

This Report has been cleared for submission to the Director by Senior Inspector David Matthews,

Signed: *David Matthews*

Date: 08 June 2023



OFFICE OF ENVIRONMENTAL SUSTAINABILITY

INSPECTOR'S REPORT ON AN INDUSTRIAL EMISSIONS LICENCE APPLICATION, LICENCE REGISTER NUMBER P1172-01

TO: DIRECTOR, GERARD O'LEARY

FROM: SEÁN O DONOGHUE

DATE: 8TH JUNE 2023

Applicant:	Amazon Data Services Ireland Limited
CRO number:	390566
Location/address:	Blanchardstown Industrial Park, Snugborough Road, Dublin 15
Application date:	24 February 2022
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/ies 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.
All relevant CIDs, BREF documents and National BAT notes are listed in Section 5 of this report.	
Activity description/background: Operation of generators at a data storage installation.	
Additional information received:	Yes 4/8/22, 23/8/22, 5/10/22, 16/12/22, 23/1/23
No of submissions received:	1
Environmental Impact Assessment required: No	Stage 2 Appropriate Assessment required: No
Site visit: N/A	Site notice check: 20/3/22

1. Introduction

Amazon Data Services Ireland Ltd, hereafter referred to as ADSIL or the applicant, currently operate a data storage installation on a 13.08 hectares site, located in the Blanchardstown Industrial Park, Snugborough Road, Dublin 15, 2km from the N3 National Road and 2.5km from the M50 Motorway. The site consists of 4 no. data storage facilities (Buildings A to D), each with up to c. 50 full time employees on site during the day.

The installation serves as a centralised computer server system consisting of data halls, which contain thousands of server units which host, manage and distribute electronic data. A data storage installation offers economies of scale over traditional in-house data storage systems.

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

2. Description of activity

The site is occupied by four no. data storage buildings with ancillary elements, including loading bays, maintenance and storage spaces, associated water tanks, sprinkler tanks, pump house and electrical rooms, security and utility spaces, underground foul and stormwater drainage networks, on site attenuation systems, internal roads network, and site landscaping.

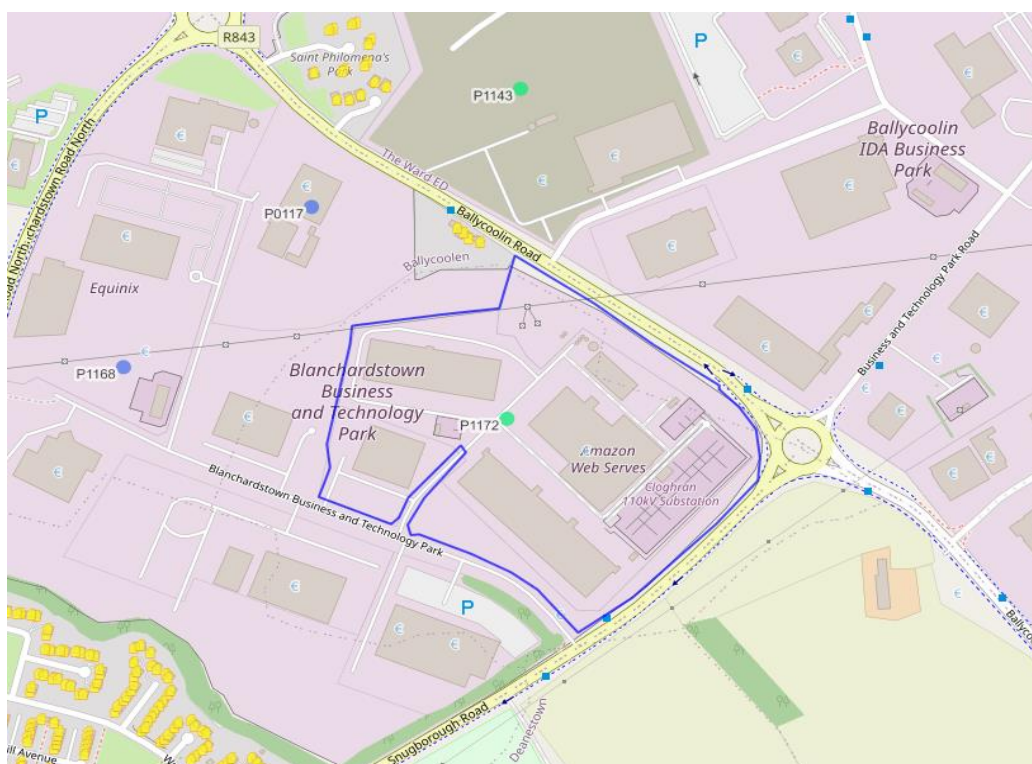


Figure 2.1: Location of the applicant's site relative to the closest sensitive receptors and other industrial sites. Buildings identified by yellow icons are residential.

The applicant has applied to the Agency for an Industrial Emissions Licence because the combined thermal input from the 72 generators is $416.52 \text{ MW}_{\text{th}}$, which exceeds the $50 \text{ MW}_{\text{th}}$ threshold of Class 2.1 First Schedule of the EPA Act 1992, as amended, and therefore requires an IE licence. The 72 generators consist of 9 no. $6.49 \text{ MW}_{\text{th}}$, 22 no. $6.33 \text{ MW}_{\text{th}}$, and 39 no. $5.59 \text{ MW}_{\text{th}}$ diesel-powered generators and 2 no. $0.42 \text{ MW}_{\text{th}}$ diesel-powered fire sprinkler pumps.

The purpose of the generators is to provide power to the data storage installation in the event of an interruption of the National Grid power supply to the installation. There are no plans to export electricity to the National Grid.

The data storage installation is also protected from short-term blackouts by the UPS system. The UPS buffers small fluctuations in the power supply to the installation. In the event that the UPS detects an interruption in the power supply to the site or

reduced power, the generators at the installation will commence generation of sufficient electricity to meet the load demand required by the data storage installation. The UPS system can provide power for a number of minutes to allow for the generators to come online.

The main emissions from the installation include emissions to air from the generators (routine testing & outside normal operating conditions), and storm water discharges (including some evaporative cooling water).

3. Planning Status

A number of planning applications have been made by the applicant for the area within the installation boundary. Details of these relevant planning applications and permissions have been provided in the licence application form (Attachment 6.1 Stakeholder Engagement). Fingal County Council has confirmed that an Environmental Impact Statement/ Environmental Impact Assessment Report was not required for any of these planning applications.

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.

The activity (located on an approx. 13 hectare site in an industrial park) is below the specified thresholds 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 applicant, which satisfies the requirements of Annex II A of the EIA Directive, 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:

- The limited nature of emissions from the activity.
- Air emissions from the emergency back-up generators, emergency back-up fire pumps and diesel tank emergency breather vents are not considered significant. There are no other process emissions to air.
- Non-domestic effluent generated from the installation consists of surface water drainage from the diesel tank farm, associated unloading bays and the transformer compound. This effluent will be discharged to sewer and ultimately

treated in Ringsend WWTP. Treated effluent from the Ringsend WWTP is discharged in accordance with an EPA waste water discharge licence.

- In addition to stormwater runoff from building roofs, yards and the road network, there are emissions to surface water of residual cooling water (recirculated mains water) associated with the evaporative cooling process in the Air Handling Units. The stormwater and residual cooling water indirectly joins the Tolka River which ultimately connects to Dublin Bay >12 kms downstream of the installation. These emissions are not considered significant.
- There are no direct process emissions to ground or groundwater from the installation.
- The activity will not generate significant dust or noise emissions.
- The cumulative effect with other existing and/or approved projects will not be significant.

5. Best Available Techniques

A detailed BAT assessment was carried out by the applicant and is included in attachment 4-7 of the application form.

The individual generators are less than 15 MW_{th} and so are outside the scope of the Best Available Techniques (BAT) Reference Document for Large Combustion Plants (LCP). Instead, the requirements as set out in the Medium Combustion Plant Regulations 2017 (S.I. No. 595 of 2017), which can be considered BAT at plant level, for combustion plant between 1 and 50 MW_{th} have been applied.

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

- BREF document for Emissions from Storage (July 2006);
- BREF document for Energy Efficiency (February 2009);
- BREF Document for Industrial Cooling Systems (December 2001).

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

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

I consider that the applicable BAT Conclusion requirements are addressed through the technologies and techniques as described in the application form, 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. It should be noted that there will be no significant dust or odour emissions from the installation.

6.1.1 Channelled Emissions to Air

There are 70 main channelled emission points at the installation, from the 70 diesel powered generators (the generators range from 5.59 to 6.49 MW_{th}) each with its own discharge stack.

There are other emission points at the installation including 2 no. 0.42 MW_{th} diesel powered fire sprinkler pumps which, due to their emission characteristics, are not considered environmentally significant and are therefore regarded as minor emissions. These minor emissions are not considered as part of this impact assessment.

As part of the application, air dispersion modelling was carried out by the applicant to predict the ambient pollutant concentrations resulting from the operation of the 70 no. diesel powered generators at the installation. The modelling was carried out in accordance with published Agency guidance (AG4¹) and used five years of meteorological data (2017 – 2021 inclusive) from Dublin Airport meteorological station, which is located approximately 7 km north east of the site. With regard to the NO₂ background concentration, EPA data from Zone A was used. Terrain data has been incorporated into the modelling assessment. Building and stack downwash has also been taken into consideration. All receptors were modelled at 1.8 m above ground level to represent breathing height.

Modelling of NO₂ was undertaken in detail. However, no detailed modelling for other pollutants including CO, PM₁₀ and PM_{2.5} was undertaken given that emissions of these pollutants are significantly lower than the NO_x emissions from the generators relative to the respective ambient air quality standard (AQS). Therefore, ensuring compliance with the NO₂ air quality standard will ensure compliance for all other pollutants.

The scenario modelled using the US EPA Method includes the operation of 63 of the 70 generators operating simultaneously outside normal operating conditions, which reflects the status of seven of the generators as “catcher” generators (i.e. generators which operate only when one or more of the 63 primary generators are unavailable). The operation of the 63 no. generators was assumed to be at 90% load for up to 72 hours per annum. The modelled scenario also includes the weekly testing of the 70 generators at 25% load for a maximum of 30 minutes each, one generator at a time, sequentially; and the periodic testing of the 70 no. generators at 90% load for a maximum of one hour, once per quarter (assumed to be January, April, June and October). All testing of the generators was to occur from 8am to 5pm, Monday to Friday only.

The NO₂ modelling results at the worst-case locations at and beyond the installation boundary for the above scenario have been summarised in Table 6.1.

Table 6.1 Predicted impact of the channelled emissions to air.

¹ Air Dispersion Modelling from Industrial Installations Guidance Note (AG4), 2019.

Potential channelled emissions impact						
Parameter	Averaging Period	Background concentration ($\mu\text{g}/\text{m}^3$)	Process contribution ($\mu\text{g}/\text{m}^3$)	Predicted Environmental Concentration (PEC) ($\mu\text{g}/\text{m}^3$)	PEC as % of Air Quality Standard	Air Quality Standards/ Guidelines ($\mu\text{g}/\text{m}^3$) Note 1
Nitrogen Oxides (as NO_2) - 2017	99.8%ile hourly	24 ^{Note 2}	92.8	116.8	58.4	200
	Annual	12	12.1	24.1	60.3	40
Nitrogen Oxides (as NO_2) - 2018	99.8%ile hourly	24 ^{Note 2}	89.3	113.3	56.7	200
	Annual	12	11.9	23.9	59.8	40
Nitrogen Oxides (as NO_2) - 2019	99.8%ile hourly	24 ^{Note 2}	94.0	118.0	59.0	200
	Annual	12	12.0	24.0	60.0	40
Nitrogen Oxides (as NO_2) - 2020	99.8%ile hourly	24 ^{Note 2}	92.3	116.3	58.2	200
	Annual	12	11.4	23.4	58.5	40
Nitrogen Oxides (as NO_2) - 2021	99.8%ile hourly	24 ^{Note 2}	84.1	108.1	54.1	200
	Annual	12	11.7	23.7	59.3	40

Note 1: Air Quality Standards Regulations, SI 58/2009, 180/2011 and 739/2022, unless otherwise stated.

Note 2: Twice the annual mean background concentration.

As can be seen in the table all the predicted ground level concentrations are within the relevant air quality standards. For the hourly standard, for the worst-case year modelled (2019), emissions from the installation lead to an ambient NO_2 concentration (predicted environmental concentration) which is **59%** of the maximum ambient 1-hour limit value (99.8%ile) at the worst offsite location. In terms of the annual standard, for the worst-case year modelled (2017), the predicted environmental concentration is **60.3%** of the annual standard at the worst off-site location. The modelling is considered sufficiently conservative, as 72 hours of operation per annum would require a prolonged fault or outage of the National Grid, a problem with the substation or an instruction from the Transmission System Operator (TSO) requiring the applicant to reduce its demand on the National Grid.

The geographical variations in the ground level NO_2 concentrations for the worst-case years modelled are illustrated in the concentration contours in Figures 6.1 and 6.2. It can be seen in both plots that the maximum ground level concentrations for NO_2 occurs close to the installation boundary and within the industrial area to the immediate north of the installation. The geographical extent of the peak (i.e. the area in red) is so small as not to be visible in the plot. It can also be seen how the maximum ground level concentration of NO_2 decreases with distance from the installation boundary.

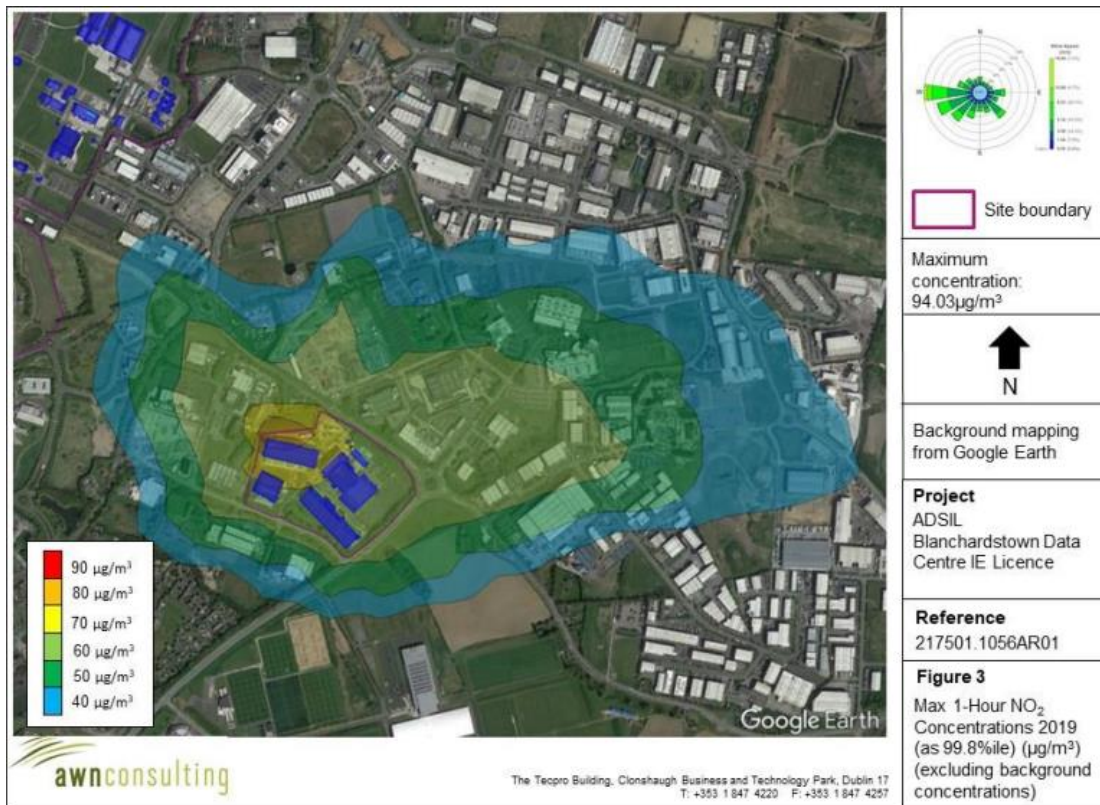


Figure 6.1: Maximum 1-hour NO₂ concentration (process contribution for the worst-case year (2019)) (From Attachment-7-1-3-2-Air Emissions Impact Assessment, March 2023).

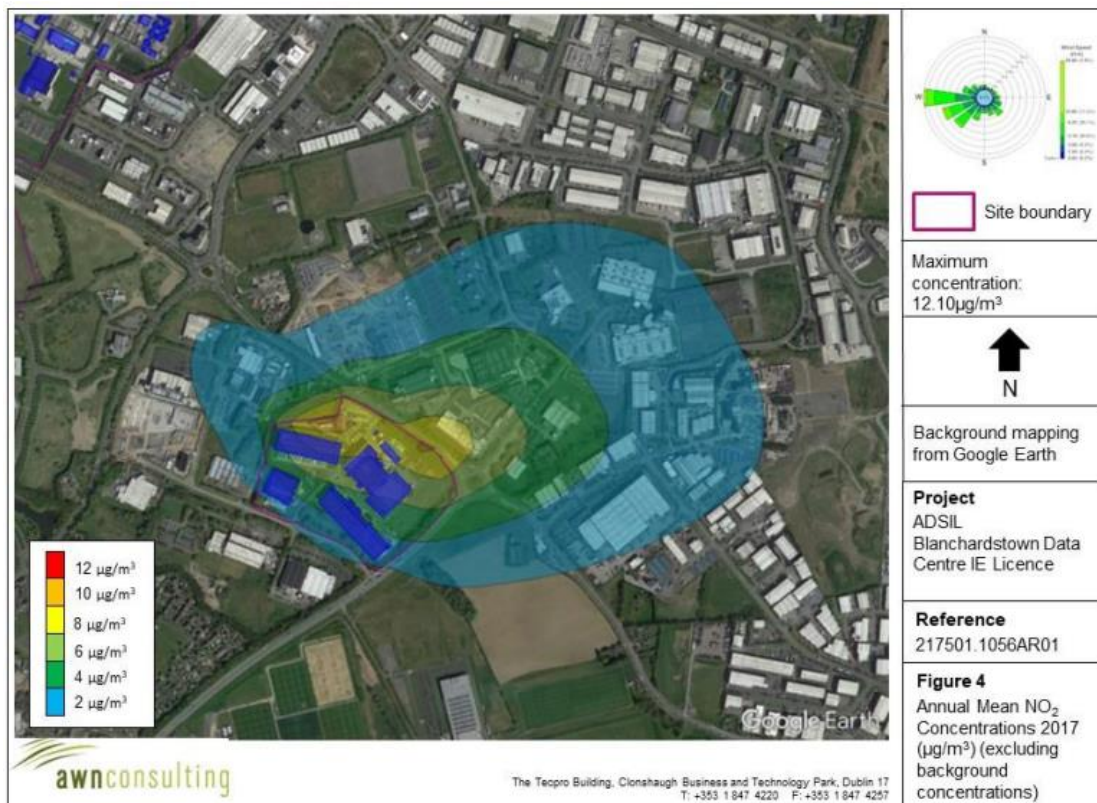


Figure 6.2: Annual mean NO₂ concentration (process contribution for the worst-case year (2017)) (From Attachment-7-1-3-2-Air Emissions Impact Assessment, March 2023).

Cumulative Assessment

The applicant identified three EPA licensed installations within a 1 km radius of the installation which have significant NO_x emissions and therefore were included in the cumulative impact assessment. These are Alexion Pharma International Operations Unlimited Company (Licence Reg. No. P1030-01), which is located to the northwest of the applicant's site, Swords Laboratories Unlimited Company trading as Bristol Myers Squibb Cruiserath (Licence Reg. No. P0552-03), which is located to the north of the applicant's site, and Equinix Hyperscale 1 (DB5) Ltd. (Licence Reg. No. P1168-01) to the west.

There are two other data storage facilities located within 1 km of the applicant's site, namely Keppel data centre and K2 Strategic Infrastructure Limited. However, the applicant has cited limited public information in relation to the operation of combustion plants at these sites, and so their emissions have not been included in the cumulative modelling assessment.

The cumulative NO₂ ground level concentrations at the worst-case locations at and beyond the site boundary are detailed in Table 6.2.

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

Potential channelled emissions impact						
Parameter	Averaging Period	Background concentration (µg/m ³)	Process contribution (µg/m ³)	Predicted Environmental Concentration (PEC) (µg/m ³)	PEC as % of Air Quality Standard	Air Quality Standards/ Guidelines (µg/m ³) Note 1
Nitrogen Oxides (as NO ₂) - 2017	99.8%ile hourly	24 ^{Note 2}	138.9	162.9	81.5	200
	Annual	12	27.5	39.5	98.8	40
Nitrogen Oxides (as NO ₂) – 2018	99.8%ile hourly	24 ^{Note 2}	141.9	165.9	83.0	200
	Annual	12	25.7	37.7	94.3	40
Nitrogen Oxides (as NO ₂) - 2019	99.8%ile hourly	24 ^{Note 2}	135.3	159.3	80.0	200
	Annual	12	22.2	34.2	86.5	40
Nitrogen Oxides (as NO ₂) - 2020	99.8%ile hourly	24 ^{Note 2}	131.7	155.7	77.9	200
	Annual	12	36.0	36.0	90.0	40
Nitrogen Oxides (as NO ₂) - 2021	99.8%ile hourly	24 ^{Note 2}	140.3	164.3	82.2	200
	Annual	12	21.6	33.6	84.0	40

Note 1: Air Quality Standards Regulations, SI 58/2009, 180/2011 and 739/2022, unless otherwise stated.

Note 2: Twice the annual mean background concentration.

For the hourly standard, for the worst-case year modelled (2018), emissions from the installation lead to an ambient NO₂ concentration (predicted environmental concentration) which is **83.0%** of the maximum ambient 1-hour limit value (99.8%ile) at the worst offsite location. In terms of the annual standard, for the worst-case year

modelled (2017), the cumulative maximum ground level concentration is **98.8%** of the annual standard at the worst off-site location.

The geographical variations in the ground level NO₂ concentrations for the worst-case years modelled are illustrated in the concentration contours in Figures 6.3 and 6.4. It can be seen in both plots that the maximum ground level concentrations for NO₂ occurs close to the boundary of a neighbouring installation to the west. In both plots the geographical extent of the peak (i.e. the area in red) is not large enough to be visible in the plot, and the maximum ground level concentrations for NO₂ decreases rapidly with distance from the installation boundary until concentrations are reached which are well below the peak (i.e. the green and blue areas).

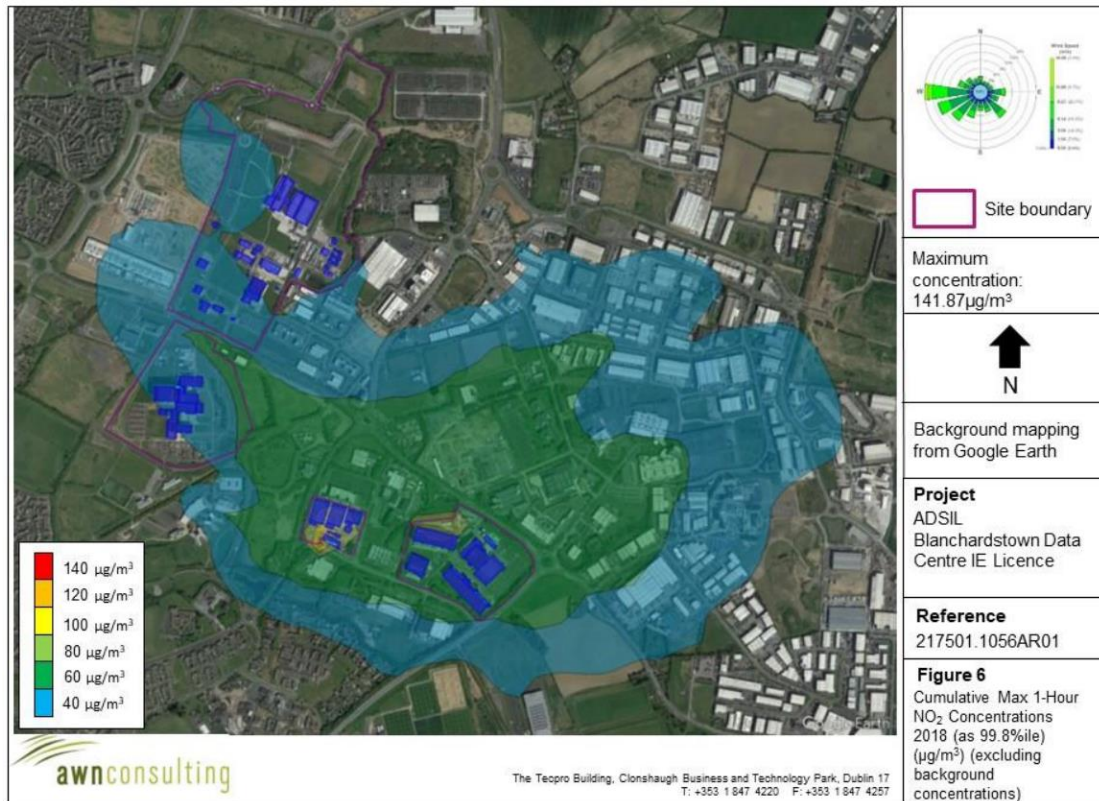


Figure 6.3: Maximum cumulative 1-hour NO₂ concentration (process contributions) for the worst-case year (2018) (From Attachment-7-1-3-2-Air Emissions Impact Assessment, March 2023).

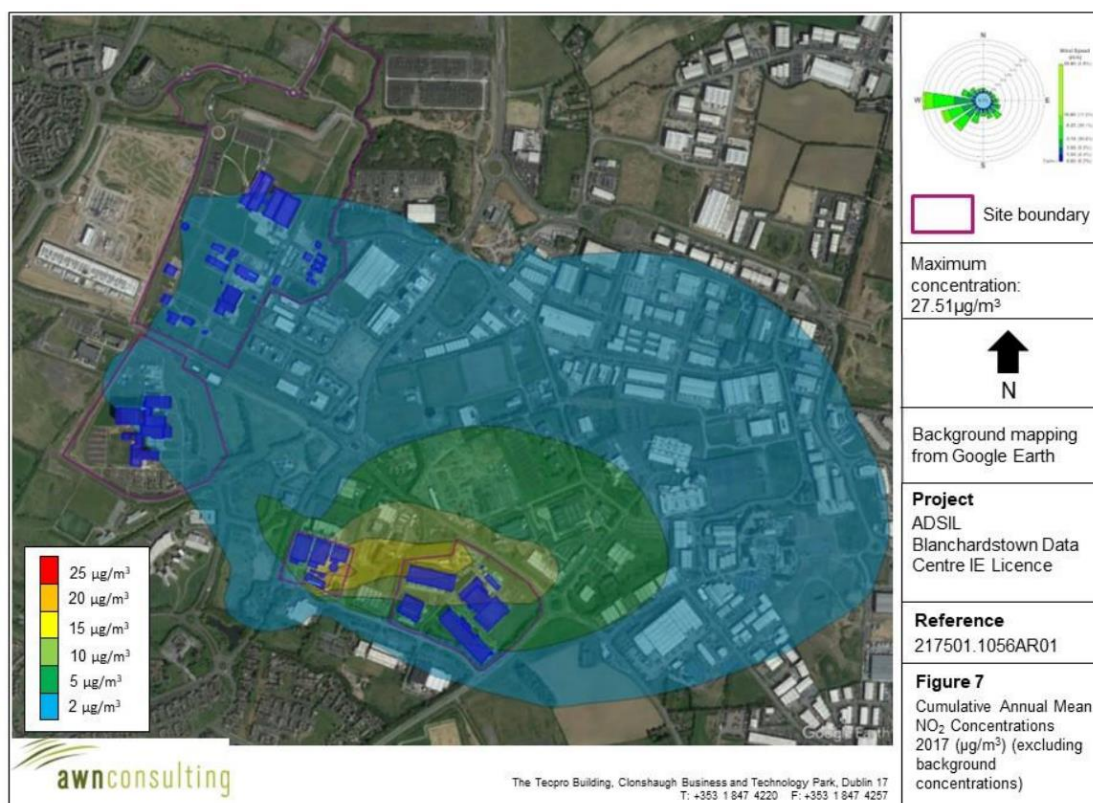


Figure 6.4: Maximum cumulative annual mean NO₂ concentration (process contributions) for the worst-case year (2017) (From Attachment-7-1-3-2-Air Emissions Impact Assessment, March 2023).

In the context of ecological receptors, the nearest sensitive receptor (Royal Canal Proposed NHA), is located 2.4km south of the installation. The modelling indicates that the impacts of the emissions at this distance will be negligible.

While the cumulative modelling assessment was unable to include all potential emissions from the operation of the generators at nearby sites (within 1 km), particularly due to limited availability of public data for the nearby data storage facilities, it is considered unlikely that combustion plants at the applicant's site would have to operate at full load simultaneously to the nearby sites for a prolonged period as such a scenario would require a prolonged fault or outage of the National Grid, a problem with the substation or if the TSO requested a number of a data storage facilities in the vicinity to disconnect simultaneously from the National Grid.

Recommendation

Notwithstanding the above, given the worst-case prediction for the annual average impact is very close to the annual average AQS there is the potential for an exceedance if all generators at the installation are operated simultaneously with the nearby unmodelled emissions sources cited above.

Therefore, to address the potential for such an exceedance, the Recommended Determination (RD) includes a number of conditions in order to reduce and mitigate the potential impact of channelled emissions to air:

- The RD limits the operation of each generator to 72 hours per year at no more than 90% load, with no more than 374.17 MW_{th} operating simultaneously (Schedule A). In event that one or more of the 'catcher' generators is unavailable due to maintenance, the applicant 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 374.17 MW_{th} (Schedule A). The RD also restricts the testing of the generators to no more than 25% load for a maximum of 30 minutes each per week, sequentially, and to no more than 90% load for a maximum of 1hour, four times per year sequentially (Schedule A).
- Alternative generator operating restrictions (hours and load) may be approved by the Agency subject to the applicant demonstrating that the alternative does not cause an increase in the mass emissions above that permitted under Schedule A of the RD (Condition 3).
- The applicant is required to examine ways to reduce its emissions and improve the dispersion of emissions from the generators during maintenance, testing and operation (Condition 2).
- The applicant is required to establish an Ambient Air Quality Monitoring Programme. As part of the ambient monitoring programme, the applicant is required to establish air quality trigger levels and an associated response programme to ensure compliance with Air Quality Standards at off-site receptors (Condition 3).
- Schedule C requires the licensee to carry out monitoring of emissions in line with the Medium Combustion Plant Regulations (Schedule C).
- The applicant is required to maintain a record of generator run times, type & quantity of fuel used, and loading under both testing/maintenance and generator operating scenarios (Condition 11).

6.1.2 Fugitive Emissions

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

6.2 Emissions to Water/Sewer

6.2.1 Emissions to Surface Waters

There are no direct process emissions to surface waters from the installation, other than the indirect emissions of the evaporative cooling water discharge (from Buildings A-D) which discharges to the storm water drainage network.

6.2.2 Emissions to Sewer

Foul effluent from the data storage installations will be discharged to the public foul sewer at emission points SE1 – SE5. SE1 caters for Building D, SE2 caters for Building B, SE3 caters for Building A & C and drainage from diesel tank farm, SE4 caters for part of Building A, and SE5 caters for the Control Building and Transformer Compound. The foul sewer from the IDA Blanchardstown Business and Technology Park discharges to a regional pumping station before discharging to the Ringsend Wastewater Treatment Plant (D0034-01) for treatment.

Drainage of rainwater from the bulk tank areas discharges to SE3 and is equipped with a Class 2 hydrocarbon interceptor, which is equipped with an oil warning system, connected to the central critical alarm. Drainage from the transformer compound discharges to SE5 and is equipped with a Class 2 full retention hydrocarbon interceptor, also equipped with a warning system, connected to the central critical alarm.

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

6.3 Storm water discharges

Storm water discharges includes storm water from roofs and hardstanding areas. The residual cooling water associated with the evaporative cooling process (from Buildings A-D) is being discharged from the cooling systems to the storm water network when the ambient air temperature is above a setpoint ($>30^{\circ}\text{C}$). This occurs typically five days of the year when there is a heat wave in Ireland.

The storm water is passed through Class I hydrocarbon interceptors to capture any diesel spillages outside of the bulk storage bunds as well as fuels from vehicles using the internal road network, prior to being discharged to the appropriately sized attenuation basins and underground cells located within the installation boundary (total capacity $3,550\text{ m}^3$). The interceptors are equipped with hydrocarbon level detectors that connect to the central critical alarm. Stormwater will discharge at SW1, SW2, SW3 and SW4 along the south of the site via a hydrobrake that controls discharge rate at 6.02 l/s from Building A & C, 8.6 l/s from Building B and 2.7 l/s from Building D. This stormwater discharges to the existing IDA Blanchardstown Business and Technology Park storm water drain network and man-made attenuation lake located within the College Business Park. From here it flows to the public storm water drain, which discharges to the Ballycoolin Stream 150 meters southwest of the site. The Ballycoolin Stream (IE_EA_09T011000) flows southwest and drains into the River Tolka at Mulhuddart. The River Tolka (040) lies 1.7 km south of the site and discharges to Dublin Bay.

The air handling units at the installation provide conditioned air to the data centre buildings in order to maintain temperature, relative humidity and pressurisation in the data halls. The evaporative cooling system for the data halls operates in two modes; free cooling and evaporative cooling. Under the free cooling mode, conditioned air, at ambient air temperature is passed across the IT servers located in the data halls, and this air is either recirculated or exhausted to atmosphere. Under the evaporative cooling mode, which typically occurs for approximately 5-days per year, when ambient air temperature is $>30^{\circ}\text{C}$, mains water is used as the cooling media to cool the ambient air that is introduced into the data halls. The majority of the mains water is evaporated in the process and no chemical dosing occurs. Prior to the cooling process, water is sanitised using ultraviolet disinfection. When water is used for cooling, it is recirculated in a closed loop system. When a conductivity set point of $1,500\mu\text{S/cm}$ is reached, the cooling water ($353\text{ m}^3/\text{day}$) is discharged to the storm water drainage network serving the installation at ambient temperature.

Under normal operating conditions, the evaporative cooling water is retained in the attenuation system ($3,550\text{ m}^3$) and then when discharged there is dilution in the mains storm water drain.

Due to the properties of the evaporative cooling water at peak weather conditions (>30°C ambient air temperature) and the dilution in the mains storm water drain, it is considered that the concentration of salts in the storm water discharges from the site is insignificant.

Based on the foregoing, the RD does not set emission limit values for this discharge, but rather requires the applicant to establish trigger levels. It is noted that hydrogen peroxide dosing of the cooling system (Air Handling Units (AHUs) and pipelines) occurs when a positive legionella sample has been detected in a unit. Given the unstable nature of hydrogen peroxide, it will oxidise quickly in the environment thereby minimising any potential residual impacts. For the purpose of legionella management, the RD restricts the use of chemicals to hydrogen peroxide, unless otherwise approved by the Agency (Condition 2).

Table 6.4 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 6.4 Stormwater Discharge Point Details

Stormwater discharge point details					
Emission Reference	Monitored parameters (monitoring frequency)	Abatement	Drainage areas	Discharging to	Trigger levels established (Y/N)
SW1, SW2, SW3, SW4 (with monitoring locations at SW1-1, SW2-1, SW3-1, SW4-1)	Visual (daily); pH, TOC conductivity temperature (daily)	Class I by-pass separators on the storm water drains from internal hard standing areas.	Buildings, site roads and walkways, car parks, building roof	Ballycoolin Stream via a mains storm water drain	Required by RD.
Automatic diversion in place:	There are two attenuation basins and two attenuation cells at the installation, and the storm water discharge from the attention system to the mains storm water drain can be shut off using the hydro brake.				

The RD requires the applicant to maintain the storm water drainage system. The RD also requires that the storm water discharges are visually inspected daily and monitored for temperature, conductivity, total organic carbon (TOC) and pH weekly, and any other parameters as required by the Agency, in accordance with Schedule C.2.3 *Monitoring of Storm Water Discharges*. It should be noted that the trigger values may be revised, to the satisfaction of the Agency under Condition 6 of the RD. The RD specifies that the licensee shall complete a feasibility study on diverting the residual cooling water to sewer. The licensee shall submit the report within 12 months of date of grant of licence.

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 later in this report.

6.4 Noise

The installation is located within an industrial park and the lands surrounding the installation are mainly in commercial and retail uses. The closest residential properties are a small cluster of houses located c. 40 m northwest of the site boundary. There is a significant residential development approximately 260 m southwest of the installation and further clusters of dwellings 260 m northwest and 550 m east of the site boundary. The primary source of noise is expected to arise from the installation's building service plant (i.e. the air handling unit (AHU) air intake and the AHU air exhaust) as well as the operation of the emergency generators during testing and emergency scenarios (i.e. generator air intake, generator air exhaust and generator engine exhaust).

In support of its licence application, the applicant has submitted a noise assessment in accordance with Agency's NG4² Guidance. A Baseline noise survey was conducted at three locations representative of nearby residential properties. The predominate source of noise at the locations monitored was local road traffic and wind-generated noise from nearby vegetation.

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

- A. Normal operations representative of the day to day operations whereby the energy demand of the data centre is provided from the national grid; and
- B. Representative of an emergency situation whereby generators are operated due to either a loss, reduction or instability of grid power supply, critical maintenance to power systems or a request from the grid operator to reduce demand on the grid.

Proprietary noise calculation software (DGMR iNoise) was used to quantify the noise level associated with the proposed building. Based on the noise assessment, it is evident under normal operating conditions that the installation will be compliant with the standard daytime, evening time and night time limits at the boundary.

However, under Scenario B (generators operating), it is evident that the installation would not be able to comply with the standard evening time (50 dB) and night time limits (45 dB)(see Figure 6.5). In its application, the applicant has proposed that a higher evening time and night time limit of 55 dB LAeq should be applicable in a scenario when the generators are in operation.

It is noted that NG4 states "*In some instances, licensed sites will have certain items of emergency equipment (e.g. standby generators) that will only operate in urgent situations (e.g. grid power failure). Depending upon the context, it may be deemed permissible for such items of equipment to give rise to exceedances in the noise criteria/limits during limited testing and emergency operation only. If such equipment is in regular use for any purposes other than intermittent testing, it is subject to the standard limit values for the site*".

² Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) 2016

Given that the generators could be operated for an extended period (up to 72 hours per annum) it is considered that the standard noise limit values should apply at the noise sensitive locations given their proximity (c. 40 m) to the installation boundary.

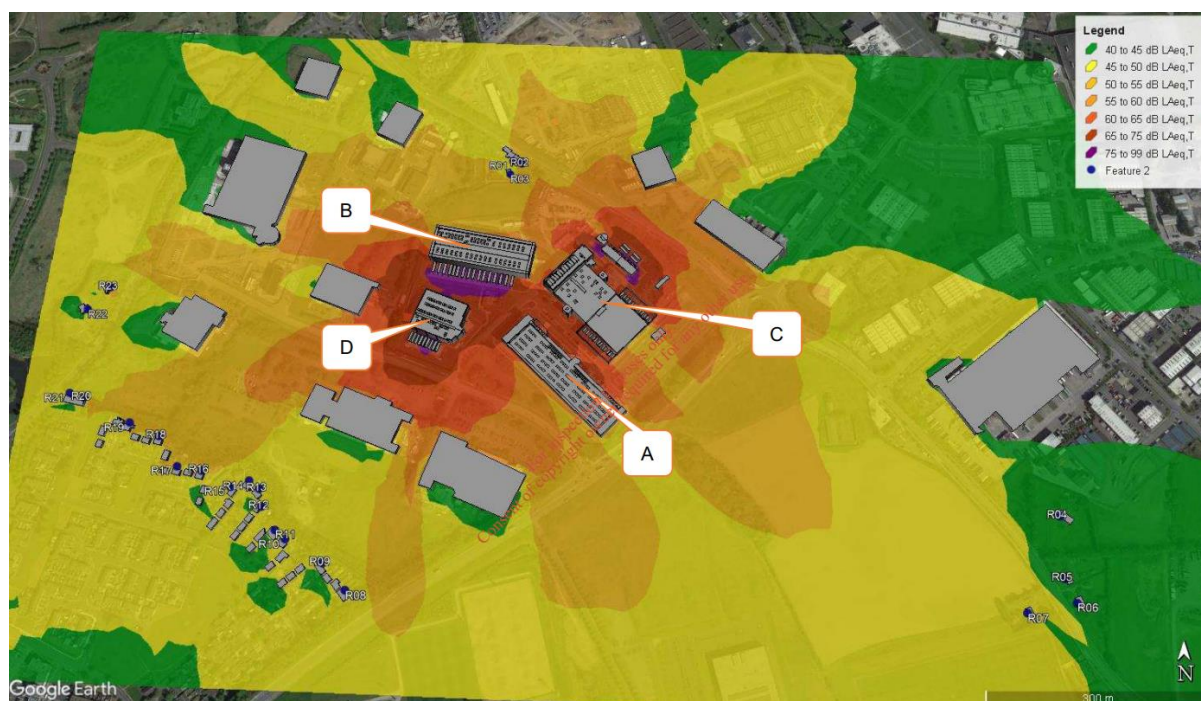


Figure 6.5: Predicted noise levels when generators are in operation (Scenario B).

Based on the foregoing, the RD requires compliance with the standard noise emission limit values at noise sensitive locations. Noise limits at sensitive receptors have been imposed by the planning authority (planning permission ref. no. FW18A/0078). Imposition of standard noise limits by the Agency will achieve or surpass these limits.

Furthermore, as the predicted noise levels under Scenario B, emergency operation of generators, may lead to an exceedance of the standard noise limits at the noise sensitive locations, the RD includes a requirement on the applicant to prepare a Noise Management Plan (Condition 6). The Noise Management Plan will ensure that the necessary actions are taken onsite to ensure compliance with the noise limits at the noise sensitive locations within six months of the date of grant of licence.

7. Waste generation

Certain wastes are generated on site as part of the licensable activity. But given the nature of the activity it is expected that waste generation will be minimal.

The categories of waste that will be generated from the proposed activity will include dry mixed recyclables (c. 95 tonnes/annum), food/organic waste (c. 4.9 tonnes/annum), general waste (c. 1.9 tonnes/annum), waste arising from maintenance activities including filter materials, absorbents, wiping cloths (c. 0.22 tonnes/annum), waste from minor spills (e.g. oil) (1.4 tonnes/annum), oily water from separators (18 tonnes/annum) and e-waste including miscellaneous parts and equipment (e.g. fans, hard drives, cables, etc.) (46 tonnes per annum). A full list of waste streams that will be generated at the installation, and conditions under which such waste streams will arise, have been provided in Attachment 8.1 of the application form.

The applicant will apply measures at the installation for the prevention and/or minimisation of waste. Hazardous waste, such as waste oil from the maintenance of the generators shall be stored in drums as and when required, and these will be kept in a self-bunded area until they are disposed of off-site by the licenced/permitted contractor.

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 (primarily diesel) and electricity. Table 8.1 below provides estimated quantities of energy and resources that will be used when the data storage facility is operated at full load.

Table 8.1: Energy and resource use at the installation

Resource	Quantity per annum
Electricity	1,785,233 MWh
Gas oil	1000 tonnes
Public Water	35,100 m ³

The applicant employs a variety of technology to maximise the efficient use of energy within the installation, including a load management system, preventative maintenance on equipment, and efficient lighting systems. An array of solar panels has been installed on Building D, with a capability of providing a maximum of 9.6 kWe.

It should further be noted that the cooling system at Building D at the installation can accommodate the future installation of heat recovery coils and an underground waste heat primary circuit, to allow waste heat to be distributed to a district heating system, should one be built locally. The heat recovery coils will recover heat from the air after it passes through the data halls to a hydraulic (water) pump prior to the air being either recirculated to the data halls or vented to atmosphere.

In the application of BAT, 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 Climate Action Plan³ sets out a proposed pathway to meet the emission reduction target for the energy sector through a more rapid build out of renewables (wind and solar power), increased storage and the deployment of zero-emissions gas. In the case of the electricity generation sector, the Climate Action Plan sets a target to reduce CO₂-eq. emissions from the sector by between 2 to 4 Mt CO₂-eq. by 2030, which is to be largely facilitated by increasing the share of renewable energy generation up to 80% by 2030.

The applicant has stated an intention to fully power the installation with renewable electricity. Condition 7 of the RD requires the applicant to carry out a feasibility study

³ Climate Action Plan 2023, Changing Ireland for the Better.

of opportunities to increase the use of solar, sustainable biofuels, and alternative renewable energy sources. The applicant is required to submit a report to the Agency within six months of the date of grant of the licence.

Direct effects on climate from the activity are from emissions from the combustion of diesel in the generators at the installation. The carbon dioxide (CO₂) emissions from the onsite generators are covered by the GHG permit issued by the EPA for the site (IE-GHG171-10464-5), required by the EU Emissions Trading Scheme (ETS). The EU ETS covers emissions of CO₂ from power and heat generation. Verified CO₂ emissions from the installation were 413 tCO₂, 622 tCO₂ and 215 tCO₂ in 2019, 2020 and 2021 respectively. Further details of historical CO₂ emissions from the installation can be found on the European Union Transaction Log ([EUROPA - Environment - Kyoto Protocol - European Union Transaction Log](#)).

The use of the generators for up to 72 hours as proposed in the RD would be a transitional measure when there is a high risk of an outage occurring on the national grid and until such time as there is additional renewables (and flexgen as back-up) on the National Grid. There will be an ongoing requirement for testing of the individual generators but this has been the case prior to the licence application and monitoring under the GHG Permit has shown that emissions are less than 1,000 tCO₂ per annum. Maximum emissions of CO₂ from the installation, once fully expanded, would be up to approximately 3,180 tCO₂ per annum (calculated based on the applicant's estimated maximum diesel usage of 1,001 m³ per annum). To put this in context, greenhouse gas emissions from the entire energy sector in 2021 were just over 10 million tonnes of CO₂ equivalent (EPA, 2022^[1]).

Indirect emissions of CO₂ may arise due to the use of electricity from the national grid, if generated from fossil fuels, which will contribute to climate change. The applicant states that the installation will consume approximately 1,785,233 MW hours of electricity per year. This equates to 620,904 tonnes of CO₂ per annum, based on an emission factor of 347.8g CO₂/kwh^[2], which is considered significant. To put this in context, greenhouse gas emissions from the entire energy sector in 2021 were just over 10 million tonnes of CO₂ equivalent (EPA, 2022^[3]).

While the applicant has provided some detail in its application form in relation to its ambition to use only renewable electricity at the installation, Condition 7 of the RD requires the applicant to carry out a feasibility study of opportunities to increase the use of solar, sustainable biofuels, and alternative renewable energy sources and submit a report to the Agency within six months of the date of grant of the licence.

At a national level the direct and indirect effects of the activity on climate must be considered in the context of the wider electricity supply system. The generators will be used to provide capacity only in the event of a shortfall when renewable or other conventional generation is not available, or during testing. While there are national

^[1]Ireland's Provisional Greenhouse Gas Emissions 1990-2021 (EPA, 2022). (https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/EPA-Ireland%27s-Provisional-GHG-Emissions-1990-2021_July-2022v3.pdf).

^[2] [Conversion Factors | SEAI Statistics | SEAI](#) (SEAI, 2022).

^[3]Ireland's Provisional Greenhouse Gas Emissions 1990-2021 (EPA, 2022). (https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/EPA-Ireland%27s-Provisional-GHG-Emissions-1990-2021_July-2022v3.pdf).

targets (as discussed above) and sectoral targets for the electricity sector the electricity market also plays a role in achieving these through the incentivisation of renewable energy and decarbonisation of the sector in accordance with the Climate Action Plan.

The Government Statement on the Role of Data Centres⁴ 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. Government policy seeks to facilitate the ‘twin transitions’ of digitalisation and decarbonisation of our economy and society, and Condition 7 of the RD would further support Government ambitions to reduce the emissions from the energy sector.

As regards Ireland’s commitments at EU and International level, this installation is covered by the EU Emissions Trading System (EU ETS) and operates under a GHG permit for its own direct emissions of CO₂ from the emergency generators and for the indirect emissions arising from the use of electricity from the national grid.

9. Prevention of Accidents

A certain amount of accident risk is associated with the licensable activity. Table 9.1 specifies the risks and associated safety measures relevant to this installation.

Table 9.1 Potential Accidents and Measures for Prevention/Limitation of Consequences

<p>Potential for an accident or hazardous/ emergency situation to arise from activities at the installation.</p>	<ul style="list-style-type: none"> • Potential for fire due to large quantities of diesel stored at the installation, leading to potential for emissions to air, water and/or soil and ground water. • Spillages/leaks due to accidents on-site. • Spills/leaks of oil or gas oil during storage, use or delivery. • Malfunction of the plant including generators, AHUs, etc., leading to the potential for fuel spills, or exceedances of the noise limits. • Failure of the hydrocarbon interceptors leading to discharges of contaminated storm water.
<p>Preventative/Mitigation measures to reduce the likelihood of accidents and mitigate the effects of the consequences of an accident at the installation.</p>	<ul style="list-style-type: none"> • Provision and maintenance of adequate bunding. Inspection system to detect leaks in over ground pipes carrying materials other than water. Testing of the integrity and water tightness of all tanks, bunding structures and containers every three years. • All diesel storage tanks are fitted with high/low level alarms which alarm to a central alarm system. • Fuel delivery will take place within the designated unloading areas under a Standard Operating Procedure (SOP). The refuelling process SOP has been submitted in support of the application.

⁴ Government Statement on the Role of Data Centres in Ireland’s Enterprise Strategy, July 2022.

	<ul style="list-style-type: none"> • Operation and maintenance of plant and equipment carried out in line with manufacturer’s recommendations. • Provision of spill kits and firefighting equipment. • The drainage sumps at the fuel unloading bays and in the bulk tank concrete bunds contain hydrocarbon detectors which automatically shutoff drainage from these sumps if diesel is detected in the sump. • Drainage from the diesel tank farm and transformer areas are equipped with a Class 1 full retention hydrocarbon interceptor. • All interceptors at the installation are equipped with an oil warning system which is connected to the central critical alarm system.
Additional measures provided for in the RD	<ul style="list-style-type: none"> • Accident prevention and emergency response requirements (Condition 9). • Integrity of tanks to be assessed every 3 years and maintenance carried out as required (Condition 6). • Storm water discharge points to be visually monitored (Schedule C). • Firewater retention risk assessment (Condition 3).

The risk of accidents and their consequences, and the preventative and control measures listed in the table above, have been considered in full in the assessments carried out throughout this report.

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

The installation is not a COMAH site, as the only substance which would be controlled under the COMAH Regulations (S.I. No. 209 of 2015) is diesel. The total amount of diesel that will be stored at the installation will be 646 tonnes. Under the COMAH Regulations the quantity of diesel which qualifies a given site for the application of lower-tier and upper-tier requirements is 2,500 tonnes and 25,000 tonnes respectively. Therefore, the quantity of diesel stored at the site does not exceed the thresholds of the COMAH Regulations.

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 risks relate to the potential for soil, groundwater or surface water contamination.

The applicant has provided a list of measures to be taken in the event of site closure/cessation of activity. These measures are listed in Attachment 9-2-3 of the application form. Condition 10 of the 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 report was submitted with the application (Attachment 4-8-3). The report states that the site has previously been used for industrial and commercial purposes, beginning in the 1970s.

The central part of the site was developed by Mostec in c. 1979 to 1980, before being acquired by Fujitsu in 1989. The building was acquired by the Hexagon Partnership in 2002, who operated electrical and electronic workshops, and associated warehousing and offices onsite. Siemens also used the building as office space, prior to the applicant occupying the building in 2010.

The Cloghran 110 kV Substation, constructed in 2011-2012, sits directly to the east of site. A second building in the southwest of the site was owned by Elliot Construction and leased to Kingston Technologies, who used the building for the production of circuit boards and as a distribution centre. None of the previous occupants held EPA licences, therefore there was no surrender of a licence and no site investigation completed when they ceased their activities onsite.

The site drains to a municipal storm sewer and then to the Ballycoolin River (IE_EA_09T011000) approximately 150 m southwest of the site boundary. The Ballycoolin River has a WFD status of 'poor'. The aquifer beneath the site, which is part of the Dublin groundwater body, is a locally important bedrock aquifer. For the purposes of the WFD, the groundwater body is classified as 'good', with a risk status of 'under review'.

The report refers to data from '*Environmental Report For the Building C site located in the IDA Blanchardstown Business & Technology Park, ADSIL (16th May 2013)*' and in '*IDA Industrial Estate Snugborough Road Dublin, Proposed Data Centre, IGSL Report No. 20963, Geotechnical Report July 2018*'. Very little soil quality data is available for the installation, however the limited soil analyses conducted at the time, did not find evidence of contamination. The soil was assessed against the Inert Landfill Acceptance Criteria limits and all parameters were found to be less than the laboratory detection limits. No groundwater data is available.

The activity will have one relevant hazardous substance – bulk storage of diesel, which will be stored and managed within a bunded area which will be subject to routine integrity testing and fitted with a high-level alarm. Considering the quantity of hazardous substances and the measures to be taken to prevent accidents and incidents the possibility of soil and groundwater contamination from the activity is considered to be low.

In order to reduce the risk, the RD includes the following requirements:

- Appropriate bunding for tanks and drum storage areas, with routine integrity testing.
- Waste and hazardous materials are to be stored in designated areas and protected as may be appropriate against spillage and runoff.

It is in the applicant's interest to keep detailed records of operational practice such as inspections, maintenance, incidents, accidents and remediation under IED. The

Agency's Office of Environmental Enforcement may refuse an application for surrender without detailed assessment and remediation proposals.

Upon definitive cessation of the activity (and in accordance with Article 22(3) of the IED) the operator shall assess the state of soil and groundwater contamination by relevant hazardous substances used, produced or released by the installation. Where the installation has caused significant pollution of soil or groundwater by relevant hazardous substances compared to the state established in the baseline report, the operator shall take the necessary measures to address that pollution so as to return the site to that state, or otherwise to take actions aimed at the removal, control, containment or reduction of hazardous substances so that the site ceases to pose a significant risk to human health or the environment. For that purpose, the technical feasibility of such measures may be taken into account.

11. Fit & Proper Person

Technical Ability

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

Legal Standing

Neither the applicant 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 applicant can be deemed a Fit & Proper Person for the purpose of this application.

12. Submissions

While the main points raised in the submission are summarised in Table 2.1 below, the original submission may be referred to for greater detail.

The issues raised in the submissions 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 Valid Submissions

Submissions			
1.	Name	Organisation:	Date received:
	Mrs Angela Deegan	Not Here Not Anywhere	17 th April 2023
	Issues raised:		
	<p>The main issue raised in the submission relates to the granting of a licence for the operation of fossil fuel powered infrastructure giving rise to greenhouse gas emissions which is not in line with the Irish Government’s Climate targets and international agreements regarding the use of fossil fuels and for this reason a licence should be refused.</p>		
	<p>Additional specific points raised in the submission are as follows:</p>		
	<ol style="list-style-type: none"> 1. A discrepancy is noted in Section 4.6.1 of the application. In the Electricity Usage table of this section of the application form, it states that no non-renewable electricity is generated and used at the site, despite there being onsite generators. 2. Given the climatic impacts of greenhouse gas emissions, permitting <i>any new fossil fuel infrastructure is unconscionable</i>. The diesel generators in this application have a total rating in excess of 400 MW_{th}. If licensed, the generators could be run for up to 500 hours annually. 3. Transparency about what is being stored and for whom should be a requirement. It would enable society and the Government to rank different types of data storage services by importance to society and be able to order data centres to turn off certain categories of services in different circumstances – such as in the event of a warning that the national grid may be unable to meet power demand – rather than allow data centres to switch to on-site fossil-fuelled generation. 4. Fossil fuel infrastructure is not a viable solution. The applicant should be required to ensure its data centre is provided power entirely by either onsite or off-site renewable power generation and reliable storage and avoiding questionable Renewable Energy Certificates. 		
	Agency response:		
	<ol style="list-style-type: none"> 1. During normal operations, the installation will be supplied electricity from the national grid. Non-renewable power generation from the generators will only occur onsite in the event of an interruption in the power supply to the installation from the national grid. 2. The installation is required to operate under a Greenhouse Gas Emissions Permit in accordance with the European Communities (Greenhouse Gas Emissions Trading) Regulations 2012, (S.I. 490 of 2012 and amendments). A GHG permit, requires the operator to report each year all the CO₂ emitted from the activity listed in the permit and surrender sufficient emissions trading allowances to cover the emissions of the previous calendar year. The quantity of allowances made available on the market is controlled at an EU level and is reducing each year in order to ensure that the overall emissions from the Emissions Trading System (ETS) sector meet the EU targets on reducing greenhouse gas emissions. <p>Furthermore, the Recommended Determination requires the applicant to examine the use of renewable forms of energy and to decrease or offset the use of fossil-fuel based energy both directly through the operation of the generators and indirectly through the national grid (Condition 7).</p>		

Submissions

It should further be noted that the RD restricts the operation of the generators to no more than 72 hours annually, with no more than 374.17 MW_{th} operating simultaneously.

3. Transparency around the data being stored at the installation is outside the scope of the licence.
4. Condition 7 of the RD requires the licensee to examine the use of renewable forms of energy and to decrease or offset the use of fossil-fuel based energy at the installation.

13. Consultations

13.1 Cross Office Consultation

I consulted with the Office of Environmental Enforcement in relation to the financial charges.

13.1 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 Rye Water Valley/Carton SAC (Site Code: 001398), South Dublin Bay SAC (Site Code: 000210), North Dublin Bay SAC (Site Code: 000206), South Dublin Bay and River Tolka Estuary SPA (Site Code: 004024) and North Bull Island SPA (Site Code: 004006).

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, which is located in an industrial park is not located within a European site.
- In addition to stormwater runoff from building roofs, yards and the road network, there are emissions to surface water of residual cooling water (recirculated mains water) associated with the evaporative cooling process in the Air Handling Units. There is an indirect hydrological connection to the

European sites at Dublin Bay. The stormwater joins the Tolka River which ultimately connects to Dublin Bay >12 kms downstream of the installation. Taking into account the nature of these emissions and the distance downstream it is considered that these emissions will not have a significant effect on European Sites.

- There are no process emissions to groundwater from the installation.
- Non-domestic effluent generated from the installation consists of rainfall drainage from the diesel tank farm, associated unloading bays and the transformer compound. This effluent will be discharged to sewer and ultimately treated in Ringsend WWTP. Treated effluent from the Ringsend WWTP is discharged in accordance with an EPA waste water discharge licence.
- European Sites and their qualifying interests are considered to be outside of the zone of influence of air and noise emissions arising at the installation with the closest European Site located greater than 9kms away (Rye Water Valley/Carton SAC). Emissions to air consist of emissions from the emergency backup generators, emergency fire pumps and diesel tank emergency breather vents.
- Given the nature and scale of emissions, it is considered that the activity in combination with other plans or projects will not have a significant effect on European Sites.

There were no submissions on the application concerning Appropriate Assessment.

15. EPA Charges

The annual enforcement charge recommended in the RD is €5,446, which reflects the anticipated enforcement effort required and the cost of monitoring.

16. 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.

This report was prepared by Seán O Donoghue, Rachel Neeson, Niamh Connolly and Philip Stack.

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

Signed



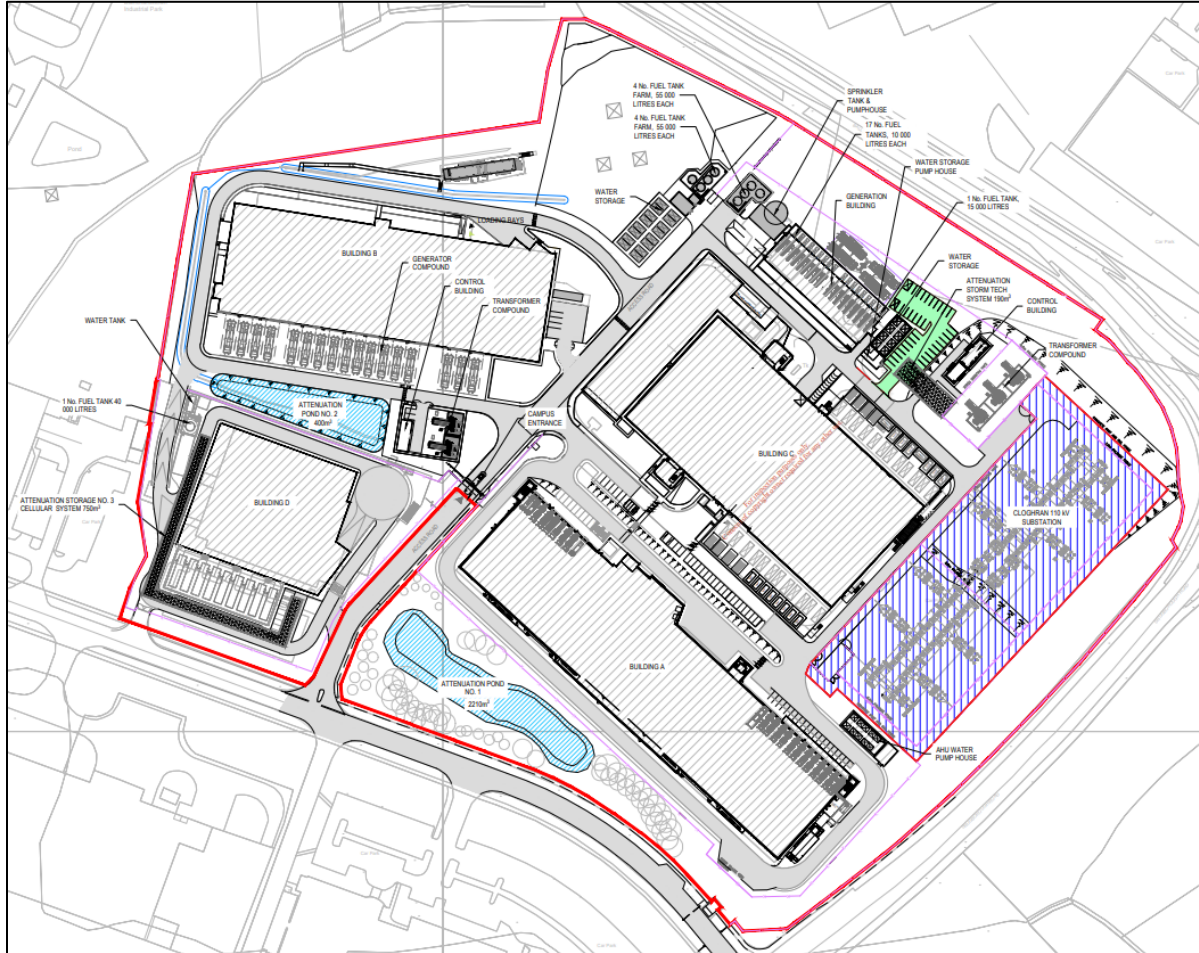
Seán O Donoghue

Procedural Note

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

Appendices

Appendix 1: Site Layout



Detail from the drawing titled 'Site Layout Plan', submitted as part of the licence application on 10 March 2022.

Appendix 2 Appropriate Assessment: List of European Sites assessed, their associated qualifying interests and conservation objectives.

Site Code	Site Name	Qualifying Interests (* denotes a priority habitat)	Conservation Objectives
001398	Rye Water Valley/ Carton SAC	Habitats 7220 Petrifying springs with tufa formation (Cratoneurion)* Species 1014 Narrow-mouthed Whorl Snail (<i>Vertigo angustior</i>) 1016 Desmoulin's Whorl Snail (<i>Vertigo moulinsiana</i>)	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO001398.pdf NPWS (2021) Conservation Objectives: Rye Water Valley/ Carton SAC 001398. Version 1. National Parks and Wildlife Service, Department of Housing, Local Government and Heritage.
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	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000210.pdf NPWS (2013) Conservation Objectives: South Dublin Bay SAC 000210. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
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 (<i>Glauco-Puccinellietalia maritima</i>) 1410 Mediterranean salt meadows (<i>Juncetalia maritimi</i>) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes)* 2190 Humid dune slacks Species 1395 Petalwort (<i>Petalophyllum ralfsii</i>)	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000206.pdf NPWS (2013) Conservation Objectives: North Dublin Bay SAC 000206. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
004024	South Dublin Bay and River Tolka Estuary SPA	Birds A162 Redshank (<i>Tringa totanus</i>) A193 Common Tern (<i>Sterna hirundo</i>) A157 Bar-tailed Godwit (<i>Limosa lapponica</i>) A130 Oystercatcher (<i>Haematopus ostralegus</i>) A141 Grey Plover (<i>Pluvialis squatarola</i>) A149 Dunlin (<i>Calidris alpina</i>) A137 Ringed Plover (<i>Charadrius hiaticula</i>) A194 Arctic Tern (<i>Sterna paradisaea</i>)	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004024.pdf NPWS (2015) Conservation Objectives: South Dublin Bay and River Tolka Estuary SPA 004024. Version 1. National Parks and

Site Code	Site Name	Qualifying Interests (* denotes a priority habitat)	Conservation Objectives
		A192 Roseate Tern (<i>Sterna dougallii</i>) A143 Knot (<i>Calidris canutus</i>) A179 Black-headed Gull (<i>Chroicocephalus ridibundus</i>) A144 Sanderling (<i>Calidris alba</i>) A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) Habitats Wetlands	Wildlife Service, Department of Arts, Heritage and the Gaeltacht.
004006	North Bull Island SPA	Birds A179 Black-headed Gull (<i>Chroicocephalus ridibundus</i>) A048 Shelduck (<i>Tadorna tadorna</i>) A054 Pintail (<i>Anas acuta</i>) A160 Curlew (<i>Numenius arquata</i>) A157 Bar-tailed Godwit (<i>Limosa lapponica</i>) A046 Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) A056 Shoveler (<i>Anas clypeata</i>) A169 Turnstone (<i>Arenaria interpres</i>) A141 Grey Plover (<i>Pluvialis squatarola</i>) A052 Teal (<i>Anas crecca</i>) A144 Sanderling (<i>Calidris alba</i>) A130 Oystercatcher (<i>Haematopus ostralegus</i>) A140 Golden Plover (<i>Pluvialis apricaria</i>) A149 Dunlin (<i>Calidris alpina</i>) A156 Black-tailed Godwit (<i>Limosa limosa</i>) A162 Redshank (<i>Tringa totanus</i>) A143 Knot (<i>Calidris canutus</i>) Habitats Wetlands	http://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO004006.pdf NPWS (2015) Conservation Objectives: North Bull Island SPA 004006. 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) & Birds Directive (79/409/EC)
Water Framework Directive (2000/60/EC)
Waste Framework Directive (2008/98/EC)
Dangerous Substances Directive (2006/11/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)