into the sites' Environmental Management System (EMS). Environmental procedures and policies, relating to energy management and efficiency, will be developed and will meet the requirements listed in BAT 1 of the Reference Document on Best Available Techniques for Energy Efficiency.

In the application of LCP CID (BAT 2), Condition 7 of the licence 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 licence.

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. The table below specifies the risks and the associated safety measures relevant for this installation.

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.	• Risk of fire leading to air, water, or soil emissions. • Potential for leaks and spillages of fuel, oil and other liquid chemicals during delivery, storage or use. • Potential failure of the hydrobrake on the attenuation pond or hydrocarbon interceptors causing discharge of contaminated water.
Preventative/Mitigation measures to reduce the likelihood of accidents and mitigate the effects of the consequences of an accident at the installation.	• An Emergency Response Plan (ERP) has been prepared by the licensee and will be updated following the grant of the Industrial Emissions Licence. The ERP details the required actions to be undertaken in the event of an incident on site and covers possible emergency scenarios including fires, explosions, natural disasters, chemical spills, terrorism, etc. • A fire detection, alarm and suppression system is in place to detect fire and enable audio and visual alarms. • Each data centre is equipped with a heat and smoke fire detection system and is connected to the main fire panels which are manned at all times. The fire detection and alarm systems are connected to the sprinkler system, and these will be triggered in the event of a fire. • The fire detection and alarm systems are subject to routine checks by site personnel and are inspected and tested by the external service provider on a regular basis. • A fire ring main is in place across the entire installation to provide firefighting water. There is 1 x fire sprinkler tank and pump house associated with Building W, which contains 2 x fire sprinkler pumps, and 1 x fire sprinkler tank and pump house associated with Building X and Y, which contains 2 x fire sprinkler pumps. Building U and V have 1 x fire sprinkler tank and pump house associated which contains 2 x fire sprinkler pumps. • The storm-water drainage system is fitted with Class I by-pass interceptor, Class I full retention, and Class I forecourt interceptors. The foul network, which conveys storm water from the fuel tank farm, fuel unloading bays and the transformer yards, is fitted with Class I full retention and Class II full retention interceptors. • Each hydrocarbon interceptor on the storm water and foul network is fitted with high level liquid sensors, which indicates when the liquid level in the hydrocarbon interceptor rises excessively. There are also oil level detection systems, which detects the oil level based on conductivity. If activated, both sensors trigger an alarm and the penstocks installed prior to discharge points SW1 and SW2 can be

Potential accidents & measures for prevention/limitation of consequences	
	manually closed. A manual penstock is planned to be installed prior to SW3. • The bulk fuel tanks, serving Building Y, W and X, and the top up fuel tank, serving Building U & V, are bunded and fitted with hydrocarbon probes, level gauges and alarms. • Drainage sumps at the fuel unloading bays, bulk fuel tanks, top up fuel tank and the transformer compounds, contain hydrocarbon detectors, which automatically shuts off drainage from these sumps if fuel is detected. These probes are connected to the BMS/EPMS critical alarm. • The back-up generators associated with Buildings Y, W, U & V are located in designated containers which are bunded and fitted with leak detection systems. Additionally, the back-up generators associated with Building X, which are located within an internal building, are bunded and fitted with leak detection system. • All day tanks are double skinned and fitted with high and low level alarms, and leak detection. Belly tanks are also fitted with leak detection alarms. • Delivery and transfer of fuel are carried out in accordance with standard operating procedures. • The installation operates a Building Management System (BMS) and an Electrical Power Monitoring System (EPMS) for control and monitoring, data collection and alarm/reporting of the air handling systems and mechanical utility systems site wide. Specifically, this includes the cooling systems, electrical supply, back-up generators, water supply, fire alarms, fire detection and suppression systems and fuel oil use.
Additional measures provided for in the RD	• Accident prevention and emergency response requirements (Condition 9). • The integrity and water tightness of all tanks, bunding structures, containers and underground pipes and their resistance to penetration by water or other materials carried or stored therein to be tested in accordance with Condition 6. • Storm water discharge points to be visually monitored on a daily basis (Condition 6). • 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). • All pump sumps, storage tanks or other treatment plant chambers from which spillage of environmentally significant materials might occur will be fitted with high-level oil alarm (Condition 3). • Firewater retention risk assessment (Condition 3).

Condition 9 of the RD requires procedures to be put in place to prevent accidents that could have a possible impact on the environment and to respond to emergencies so as to minimise the impact on the environment.

The Health and Safety Authority is the central Competent Authority for the Chemicals Act (Control of Major Accident Hazards Involving Dangerous Substances) Regulations 2015, (SI 209/2015). Under the COMAH Regulations, the quantity of gas oil (including diesel fuels) which qualifies a given site for the application of lower-tier and upper-tier requirements under these regulations is 2,500 tonnes and 25,000 tonnes respectively. The maximum quantity of diesel/HVO to be stored on site is less than 750 tonnes, which is below the lower-tier threshold level.

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 main risk is soil and water contamination through spills or leaks of fuels, oils or other liquid chemicals used or stored at the installation.

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. Condition 10 of the RD 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 screening assessment was undertaken by the licensee, in accordance with Stages 1 to 3 of European Commission Guidance⁴. Even though the screening assessment concluded that the risk of contamination to soil and groundwater is low, the licensee determined that due to the volume of gas oil, which is a Relevant Hazardous Substance, to be used, stored and transported to site, a complete baseline report was required (Stages 4 to 8). A baseline report was submitted with the application as Attachment 4-8-3.

A review of historical aerial imagery and mapping indicated that the site and surrounding lands were historically used for agricultural purposes of various plot sizes which is typical of the rural setting prior to the 1980s. By 1995 Clonsbaugh Business and Technology Park area was developed and surrounded by residential areas, and the M1 and M50 motorway were under construction. Prior to the construction of Buildings X, Y and W, the site had been in commercial and industrial use. The southern section was formerly a warehouse, the middle section was previously used as a printing press and the northern section was the former Acco/Rexel site. The proposed new Buildings U and V will be located on a brownfield site which was formally occupied by a toy factory.

The site of Buildings X, Y and W is flat with a shallow gradient running in a south-easterly direction. While the site of Buildings U and V is also relatively flat, the southern sections of the site slope towards the Santry River. GSI maps indicate that the site for Buildings X, Y and W is underlain by Dinantian Upper Impure Limestone which is part of the Lucan Formation, and the site for Buildings U and V is underlain by the Lucan Formation and the Tober Colleen Formation. The Lucan Formation has been classified by the GSI as a Locally Important Bedrock Aquifer which is moderately productive only in local zones (LI). The Tober Colleen has been classified by the GSI as a Poor Bedrock Aquifer which is generally unproductive except for local zones (PI). GSI currently classifies the bedrock aquifer of the region as having low vulnerability.

A review of the geology and hydrogeology in the surrounding region indicates that there are no sensitive receptors such as groundwater-fed wetlands, significant public water supplies/group water schemes or geological heritage sites

⁴ European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions.

within the immediate vicinity which could be impacted by the installation. Based on the Institute of Geologists of Ireland (IGI) criteria for rating the importance of hydrogeological features, the importance of the hydrogeological features at this site is rated as medium importance.

There are no existing surface water drainage networks on site. The River Mayne lies to the north of the site, while the Santry River bounds the site to the south. Under the WFD, the ecological status of the Mayne and Santry waterbodies are both classified as being 'Poor Status' (Cycle Status 2019-2024) and as being 'At risk' of not achieving good status. Storm water from the site discharges in the business park storm sewer drainage system, which discharges into the Santry River south of the site and flows 5.15 km east to the North Bull Island transitional water body, and ultimately into Dublin Bay.

The groundwater body (GWB) beneath the site is part of the "Dublin Urban" GWB (IE_EA_G_005) which has a "good" water body status. Groundwater flows are in a south easterly direction towards Dublin Bay. There are no source protection areas relating to group water schemes or public water supplies within 3km of the site and there are no groundwater wells located hydraulically downgradient between the site and the Santry River.

A review of the OPW CFRAM mapping for the area indicates that the site for the proposed new Buildings U and V, which are adjacent to the Santry River, has a low probability of a flood event, however the remainder of the installation is not at risk.

Located approximately 1 km upgradient of the site is an historic illegal landfill, located on lands owned by the IDA. In advance of remedial works undertaken in 2020/21, exploratory site investigation works noted that the waste body is dry, with no significant leaching or gaseous emissions; however there was hydrocarbon staining and odours were detected. Waste Acceptance Criteria testing confirmed that the waste body is primarily non-hazardous, with some localised areas considered to be hazardous due to the presence of hydrocarbon contaminated waste. The waste is underlain by low permeability boulder clay, and monitoring confirmed that this protects the underlying aquifer should any leachate be generated within the waste body. Due to the low permeability, the lack of gaseous emissions, and dry leachate-free waste, there is no source pathway linkage between the landfill and the site of the installation.

The baseline report identifies the control measure in place in relation to the prevention of spills and leaks of diesel on site. These include the following:

- the day tanks are double skinned and fitted with high and low level alarms. The bulk tanks and top up tank are bunded and also fitted with high and low level alarms,
- the bulk fuel tanks, delivery bays and transformer bunds are equipped with hydrocarbon probes in the bund sump, which, in the event that diesel is detected, triggers the closure of the sump discharge and sends an alarm to the control system,
- the on-site storm water and foul drainage systems are fitted with hydrocarbon interceptors which are equipped with level alarms, and
- fuel pipelines, below ground, are dual-contained pipe systems.

The current Licence Reg. No. P1186-01 requires soil and groundwater monitoring for hazardous substances to be conducted within 12 months of date of grant of the licence, and requires soil and groundwater monitoring for hazardous substances thereafter every ten and five years respectively (in accordance with the requirements of the IED). These monitoring requirements are included in the RD (Condition 6, *Schedule B.6.1 Groundwater Monitoring and Schedule B.6.2 Soil Monitoring*).

The RD includes a number of conditions to reduce the risk to soil and groundwater by preventing discharges to ground as follows:

- the provision and maintenance of adequate bunding for all tank, container and drum storage areas (Condition 3),

- the provision of high-level liquid alarms (or oil detectors as appropriate) in storage areas from which spillage of environmentally significant materials might occur (Condition 3),
- the regular integrity testing of bunding structures, tanks, underground pipelines and containers installed on site (Condition 6), and
- waste and materials to be stored in designated areas, protected as may be appropriate against spillage and leachate run-off (Condition 8).

11 Fit & Proper Person

Technical Ability

The licensee has provided details of the qualifications, technical knowledge and experience of key personnel. The licence review 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 application.

12 Submission

One submission was received in relation to the licence application and the main points raised are briefly summarised in Table 12.1 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 (RD).

Table 12.1: Submission

Submission			
1.	Name & Position Fiona Byrne; Principal Environmental Health Officer	Organisation: Health Service Executive; Environmental Health	Date received: 23 September 2024
	Issues raised: 1. The HSE assessed the air emissions impact assessment and is satisfied that there will be no significant air emissions during the normal operation of the installation. The HSE is satisfied with the conclusion in the air emissions impact assessment, which states that impacts on ambient air quality associated with the proposed development at the Amazon installation will be in compliance with the ambient air quality standards, which are based on the protection of the environment and human health. 2. The HSE considered the noise impact assessment submitted to the EPA. Due to the number and close proximity of residential, commercial and industrial properties, the HSE recommends that additional noise monitoring is		

Submission	
	carried out to ensure any cumulative noise impacts have been addressed by proposed mitigation measures and is recommended for the protection of human health. 3. The HSE assessed the surface water and ground emissions impact assessment. The HSE Environmental Health is satisfied with the conclusion of the surface water and ground emissions impact assessment which concluded that there is no direct discharge, and no direct pathway to groundwater from this site, there is no likely potential impact on the soil environment or underlying groundwater body. Due to the potential for leaks and spillages from fuel tanks on site, the HSE recommends the following mitigation measures: ○ fuel storage tanks are located above ground, with full containment and all containers are suitable for the chemicals stored within, ○ bunds shall conform to the standard bunding specifications, ○ standard operating procedures for fuel unloading is in place, and ○ on site emergency response plan is in place and spill kits are at all storage areas. Agency response: 1. The Agency notes the submission regarding air quality. Emissions to air are discussed in Section 6 of this Inspector's Report. 2. Noise emissions from the installation are dealt with in detail in Section 6.4 Noise of this Inspector's Report. Condition 6 of the RD requires a noise management plan, with actions to ensure compliance with the noise limits set out in Schedule B.4 of the RD (which specifies day, evening and nighttime limits to be met at noise-sensitive locations), to be put in place within 6 months of date of grant of the licence. 3. Condition 3 of the RD includes conditions related to tank, container and drum storage areas, including that they must be impervious to the materials stored within, and conditions related to bund sizing and design. Condition 6 of the RD requires integrity testing and inspection of bunds and requires groundwater and soil monitoring. Condition 3 includes conditions on the requirement to have an adequate supply of containment booms or suitable absorbent material to contain and absorb any spillage. Condition 9 includes conditions on the requirement to have accident prevention (that addresses the hazards on site, particularly in relation to the prevention of accidents with a possible impact on the environment) and emergency response procedures in place.

13 Consultations

13.1 Cross Office Consultation

I consulted with Ann Lyng, OEE regarding EPA charges and OEE Inspectors, Cyril Tynan, Joshua Copage and Deborah Foy in relation to this site and individual licence conditions. In general, the OEE have no significant concerns regarding the proposed changes to the licensable activity.

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.

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 North Dublin Bay SAC (000206), Baldoyle Bay SAC (000199), Malahide Estuary SAC (000205), South Dublin Bay SAC (000210), Howth Head SAC (000202), Rockabill to Dalkey Island SAC (003000), Ireland's Eye SAC (002193), Rogerstown Estuary SAC (000208), South Dublin Bay and River Tolka Estuary SPA (004024), North Bull Island SPA (004006), Baldoyle

Bay SPA (004016), Malahide Estuary SPA (004025), North-west Irish Sea SPA (004236), Ireland's Eye SPA (004117), Howth Head Coast SPA (004113), and Rogerstown Estuary SPA (004015).

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 can 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 not required.

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

- the installation is located in a private business park and is not within a European Site,
- atmospheric dispersion modelling as submitted by the licensee for NO_x, NH₃, SO₂, nitrogen and acid deposition, indicates that the European Sites and their qualifying interests will not be adversely affected by air emissions arising at the installation. Under the licenced operation scenario, which includes the operation of 45 no. of the 52 no. back-up generators for to 150 hours per annum and testing of back-up generators, the modelling assessment determined that process contributions (PC) of NO_x, NH₃, SO₂ and nitrogen deposition from the installation are within the relevant critical levels and critical loads assigned to the relevant European Sites. However, where PC from other projects and background levels (in-combination effects) are considered, the most impacted site in relation to NO_x is the South Dublin Bay & River Tolka SPA (004024), which is 99.7% of the annual limit and the most impacted site in relation to NH₃ is Howth Head SAC (000202), which is 108% of the annual limit. Such exceedances are primarily due to the high background concentrations rather than the PC's from the installation and other projects. No in-combination modelling for NH₃ emissions were undertaken as it was determined that there were no other projects within a 1 km radius of the installation with the potential for in-combination effects. The most impacted designated sites regarding in-combination SO₂ emissions are North Dublin Bay SAC (000206) and North Bull Island SPA (004006) which would be 47% of the annual limit. In regard to in-combination effects and nitrogen deposition, South Dublin Bay SAC (000210) is the most impacted site. Given the predicted nitrogen deposition flux (including background) is within the critical load range of 5 - 10 kg/ha/yr for the habitat 'Shifting coastal dunes', and the distance of the installation to the SAC, which is approximately 6.7 km south, the effect of nitrogen deposition on South Dublin Bay SAC is not significant,
- European Sites and their qualifying interests are considered to be outside of the Zone of Influence of noise emissions arising at the installation,
- 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 pumphouse will be discharged to the private IDA foul sewer before ultimately discharging to the Ringsend Wastewater Treatment Plant,
- storm water runoff from impermeable areas of the installation (aside from fuel tank farm, fuel unloading area and transformer yard) and residual cooling water associated with the evaporative cooling process will discharge to the private IDA storm sewer. This outfall flows into the Santry River which ultimately connects to Dublin Bay approximately 5 kms downstream of the installation.
- there will be no direct process emissions to ground or groundwater, and
- 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.

Information in relation to European Sites is available on www.npws.ie.

15 EPA Charges

The annual enforcement charge recommended in the RD is €8,571, which reflects the anticipated enforcement effort required and the cost of monitoring. This is the charge associated with the same enforcement risk category (C1) as set out for 2025 for the installation.

16 Section 15 of Climate Action and Low Carbon Development Act 2015 (as amended)- Climate assessment

This assessment was prepared in accordance with the “Approach to addressing the Agency’s obligations under section 15(1) of the Climate Act as part of the EPA’s licensing functions” approved by the EPA Board on 31 March 2026.

16.1 Site-specific information

The potential direct effects on climate from the proposed installation are from CO₂ and methane emissions released from the combustion of diesel in the back-up generators. HVO is a biofuel which is considered as biogenic and so can be zero-rated for the EU Emissions Trading System (EU ETS).

Based on the current fuel consumption provided by the licensee for the existing IE Licence Registration No. P1186-01, the annual direct emissions of CO₂ eq. per annum from the installation that arise from the activity is approximately 3,439 tonnes CO₂ eq.

The annual direct emissions of CO₂eq per annum from the installation that would arise from the activity, as applied for under IE Licence Registration No. P1186-02, is a maximum of approximately 11,798 tonnes CO₂ eq., which is an increase in comparison to the annual direct emissions that are currently taking place under the existing licence. This estimate of the maximum annual emissions of CO₂ from the back-up generators has been calculated based on the licensee’s projected fuel usage. This is a worst-case estimate of the annual emissions of CO₂ from the back-up generators, assuming that the back-up generators run on diesel and operate for the maximum permitted 150 hours (per generator, per annum). This level of direct emissions will occur only if the back-up generators are used such as in the event of a loss, reduction or instability of grid power supply; critical maintenance of power systems; or a request from the utility supplier to reduce grid electricity load. Much lower levels of direct emissions of CO₂ eq. will occur from the installation during normal operations, related to testing and maintenance of the back-up generators.

Indirect emissions of CO₂ arise from the use of electricity from the national grid if this electricity is generated from the combustion of fossil fuels. The amount of electricity to be used from the national grid by the installation would be approximately 318,799 MWh. Under the EU ETS, these indirect CO₂ emissions are reported at the original electricity generating plant. The carbon intensity of electricity in Ireland has fallen in recent years, down from 375 gCO₂/kWh in 2018 to 254 gCO₂/kWh 2023 and is predicted to decrease further to 100 gCO₂/kWh in 2030 as a result of the increase in renewables to 70% of the electricity market by 2030.

Overall, the proposed activity will result in a net increase in CO₂ emissions compared to the existing IE licence. The impact of these direct and indirect emissions from the installation are considered significant in accordance with the IEMA methodology and therefore mitigation measures are required.

It is noted that the Agency is prohibited under the IED from setting emission limit values on direct greenhouse gas emissions from industrial installations that are regulated under the EU ETS, unless necessary to ensure that no significant local pollution is caused. For the proposed installation, it is considered that no significant local pollution issues might arise as a result of GHG emissions that warrant a condition.

The following mitigation measures are proposed by the applicant:

- GHG permit

The EU ETS is the cornerstone of EU emissions reduction policy and an important mitigation mechanism for Member States' GHG reduction efforts. The applicant already participates in the EU ETS in relation to combustion in the on-site back-up generators with an existing GHG Emissions Permit (IE-GHG173-04).

Indirect emissions associated with the consumption of electricity are also covered by the EU ETS at the original electricity generating plant.

- Use of BAT / energy efficient design

The licensee employs a variety of technology to maximise the efficient use of energy within the installation, including a Building Management System (BMS) and an Electrical Power Management System (EPMS) which are in place to track the operation of critical sub-units and report back on energy efficiency of each section. In addition, the licensee has developed an energy efficiency management system (ENEMS) which sets out the energy targets for the installation.

Energy efficiency will be integrated into the sites' Environmental Management System (EMS). Environmental procedures and policies, relating to energy management and efficiency, will be developed and will meet the requirements listed in BAT 1 of the Reference Document on Best Available Techniques for Energy Efficiency.

Energy auditing is proposed by the licensee to be a key feature of the EMS and Energy Efficiency Management System (ENEMS). The licensee states that performance testing of the combustion plants (at 90% to prevent the risk of overloading the generators) has been carried out during the commissioning phase; and will be undertaken after each modification that could significantly affect the net electrical efficiency, net total fuel utilisation, and/or net mechanical efficiency of the unit. On-site electricity usage will be minimised as far as possible within the constraints of the process optimisation. Key process monitoring will be carried out to monitor the plant performance including water usage, energy consumption (fuel and electricity), hours of operation and power generated. The plant performance and equipment will be continually monitored by on-board control systems and will alarm in the event of a fault.

- Potential to use alternative supplies (e.g. HVO)

The licensee proposes that for both the existing and extended installation, the generators may operate using gas oil (diesel) or HVO (Hydrotreated Vegetable Oil) fuel, with a preference to use HVO when supply is available. HVO is a biofuel which is considered biogenic and so can be zero-rated for ETS. The licensee details that a combination of both diesel and HVO may be used, and that HVO and diesel can be stored simultaneously in the same fuel storage tanks. There are no separate or dedicated tanks exclusively for HVO.

16.2 Section 15 assessment

The climate instruments referred to in s. 15(1) are assessed and discussed individually in the following sections.

(a) the most recent approved climate action plan

CAP 2025, along with its predecessors, outlines the actions and strategies necessary to progress towards the goals of a 51% reduction in GHG emissions by 2030 and reaching climate neutrality by no later than 2050. CAP 2025 includes a sectoral-based approach that specifies legally binding 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.

The direct emissions associated with the back-up generators fall under the 'Buildings (Commercial and Public)' sector. In the EPA's Greenhouse Gas Emissions Projections (2024-2055)⁵, under the 'With Additional Measures' (WAM) scenario⁶, the Buildings (Commercial and Public) sector is projected to exceed its 2021–2025 ceiling of 7 Mt CO₂eq by

⁵ Ireland's Greenhouse Gas Emissions Projections 2024-2055, EPA (2025), Ireland's Greenhouse Gas Emissions Projections 2024-2055

⁶ The WAM scenario is a projection of future emissions based on implemented measures included in the WEM scenario plus additional planned measures that are under discussion (as per plans, programmes or other policy documents) and have a realistic chance of implementation in the future (e.g. by 2030).

0.2 Mt CO₂ eq. It is projected that the 2026–2030 ceiling of 5 Mt CO₂ eq. will also be exceeded, with emissions projected to be 6.3 Mt CO₂ eq. The emissions from the installation will contribute to these sectoral emissions.

The indirect emissions associated with the use of electricity from the grid fall under the ‘Electricity’ sector. In the EPA’s Greenhouse Gas Emissions Projections (2024–2055)⁷, under the ‘With Additional Measures’ (WAM) scenario⁸, the Electricity sector is projected to exceed its 2021–2025 ceiling of 40 Mt CO₂ eq. by 0.4 Mt CO₂ eq. It is projected that the 2026–2030 ceiling of 20 Mt CO₂ eq. will also be exceeded, with emissions projected to be 21.6 Mt CO₂ eq. The emissions from the installation will contribute to these sectoral emissions.

(b) the most recent approved national long term climate action strategy

The Long-term Strategy on Greenhouse Gas Emissions Reductions, published in 2024, sets out indicative pathways beyond 2030 towards achieving carbon neutrality for Ireland by 2050. The Long-term Strategy serves as a link between shorter-term Climate Action Plans and Carbon Budgets and the longer-term objective of the European Climate Law and Ireland’s National Climate Objective. It focuses on nationwide structural changes, including rapid renewable energy expansion, building retrofits, sustainable transport, and reducing agricultural emissions. The Long-term Strategy is supported by the annual Climate Action Plans that update measures, actions, and sectoral targets each year (discussed under point (a) above). Project-level emissions and mitigation measures are detailed in other sections of this Inspector’s Report, including section 16.1, and are not repeated here to avoid unnecessary duplication.

(c) the most recent approved national adaptation framework and approved sectoral adaptation plans

The National Adaptation Framework, Planning for a Climate Resilient Ireland (2024) provides a whole of government and society approach to climate adaptation, designed to integrate climate risks (like flooding, heatwaves, and sea-level rise) into all policy areas. It requires 13 key sectors and all local authorities to develop, update, and implement plans that reduce vulnerability to a changing climate. The most recent published climate action plan for Dublin City Council is “Dublin City Council Climate Action Plan 2024–2029”.

The site is located within the administrative area of Dublin City Council, in an area zoned for the development of “employment/ enterprise” (Zone Z6) and “key urban villages/ urban villages” (Zone Z4, formerly district centres) in the Dublin City Development Plan 2022–2028. The Planning Inspectors Report associated with planning permission application reference no. 3641/21 and the Dublin City Development Plan 2022–2028 both note that “science and technology-based industry” are permissible uses in zones Z4 and Z6. The land-use definition for “science and technology-based industry” within the Dublin City Development Plan 2022–2028 includes “Knowledge-based processes and industrial activities (including ancillary offices) in which research, innovation and development play a significant part, and which lead to and accommodate the commercial production of a high-technology output, i.e. commercial laboratory, enterprise centre, film production, healthcare, information technology, light industry, media recording and general media-associated uses, publishing, research and development, software development, telemarketing, teleservicing and training, renewable energy and green technology research and consultancy services.”

The Dublin City Development Plan 2022–2028 includes data centres as a permissible use in Zone Z7 Employment (Heavy).

The Planning Inspectors Report associated with planning permission application reference no. 3641/21 refers to the following definition for “science and technology-based industry” in the Dublin City Development Plan 2016–2022 (which was the plan referred to under planning permission reference no. 3641/21): “Knowledge-based processes and industrial activities (including ancillary offices) in which research, innovation and development play a significant part,

⁷ Ireland’s Greenhouse Gas Emissions Projections 2024–2055, EPA (2025), Ireland’s Greenhouse Gas Emissions Projections 2024–2055

⁸ The WAM scenario is a projection of future emissions based on implemented measures included in the WEM scenario plus additional planned measures that are under discussion (as per plans, programmes or other policy documents) and have a realistic chance of implementation in the future (e.g. by 2030).

and which lead to and accommodate the commercial production of a high-technology output, i.e. commercial laboratory, data processing, enterprise centre, film production, healthcare, information technology, light industry, media recording and general media associated uses, publishing, research and development, software development, telemarketing, teleservicing and training.” The project has been granted planning permission by the local authority.

The second round of Sectoral Adaptation Plans were published in November 2025. These are strategic documents designed to identify key climate risks and outline actions to improve the resilience of the relevant sectors (Transport, Energy, Health, Tourism, Agriculture, etc.) to a changing climate. Given the strategic nature and sectoral focus of these plans, it is not considered relevant to discuss them further in this Inspector’s Report.

(d) the furtherance of the national climate objective

The national climate objective is outlined in the Climate Action and Low Carbon Development Act 2015 (as amended) as follows: *“The State shall, so as to reduce the extent of further global warming, pursue and achieve, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy (in this Act referred to as the ‘national climate objective’).”* Legally binding five-year carbon budgets and sectoral emissions ceilings are required by the Act *“for the purpose of enabling the State to pursue and achieve the national climate objective”*. The sectoral emissions ceilings are discussed under point (a) above. Project-level emissions and mitigation measures are detailed in other sections of this Inspectors Report, including section 16.1 and are not repeated here to avoid unnecessary duplication.

(e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.

Ireland’s first carbon budget programme, comprising of three 5-year economy-wide carbon budgets, was approved by the Government in 2022⁹. The total emissions allowed under each budget are as follows:

- 2021-2025: 295 Mt CO₂ eq,
- 2026-2030: 200 Mt CO₂ eq, and
- 2031-2035: 151 Mt CO₂ eq.

The carbon budgets are allocated across sectors by the sectoral emissions ceilings set out by the Climate Action Plan, discussed under point (a) above. Project-level emissions and mitigation measures are detailed in other sections of this Inspectors Report, including section 16.1. The relevant sectorial emissions ceilings for this project are discussed under point (a) above.

16.3 Climate assessment conclusion

Is the activity proposed expressly prohibited by any relevant government policy, underpinned by legislation?

The proposed activity is not expressly prohibited by any relevant government policy.

The Government Statement on the Role of Data Centres in Ireland’s Enterprise Strategy (July 2022) recognises data centres as core digital infrastructure for both Ireland’s and Europe’s digital economies, and for strengthening Ireland’s position as a strategic international location for IT services. Government policy seeks to facilitate the ‘twin transitions’ of digitalisation and decarbonisation of our economy and society.

More recent policy updates, including the Government’s Large Energy User Action Plan published in January 2026 and the CRU’s Large Energy Users Connection Policy published in December 2025, recognise the role of data centres as an important pillar of Ireland’s digital economy and provide a framework to enable additional growth while requiring that

⁹ [Carbon Budgets 2022](#), Government of Ireland (2022)

new data centres and other large energy users must align with Ireland's energy security and decarbonisation policy goals.

During normal operating conditions, the installation is supplied with electricity from the national grid. Outside of the normal operating conditions, the installation is first supplied with electricity by the on-site uninterruptible power supplies (UPSs) and then by some or all of the on-site back-up generators. Outside of routine testing and maintenance, the operation of the back-up generators is typically only required in the event of a loss, reduction or instability of grid power supply; critical maintenance of power systems; or a request from the utility supplier to reduce grid electricity load. The RD includes limitations on the operation and testing/ maintenance of generators, including that each generator must not be operated for more than 150 hours annually.

The licensee proposes that for both the existing and extended installation, the generators may operate using gas oil (diesel) or HVO (Hydrotreated Vegetable Oil) fuel, with a preference to use HVO when supply is available. The licensee details that a combination of both diesel and HVO may be used, and that HVO and diesel can be stored simultaneously in the same fuel storage tanks. There are no separate or dedicated tanks exclusively for HVO.

Would the local environment be protected if the conditions of an IE/IPC/Waste licence were complied with?

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 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 Screening and EIA Screening. The RD gives effect to the requirements of the EPA Act and has regard to submissions made. As detailed in the IR, the local environment would be protected if the conditions of the RD are complied with.

Are there measures in place to deal with GHG emissions such as an ETS permit?

Licensed installations that fall within the category of activity under Annex I of the EU Emissions Trading System (EU ETS) "Combustion of fuels in installations with a total rated thermal input exceeding 20 MW" are required to obtain a GHG permit from the Agency under the ETS. The EU ETS is the cornerstone of EU emissions reduction policy, designed with climate-neutrality in mind, and is an important mitigation mechanism for all Member States' GHG reduction efforts. Article 8 of the ETS provides that, where installations carry out activities that are included in Annex I to the IE Directive, the conditions and procedures for the issuing of a GHG permit shall be coordinated with those for the issue of a licence for the IE activity.

The GHG permit does not set a limit on the quantity of CO₂ emitted by the installation. The regulated entity must monitor and report each year on all CO₂ emitted from the activity listed in the permit and surrender sufficient emissions trading allowances to cover the emissions of the previous calendar year and purchase allowances as required. 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.

The EU has established a binding target to reduce greenhouse gas emissions from sectors covered by the ETS by 62% by 2030, compared to 2005 levels (this includes power generation, large industry and large data centres). Since 2005, ETS emissions have decreased by 49.7% or 11.14 Mt CO₂eq.

The applicant already participates in the EU Emissions Trading System (EU ETS) in relation to combustion in the on-site back-up generators with an existing GHG Emissions Permit (IE-GHG173-04).

Indirect emissions associated with the consumption of electricity from the grid are also covered by the EU ETS at the original electricity generating plant.

In addition to the mitigation provided by the ETS, are there further mitigation measures proposed by the applicant?

The proposed installation would incorporate a range of measures aimed at reducing greenhouse gas emissions, improving energy efficiency, and supporting the development of Ireland's renewable energy infrastructure. These include the following:

- energy auditing will be a key feature of the Environmental Management System and Energy Efficiency Management System,
- decarbonisation of energy supply with a preference by the licensee to use HVO (when supply is available) for combustion in the on-site back-up generators, reducing reliance on fossil fuels and
- implementation of energy management technologies to optimise efficiency and reduce emissions.

Does the project contribute to the need for infrastructure, economic and social progress and development?

As noted above, the Government Statement on the Role of Data Centres in Ireland's Enterprise Strategy recognises data centres as core digital infrastructure for both Ireland's and Europe's digital economies, and for strengthening Ireland's position as a strategic international location for IT services. Ireland aims to attract the next generation of investment in sectors including Artificial Intelligence (AI) and data centres. Government policy seeks to facilitate the 'twin transitions' of digitalisation and decarbonisation of our economy and society and notes that these transitions can - and must be - complementary. IDA Ireland recognises data centres as a major source of foreign direct investment, highly skilled jobs, and corporation tax revenue.

Internationally the requirement for data centres is growing due to rising global demand for cloud-based data storage (driven to a large extent by AI). Data centres provide for storage of information at a secure and reliable off-premises facility for minimal cost and complexity compared to the traditional forms of distributed, on-premises data storage systems. Europe's data centre capacity is, at present, predominately based in five key clusters, one of which is Dublin. Dublin has become a hub for hyperscale and co-location centres, given its success in attracting technology companies, temperate climate and large wind energy resources.

The site is located within the administrative area of Dublin City Council, in an area zoned for the development of "employment/ enterprise" (Zone Z6) and "key urban villages/ urban villages" (Zone Z4, formerly district centres) in the Dublin City Development Plan 2022-2028. The Planning Inspectors Report associated with planning permission application reference no. 3641/21 and the Dublin City Development Plan 2022-2028 both note that "science and technology-based industry" are permissible uses in zones Z4 and Z6. The land-use definition for "science and technology-based industry" within the Dublin City Development Plan 2022-2028 includes "Knowledge-based processes and industrial activities (including ancillary offices) in which research, innovation and development play a significant part, and which lead to and accommodate the commercial production of a high-technology output, i.e. commercial laboratory, enterprise centre, film production, healthcare, information technology, light industry, media recording and general media-associated uses, publishing, research and development, software development, telemarketing, teleservicing and training, renewable energy and green technology research and consultancy services."

The Dublin City Development Plan 2022-2028 includes data centres as a permissible use in Zone Z7 Employment (Heavy).

The Planning Inspectors Report associated with planning permission application reference no. 3641/21 refers to the following definition for "science and technology-based industry" in the Dublin City Development Plan 2016-2022 (which was the plan referred to under planning permission reference no. 3641/21): "Knowledge-based processes and

industrial activities (including ancillary offices) in which research, innovation and development play a significant part, and which lead to and accommodate the commercial production of a high-technology output, i.e. commercial laboratory, data processing, enterprise centre, film production, healthcare, information technology, light industry, media recording and general media associated uses, publishing, research and development, software development, telemarketing, teleservicing and training.” The project has been granted planning permission by the local authority. Therefore, the development represents a plan-led approach. The existing licensed installation consists of three data storage buildings. The extended installation will include two additional two-storey data storage building. As of 19 August 2025, one of the additional data centre buildings was complete, and the remaining building was near completion.

If the decision was to refuse, is it likely that a similar project would be developed elsewhere in Ireland or in another jurisdiction, potentially with higher associated emissions (displacement)?

The proposed data centre, when completed, will house banks of servers and technical hardware to allow the licensee’s clients (individuals, businesses, and organisations) to store information at a secure and reliable off-premises facility for minimal cost and complexity compared to the traditional forms of distributed, on-premises data storage systems. Data centres are generally considered much more energy-efficient, per unit of computing power, than distributed on-premises servers due to economies of scale, superior high-density hardware utilisation, and advanced cooling. Given the increasing global demand for cloud-based data storage, if refused it is highly likely that a similar project would be continued either elsewhere in Ireland or in another jurisdiction, where the emissions may be either higher or lower.

All things considered, where does the balance of consideration lie – in refusal or in grant?

Section 52(2)(e) of the EPA Act 1992, as amended, requires that the Agency shall, in carrying out its functions, ensure, in so far as is practicable, that a proper balance is achieved between the need to protect the environment (and the cost of such protection) and the need for infrastructural, economic and social progress and development.

As detailed in this Inspector’s Report, the local environment will be protected if the conditions of the Recommended Decision are complied with.

I have considered section 15 of the Climate Action and Low Carbon Development Act 2015 (as amended) and am satisfied that, in reaching the Recommended Decision to grant a licence, the Agency has, in so far as practicable, performed its functions in a manner consistent with that section.

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 Screening and EIA Screening. The assessment is consistent with section 15 of the Climate Action and Low Carbon Development Act 2015 as amended. The RD gives effect to the requirements of the EPA Act and has regard to submission made.

This report was prepared with the assistance of Naoimh O’Regan and Michelle O’Driscoll.

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

Signed

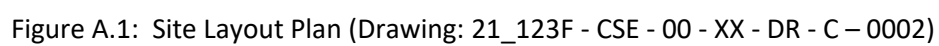
Bríd Horgan

Bríd Horgan

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.

Appendix 1 Site Layout



Appendix 2 Appropriate Assessment

Table 1: List of European Sites assessed, their associated qualifying interests and conservation objectives.

Site Code	Site Name	Qualifying Interests (* denotes priority habitat)	Conservation Objectives
000206	North Dublin Bay SAC	Habitats 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1410 Mediterranean salt meadows (Juncetalia maritimi) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with Ammophila arenaria (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* 2190 Humid dune slacks Species 1395 Petalwort (<i>Petalophyllum ralfsii</i>)	NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
000199	Baldoyle Bay SAC	Habitats 1140 Mudflats and sandflats not covered by seawater at low tide 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1410 Mediterranean salt meadows (Juncetalia maritimi)	NPWS (2012) Conservation Objectives: Baldoyle Bay SAC 000199. Version 1.0. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
000205	Malahide Estuary SAC	Habitats 1140 Mudflats and sandflats not covered by seawater at low tide 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1410 Mediterranean salt meadows (Juncetalia maritimi) 2120 Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	NPWS (2013) Conservation Objectives: Malahide Estuary SAC 000205. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Site Code	Site Name	Qualifying Interests (* denotes priority habitat)	Conservation Objectives
		2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*	
000210	South Dublin Bay SAC	Habitats 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonising mud and sand 2110 Embryonic shifting dunes	NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
000202	Howth Head SAC	Habitats 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths	NPWS (2016) Conservation Objectives: Howth Head SAC 000202. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
003000	Rockabill to Dalkey Island SAC	Habitats 1170 Reefs Species 1351 Harbour Porpoise (<i>Phocoena phocoena</i>)	NPWS (2013) Conservation Objectives: Rockabill to Dalkey Island SAC 003000. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
002193	Ireland's Eye SAC	Habitats 1220 Perennial vegetation of stony banks 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts	NPWS (2017) Conservation Objectives: Ireland's Eye SAC 002193. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs.
000208	Rogerstown Estuary SAC	Habitats 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)*	NPWS (2013) Conservation Objectives: Rogerstown Estuary SAC 000208. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
004024	South Dublin Bay and River	Birds A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) A130 Oystercatcher (<i>Haematopus ostralegus</i>)	NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks

Site Code	Site Name	Qualifying Interests (* denotes priority habitat)	Conservation Objectives
	Tolka Estuary SPA	A137 Ringed Plover (<i>Charadrius hiaticula</i>) A141 Grey Plover (<i>Pluvialis squatarola</i>) A143 Knot (<i>Calidris canutus</i>) A144 Sanderling (<i>Calidris alba</i>) A149 Dunlin (<i>Calidris alpina</i>) A157 Bar-tailed Godwit (<i>Limosa lapponica</i>) A162 Redshank (<i>Tringa totanus</i>) A179 Black-headed Gull (<i>Chroicocephalus ridibundus</i>) A192 Roseate Tern (<i>Sterna dougallii</i>) A193 Common Tern (<i>Sterna hirundo</i>) A194 Arctic Tern (<i>Sterna paradisaea</i>) Habitats Wetlands	and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
004006	North Bull Island SPA	Birds A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) A048 Shelduck (<i>Tadorna tadorna</i>) A052 Teal (<i>Anas crecca</i>) A054 Pintail (<i>Anas acuta</i>) A056 Shoveler (<i>Anas clypeata</i>) A130 Oystercatcher (<i>Haematopus ostralegus</i>) A140 Golden Plover (<i>Pluvialis apricaria</i>) A141 Grey Plover (<i>Pluvialis squatarola</i>) A143 Knot (<i>Calidris canutus</i>) A144 Sanderling (<i>Calidris alba</i>) A149 Dunlin (<i>Calidris alpina</i>) A156 Black-tailed Godwit (<i>Limosa limosa</i>) A157 Bar-tailed Godwit (<i>Limosa lapponica</i>) A160 Curlew (<i>Numenius arquata</i>) A162 Redshank (<i>Tringa totanus</i>) A169 Turnstone (<i>Arenaria interpres</i>) A179 Black-headed Gull (<i>Chroicocephalus ridibundus</i>) Habitats Wetlands	NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
004016	Baldoyle Bay SPA	Birds A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) A048 Shelduck (<i>Tadorna tadorna</i>) A137 Ringed Plover (<i>Charadrius hiaticula</i>) A140 Golden Plover (<i>Pluvialis apricaria</i>) A141 Grey Plover (<i>Pluvialis squatarola</i>) A157 Bar-tailed Godwit (<i>Limosa lapponica</i>)	NPWS (2013) Conservation Objectives: Baldoyle Bay SPA 004016. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Site Code	Site Name	Qualifying Interests (* denotes priority habitat)	Conservation Objectives
		Habitats Wetlands	
004025	Malahide Estuary SPA	Birds A005 Great Crested Grebe (<i>Podiceps cristatus</i>) A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) A048 Shelduck (<i>Tadorna tadorna</i>) A054 Pintail (<i>Anas acuta</i>) A067 Goldeneye (<i>Bucephala clangula</i>) A069 Red-breasted Merganser (<i>Mergus serrator</i>) A130 Oystercatcher (<i>Haematopus ostralegus</i>) A140 Golden Plover (<i>Pluvialis apricaria</i>) A141 Grey Plover (<i>Pluvialis squatarola</i>) A143 Knot (<i>Calidris canutus</i>) A149 Dunlin (<i>Calidris alpina</i>) A156 Black-tailed Godwit (<i>Limosa limosa</i>) A157 Bar-tailed Godwit (<i>Limosa lapponica</i>) A162 Redshank (<i>Tringa totanus</i>) Habitats Wetlands	NPWS (2013) Conservation Objectives: Malahide Estuary SPA 004025. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
004236	North-west Irish Sea SPA	Birds A001 Red-throated Diver (<i>Gavia stellata</i>) A003 Great Northern Diver (<i>Gavia immer</i>) A009 Fulmar (<i>Fulmarus glacialis</i>) A013 Manx Shearwater (<i>Puffinus puffinus</i>) A017 Cormorant (<i>Phalacrocorax carbo</i>) A018 Shag (<i>Phalacrocorax aristotelis</i>) A065 Common Scoter (<i>Melanitta nigra</i>) A862 Little Gull (<i>Hydrocoloeus minutus</i>) A179 Black-headed Gull (<i>Chroicocephalus ridibundus</i>) A182 Common Gull (<i>Larus canus</i>) A183 Lesser Black-backed Gull (<i>Larus fuscus</i>) A184 Herring Gull (<i>Larus argentatus</i>) A187 Great Black-backed Gull (<i>Larus marinus</i>) A188 Kittiwake (<i>Rissa tridactyla</i>) A192 Roseate Tern (<i>Sterna dougallii</i>) A193 Common Tern (<i>Sterna hirundo</i>) A194 Arctic Tern (<i>Sterna paradisaea</i>) A885 Little Tern (<i>Sternula albifrons</i>) A199 Guillemot (<i>Uria aalge</i>) A200 Razorbill (<i>Alca torda</i>) A204 Puffin (<i>Fratercula arctica</i>)	NPWS (2023) Conservation Objectives: North-west Irish Sea SPA 004236. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.

Site Code	Site Name	Qualifying Interests (* denotes priority habitat)	Conservation Objectives
004117	Ireland's Eye SPA	Birds A017 Cormorant (<i>Phalacrocorax carbo</i>) A184 Herring Gull (<i>Larus argentatus</i>) A188 Kittiwake (<i>Rissa tridactyla</i>) A199 Guillemot (<i>Uria aalge</i>) A200 Razorbill (<i>Alca torda</i>)	NPWS (2024) Conservation Objectives: Ireland's Eye SPA 004117. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
004113	Howth Head Coast SPA	Birds A188 Kittiwake (<i>Rissa tridactyla</i>)	NPWS (2024) Conservation Objectives: Howth Head Coast SPA 004113. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
004015	Rogerstown Estuary SPA	Birds A043 Greylag Goose (<i>Anser anser</i>) A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) A048 Shelduck (<i>Tadorna tadorna</i>) A056 Shoveler (<i>Anas clypeata</i>) A130 Oystercatcher (<i>Haematopus ostralegus</i>) A137 Ringed Plover (<i>Charadrius hiaticula</i>) A141 Grey Plover (<i>Pluvialis squatarola</i>) A143 Knot (<i>Calidris canutus</i>) A149 Dunlin (<i>Calidris alpina</i>) A156 Black-tailed Godwit (<i>Limosa limosa</i>) A162 Redshank (<i>Tringa totanus</i>) Habitats Wetlands	NPWS (2013) Conservation Objectives: Rogerstown Estuary SPA 004015. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.

Appendix 3 Relevant Legislation

The following European instruments are regarded as relevant to this application assessment and have been considered in the drafting of the Recommended Determination.
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]
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 BREF documents relevant to this assessment

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 Condition

BAT Conclusions, specific techniques employed and Condition/ Schedule in the RD. BAT requirements not applicable to the site are annotated as N/A.

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.	Condition 2
2	Determine the net electrical efficiency of the combustion unit	The RD requires the net electrical efficiency of the combustion units to be determined after commissioning.	Condition 7
3	Monitor key process parameters relevant for emissions to air	N/A as back-up generators are less than 50 MW _{th} . However, monitoring of flow, oxygen content, temperature and pressure, ammonia and SO ₃ will be required for the generators that use SCR abatement.	Schedule C.1
4	Monitor emissions to air with at least the frequency given in BAT 4 and in accordance with EN standards.	N/A as back-up generators are less than 50 MW _{th} . However, monitoring of NH ₃ and SO ₃ will be required for the generators that use SCR abatement.	Schedule C.1
5	Monitor emissions to water from flue-gas treatment	N/A. No emissions to water connected to flue-gas treatment.	N/A
6	Ensure optimised combustion and to use an appropriate combination of the techniques given in BAT 6	The following techniques will be employed: - Fuel blending and mixing, - Maintenance of the combustion system, - Advanced control system, - Good design of the combustion equipment, - Fuel choice- HVO/diesel meeting relevant CEN standards	Condition 2 Condition 3 Condition 6 Schedule C.1
7	To reduce emissions of ammonia to air from the use of selective catalytic reduction (SCR) and/or selective non-catalytic reduction (SNCR)	BAT is to optimise design and operation of SCR. The back-up generators for Buildings U (excluding the house generator) and V are each fitted with a Selective Catalytic Reduction (SCR) unit to reduce exhaust emission gases to air. The SCR system injects a reductant, an aqueous solution of urea, into the exhaust stream of the engine. The mixed exhaust gases and urea solution pass through a specialised catalytic converter, known as the SCR catalyst. Inside the SCR catalyst the high-temperature exhaust gases react with the urea significantly	Condition 6

		reducing NO_x and producing nitrogen gas (N₂) and water vapor (H₂O). The SCR abatement system includes, electronic sensors check for proper urea injection, ensuring that the catalyst is functioning effectively to reduce NO_x emissions.	
8	To ensure, by appropriate design, operation and maintenance, that the emission abatement systems are used at optimal capacity and availability	An advanced control system is used on all generators to control the combustion efficiency and support the prevention and/or reduction of emissions. The back-up generators for Buildings U (excluding the house generator) and V are each fitted with a Selective Catalytic Reduction (SCR) unit to reduce exhaust emission gases to air. The SCR abatement system includes, electronic sensors check for proper urea injection, ensuring that the catalyst is functioning effectively to reduce NO_x emissions.	Schedule C.1
9	Quality assurance/quality control programmes for all the fuels used.	EMS in place. EMS will be reviewed to ensure it includes the requirements of this BREF and the requirements of the revised IE Licence, if granted. Full characterisation of the fuel used is undertaken by the vendor typically every 12 months to EN standards and supplied to Amazon Data Services Limited. Regular SDS sheets provided by fuel vendor typically every 12 months as part of GHG reporting. HVO/diesel meeting relevant CEN standards.	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)	A management plan for OTNOC to be included in EMS.	Condition 2
11	Monitor emissions to air and/or to water during OTNOC	A management plan for OTNOC to be included in EMS.	Condition 2
12	In order to increase the energy efficiency of combustion units operated ≥1,500 h/yr BAT is to use an appropriate combination of the techniques given in BAT 12.	The back-up generators will be operated for less than 1,500 hours per annum. According to Schedule A, the back-up generators on site cannot be operated more than 150 h/yr.	N/A
13	In order to reduce water usage and the volume of	N/A. No waste water is produced from the combustion processes. Licensee has stated in licence	N/A

	contaminated waste water discharged, BAT is to use the technique given below. • Water recycling • Dry bottom ash handling	review documentation that rainwater harvesting will be in place.	
14	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	Evaporative Cooling Process Water to be separated from storm water. Silt traps and oil separators to be in place as per Condition 3. Emissions to storm water and sewer as per condition 5.	Condition 3 Condition 5
15	To reduce emissions to water from flue-gas treatment	N/A. No waste water is produced from flue gas treatment.	N/A
16	To reduce the quantity of waste sent for disposal from the combustion process	Waste management including reduction targets will form part of the EMS.	Condition 2
17	To reduce noise emissions, BAT is to use one or a combination of the techniques given below • Operational measures • Low-noise equipment • Noise attenuation • Noise-control equipment • Appropriate location of equipment	Low noise equipment has been selected where practical during site design. Plant have also been located during the design of the site to minimise the potential for impact at the noise sensitive receptors. Preventative maintenance will be undertaken at the installation as part of the EMS and the generators and other equipment will be operated by experienced staff. The RD specifies noise emissions limits, annual noise surveys and requirement for a noise management plan.	Condition 2 Condition 4 Condition 5 Condition 6 Schedule B.4
31	In order to increase the energy efficiency of HFO and/or gas oil combustion in reciprocating engines, BAT is to use an appropriate combination of the techniques given in BAT 12 and below.	N/A as the back-up generators will operate less than 1,500 hours per year. According to Schedule A, each of the back-up generators on site cannot be operated for more than 150 h/yr.	N/A
32	In order to prevent or reduce NOX 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.	Low-NO _x combustion concept techniques are applicable to the back-up generators. The combustion strategy for the back-up generators (in-cylinder technologies) are optimized for emissions requirements. The back-up generators also include altitude capability and fuel staging to optimize the engine's performance. The licensee considers water/steam addition and exhaust-gas recirculation (EGR) as not applicable to back-up generators. In respect of the SCR applicability assessment in BAT 32	N/A

		SCR technique is not applicable to combustion plants operated < 500 h/yr. According to Schedule A, each of the back-up generators on site cannot be operated for more than 150 h/yr.	
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.	N/A as the back-up generators and fire sprinkler pumps are below the LCP threshold. An advanced control system is used on all generators to control the combustion efficiency and support the prevention and/or reduction of emissions. Oxidation catalysts are not applicable to combustion plants operated < 500 h/yr.	N/A
34	In order to prevent or reduce SOX, 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.	N/A as the back-up generators and fire sprinkler pumps are below the LCP threshold.	N/A
35	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.	N/A as the back-up generators and fire sprinkler pumps are below the LCP threshold.	N/A