Amazon Data Services Ireland Ltd.

Non Technical Summary

Attachment-1-2

Revised September 2025

Licence Application (LA015550)

CONTENTS

1.0 INTRODUCTION

Amazon Data Services Ireland Ltd. ("ADSIL" or 'the applicant') is applying to the Environmental Protection Agency ('the Agency') for an Industrial Emissions (IE) Licence for its data storage facility (hereafter referred to as the 'Installation') located in Drogheda IDA Business and Technology Park, Donore Road, Drogheda, Co. Meath. The Installation will provide secure data storage services, and distribution of information to individuals, businesses and organisations. The application relates to the Installation, that covers c. 18.623 hectares (ha) in total ('the Site').

The existing Installation (Licence P1181-01) comprises 1 no. two-storey data storage building (Building A) with mezzanine floors at each level and ancillary elements. The elements of the Installation include; data storage rooms, electrical and mechanical plant rooms, administration areas, emergency back-up generators, water storage tanks, loading bays, maintenance and storage spaces, fire sprinkler tanks, fire sprinkler pump house, security and utility spaces, screened plant and PV panels at roof level, underground water supply, foul and storm water drainage networks, on site detention basin (attenuation pond), internal road network, and site landscaping. The overall site includes the Oldbridge 110kV Substation.

Building B (subject to this licence review) comprises one no. 2-storey data storage building with mezzanine floors at each level and ancillary elements. The ancillary elements of the development include; electrical and mechanical plant rooms, administration areas, emergency back-up generators, water storage tanks, loading bays, maintenance and storage spaces, screened plant and PV panels at roof level, and underground water supply, foul and storm water drainage networks. Building B will connect to and utilise the existing detention basin, internal road network and car and cycle parking.

The Site layout and main buildings are shown on Drawing Ref: 21_123G-CSE-00-XX-DR-C-0002 Site Layout Plan included with this application and shown in Figure 1 below.

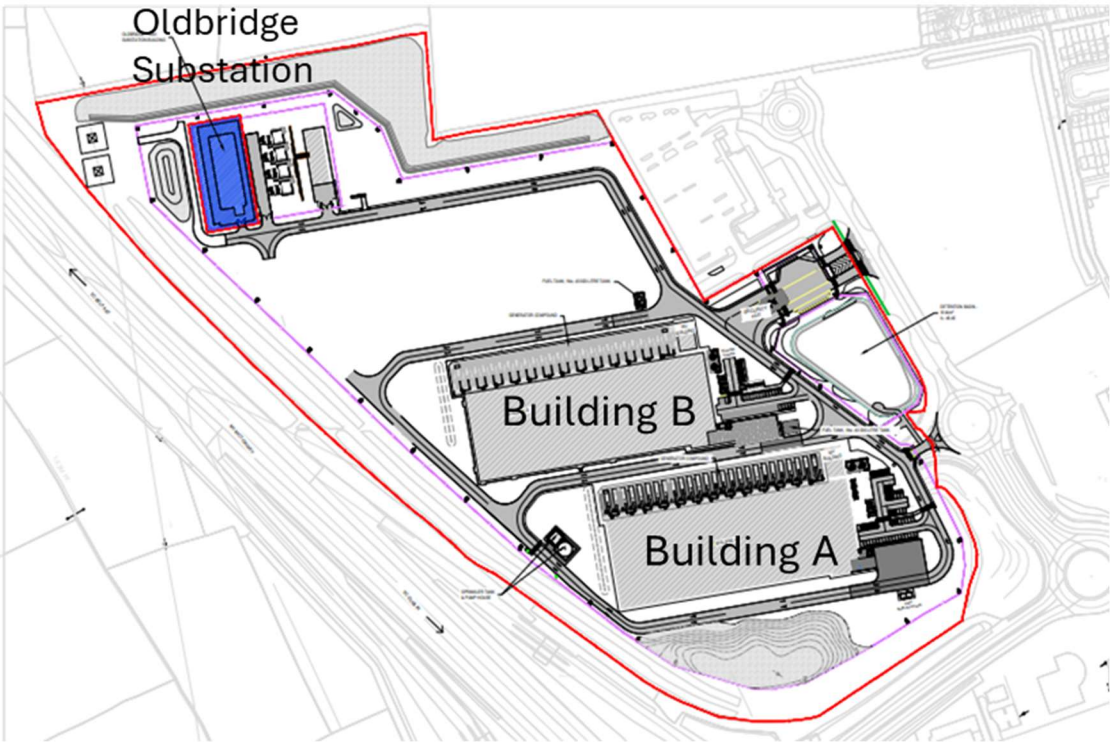

Figure 1 *Site Location (21_123G-CSE-00-XX-DR-C-0002 - Site Layout Plan)*

The Installation requires a continuous supply of electricity to operate. During normal operation, the Installation is supplied electricity from the national grid. Outside of normal operations, the Installation is first supplied electricity by some or all of the Uninterrupted Power Supply (UPS) systems, and then by some or all of the onsite emergency backup generators. Outside of routine testing and maintenance, the operation of these back-up generators is typically only required under the following emergency circumstances:

- A loss, reduction or instability of grid power supply,
- Critical maintenance to power systems,
- A request from the utility supplier (or third party acting on its behalf) to reduce grid electricity load.

The UPS systems are contained in small Backup Battery Units (BBUs). BBUs are installed within individual server racks internally within the data storage rooms of each building. The BBUs will maintain data storage room operation during brief power outages. The UPS system is designed to operate for up to 4 minutes to allow time for the emergency back-up generators to start up and stabilize.

2.0 GENERAL INFORMATION

The relevant requirement for an Industrial Emissions (IE) Licence is outlined within the First Schedule of the EPA Act 1992. Activity '*Class 2.1 Combustion of fuels in installations with a total rated thermal input of 50 MW or more'* is relevant to this Installation.

2.1 ACTIVITIES TO BE LICENSED

The existing Installation includes:

- 26 no. 6.82 megawatt thermal (MW_{th}) emergency back-up generators
- 1 no. 1.55 MW_{th} emergency back-up generator
- 2 no. 0.37 MW_{th} fire sprinkler pumps.

The extended Installation includes:

- 26 no. 6.79 megawatt thermal (MW_{th}) emergency back-up generators
- 1 no. 2.02 MW_{th} emergency back-up generator.

The combined thermal input from the installation is 358.17MW_{th}. This exceeds the 50MW_{th} threshold of *Class 2.1* First Schedule of the EPA Act 1992. ADSIL is therefore, applying to the Environmental Protection Agency (EPA) for an IE Licence principally relating to the operation of emergency standby generators under Activity Class 2.1.

2.2 SITE CONTEXT

2.2.1 Surrounding Land

The Installation is located on a site of 18.623 hectares site located within the Drogheda IDA Business and Technology Park. The site is relatively flat with a slight fall in elevation from west to east. The Donore Road defines the southern extent of the site, with the M1 motorway defining the western extent of the site. Lands further west of the M1 motorway are predominantly under agricultural use. The site is bound to the east by the remainder of the IDA Business and Technology Park, within which the premises of Drogheda College is located.

The wider context of the site is defined primarily by medium- to high-density residential uses, with residential developments such as Beechwood and Cedarfield within 200 m of the eastern and north-eastern boundaries of the site.

The Drogheda Retail Park and Newgrange Business Park are located c. 50m south and c. 90m south-east of the site respectively. The northern aspect of the site is largely defined by agricultural lands, as well as some once-off developments associated with these agricultural holdings. Larger residential developments also exist north of the site, such as residential developments in Tredagh (c. 750m north of the site) and Riverbank (c. 330m north of the site).

The River Boyne flows west-to-east c. 1km north of the site.

The surrounding 5 km of the site includes IE, IPPC and Waste Licenced sites including:

- Glanbia Foods Society Limited (Drogheda) (P0799) 3.6 km to the east of the site.
- Boylan Print Limited (P0784) 4.4 km to the east of the site.
- Premier Periclase Limited (P0376) 4.7 km to the east of the site.
- Irish Cement Limited (Platin) (P0030-06) 2.2 km to the south of the site.
- Indaver Ireland Limited (Duleek) (W0167-03) 3.2 km to the south of the site.
- Enva Ireland Limited (W0286-01) 4.9 km to the south of the site
- Perma Pigs Limited (P0431) 4.9 km to the west of the site.
- Superwarm Homes Ltd. (P0368-01) 3.2km to the northeast of the site

- Roadstone Limited (W0278-01) 1.9 km to the southwest of the site
- Drogheda Landfill (W033-01) 2.6 km to the north of the site.

The site layout is presented in 21_123G-CSE-00-XX-DR-C-0002- Site Layout Plan included with this application.

3.0 DESCRIPTION OF ACTIVITY

The application Attachment 4-8-1 Operational Report presents the detailed description as it relates to the IE Licence.

3.1 SITE OVERVIEW

The existing Installation (Licence P1181-01) comprises 1 no. two-storey data storage building (Building A) with mezzanine floors at each level and ancillary elements. The elements of the Installation include; data storage rooms, electrical and mechanical plant rooms, administration areas, emergency back-up generators, water storage tanks, loading bays, maintenance and storage spaces, fire sprinkler tanks, fire sprinkler pump house, security and utility spaces, screened plant and PV panels at roof level, underground water supply, foul and storm water drainage networks, on site detention basin (attenuation pond), internal road network, and site landscaping.

Building B (subject to this licence review) comprises one no. 2-storey data storage building with mezzanine floors at each level and ancillary elements. The ancillary elements of the development include; electrical and mechanical plant rooms, administration areas, emergency back-up generators, water storage tanks, loading bays, maintenance and storage spaces, screened plant and PV panels at roof level, and underground water supply, foul and storm water drainage networks. Building B will connect to and utilise the existing detention basin, internal road network and car and cycle parking.

The overall site includes the Oldbridge 110kV Substation.

The layout of the data storage facilities, ancillary buildings, structures and attenuation system (and the area of application) is shown in Site Layout Plan Drawing Ref: 21_123G-CSE-00-XX-DR-C-0002-Site Layout Plan included with this application.

3.2 PRIMARY PROCESSES/ACTIVITIES

3.2.1 Emergency Backup Generators

The Installation is supported by emergency back-up generators that are located in the generator compound associated with each data storage building. 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. An uninterruptible power source or UPS system is also provided for the short-term transition from mains power to the emergency back-up generators.

Each of the data storage buildings is accompanied by a designated generator compound.

Attachment 4-8-1 (Operational Report) presents further details on the emergency backup generators as it relates to the IE Licence.

3.2.2 Data Storage Building(s)

Data storage facilities are centralised computer server systems on a large scale (typically involving systemised racks of hundreds/thousands of server units). They offer significant advantages (and economies of scale) over traditional in-house data storage systems. Attachment 4-8-1 (Operational Report) presents further details on the data storage buildings.

3.3 SECONDARY PROCESSES/ACTIVITIES

3.3.1 Ancillary infrastructure

There are integrated administration areas, associated with each data storage building. The administration areas comprise the following main components:

- Reception areas,
- Open office areas, and conference rooms/meeting rooms,
- Maintenance and storage spaces; and
- Break room and sanitary facilities.

Additional Ancillary infrastructure includes:

- Electrical and mechanical plant rooms, including Internal and External Air Handling Unit (AHU) plant rooms;
- Water storage tanks, including evaporative cooling water storage tanks;
- Loading bays and associated infrastructure;
- 1 no. transformer compound located at the GIS Substation with associated control room (owned and operated by ADSIL);
- A bulk top-up fuel tanks within concrete bund for each building;
- A water sprinkler tank, compound, and associated pump house at Building A, including 2 no. firewater pumps (which serve both buildings);
- Internal site road network and car parking;
- Security and utility spaces;
- Underground foul and storm water drainage networks,
- Underground water supply network;
- On-site detention basin (attenuation pond);
- PV panels at roof level;
- Site landscaping; and
- An electrical Gas Insulated Switchgear (GIS) 110 kV Substation (owned by ESB and operated by EirGrid).

3.3.2 Data Storage Rooms Cooling Systems

The location of the facilities in Ireland allows for the use of free-cooling media without the need for mechanical cooling. To take advantage of this, the air handling units (AHUs) will be fitted with airside condensers to utilise outdoor air to cool the space.

The cooling units or 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 and Evaporative Cooling: Free Cooling uses outside air and Evaporative Cooling mode or ‘Adiabatic Cooling’ 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.

Attachment 4-8-1 (Operational Report) presents further details on the cooling systems.

3.3.3 Electricity Supply and 110kV Substation

The power requirements for the Installation are provided via a connection to the 110 kV Gas Insulated Switchgear (GIS) Substation Compound located in the northwest of the site. The 110kV Substation (known as Oldbridge) is shown on the site plan ref 21_123G-CSE-00-XX-DR-C-0002 – Site Layout Plan. The 110kV Substation Compound, and dropdown 110 kV transmission lines connecting to the 110 kV Overhead lines was permitted under ABP: 308628-20.

The western part of the Substation compound accommodates a two storey 110kV GIS substation building. The eastern part of the compound accommodates a transformer compound, with four transformers, and a single storey client control building, which is owned and operated by ADSIL.

The power requirements for the extended Installation are provided via a connection to the Oldbridge Substation.

In addition to the mains connection, there is a provision for an array of PV panels to generate on site renewable energy up to a peak of 43.1kWe for the existing Installation, and a provision of up to 30.05kWe for the extended Installation (a total of 73.15kWe). The on-site renewable electricity generation will be back fed to the electrical general supply for the buildings, serving lighting, office area general services and office IT equipment.

3.4 WATER, SEWER, AND STORM WATER DRAINAGE INFRASTRUCTURE

3.4.1 Water Supply

The water supply is sourced from mains water via a metred connection from the existing main to the east of the Installation in accordance with the MCC Planning Ref. LB191735. The Installation has a demand for general potable supply, for cleaning, drinking and sanitary facilities, cooling equipment, and for firefighting.

The design requires an average water demand of up to 1.0 litres per second (l/s), whilst peak water is 6 litres/sec. Where water demand is required during a short-term drought, additional supply can be provided from an alternative source such as tanker supply.

3.4.2 Storm water Drainage Systems

For the existing Installation, rainwater runoff from impermeable areas of the Site and evaporative cooling water from the AHUs is collected via the onsite storm water drainage network in accordance with the MCC Planning Ref. LB191735. This network conveys the storm water via Hydrocarbon Interceptors to the storm water system shown on Drawing 21_123G-CSE-00-XX-DR-C-1100 Surface Water Layout Plan. The storm water discharges offsite at 1 no. Emission Point (SW1).

There is 1 no. detention basin, which outfalls at 1 no emission point (SW1) at the eastern boundary of the site, which ties-in to the current IDA storm water drainage network via a 300 mm connection.

For the extended Installation (Building B), rainwater runoff and evaporative cooling water is collected via the onsite storm water drainage network in accordance with ABP Planning Ref.: ABP-310729-21. This network conveys the storm water via

Hydrocarbon Interceptors to the existing detention basin. The attenuated storm water discharges offsite at the existing emission point (SW1).

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

- FRS1 Class 1 Forecourt Hydrocarbon Interceptor – located at Fuel Unloading Area, Building B.
- FRS2 Class 1 Forecourt Hydrocarbon Interceptor – located at Fuel Unloading Area, Building A.
- FRS3 Class 1 Bypass Hydrocarbon Interceptor – NE from Building A, located at SW Outfall-2, prior to discharge to the Detention Basin.
- FRS4 Class 1 Bypass Hydrocarbon Interceptor – South from entrance road, located at entrance to site, located at Outfall 3, prior to discharge to the Detention Basin.
- FRS5 Class 1 Bypass Hydrocarbon Interceptor – East from Building B, located at SW Outfall-1, prior to discharge to the Detention Basin.

Prior to the site storm water network entering the attenuation basin, the storm water passes through hydrocarbon interceptors, and for SW Outfalls 1 and 2, hydrodynamic solid separators, to ensure that the quality of the storm water discharge is controlled. The fuel unloading bay contains drainage channels that direct storm waters to the site network via hydrocarbon interceptor. This network is shown on Drawing 21_123F-00-XX-DR-C-1100 Surface Water Layout Plan.

3.4.3 Wastewater (Sewer) Drainage System

Domestic effluent arising from occupation of the Installation (both existing and Installation), including from the Oldbridge Substation control building, will be discharged to the IDA foul sewer (at Emission Point SE1). Refer to Drawing 21_123G-CSE-00-XX-DR-C-1200 Foul Water Layout Plan for the foul drainage layout. The foul water connection to the foul sewer is in accordance with the MCC Planning Ref. LB191735 (existing Installation) and ABP Planning Ref.: ABP-310729-21 (extended Installation).

Drainage of storm water/rainwater from the fuel top-up tank bunds for Buildings A and B is directed to foul sewer, passes through hydrocarbon interceptors, and connects to the foul main at emission point SE1.

The drainage sump located in each of the fuel top-up tank concrete bunds contains a hydrocarbon detector which automatically shuts off drainage from these sumps if fuel is detected in the sump, preventing any contaminated storm water from exiting the bund. These probes are also connected to the BMS/EPMS critical alarm.

Drainage of storm water/rainwater from the Oldbridge Substation transformer compound is directed to foul sewer; and is equipped with a hydrocarbon interceptor located at the compound. The location of this is illustrated on Drawing 21_123G-CSE-00-XX-DR-C-1200 Foul Water Layout Plan. Hydrocarbon interceptors are equipped with an oil warning system which is connected to the BMS/EPMS critical alarm.

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

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

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

The wastewater discharged from the site will be directed to a regional pumping station before final treatment and disposal at Drogheda Wastewater Treatment Plant (WWTP).

3.4.4 Environmental Conditions

3.4.4.1 Soil and Groundwater

A Complete Baseline Report for the Site has been produced and included as Attachment-4-8-3 Complete Baseline Report. The baseline report presents available information to infer the condition of the Site as it existed prior to the construction and operation of the Installation.

There is intrusive site investigation information available for the ADSIL site based on trial pits and boreholes completed in 2000 and 2020. There is no soil or groundwater quality information available for the site.

Based on the site-specific data available from the site investigations undertaken, prior to the construction of the Installation, an assessment of source-pathways-receptors has been completed. The following conclusions have been made:

- Bedrock is greater than 12.8 mbgl and there is a proven depth of boulder clay greater than 10 meters.
- The site was used as agricultural land up to 2019 and there are no previous uses that could lead to contamination at the site.
- Based on regional information and the available site information the underlying bedrock aquifer is protected from any potential contamination arising from the sites in the future.
- There is only bulk fuel (diesel or HVO/diesel blend) storage proposed for the Installation. However, the risk prevention measures planned at the Installation significantly reduce the potential for an environmental impact to soil or water to occur. These measures include bunded or double contained vessels, dual-contained fuel pipe system (when underground), and spill management procedures.
- Source-pathway-receptor linkages were assessed for the bulk fuel storage areas (fuel top-up tanks). It was concluded that there are no direct pathways to either the soil and groundwater environment. Interceptors are installed on the storm water drainage. A leakage from a fuel top-up tank would be fully contained in the designated bund or the double-skin lining of the tank, with leaks during delivery fully contained within the continuous hard stand delivery area. Any leakage outside of the delivery area would be contained within the drainage system.

- Based on the assessment of the source-pathway-receptor linkages, there is no potential for impact of any downgradient Natura sites, including the Boyne Estuary SPA and the Boyne Coast and Estuary SAC, and NW Irish Sea SPA.

The only relevant bulk hazardous substance (substances stored or used onsite and which are classified as hazardous by the EPA under the Groundwater Regulations and contained in bulk storage) stored on site is diesel or HVO/diesel blend for back-up emergency generators. The risk prevention measures planned at the Installation significantly reduce the potential for an environmental impact to soil or water to occur. These measures include bunded or double contained vessels, dual-contained fuel pipe system (when underground), and spill management procedures.

Source-pathway-receptor linkages were assessed for the fuel top-up tank storage areas. It was concluded that there are no direct pathways to either the soil and groundwater environment.

3.4.4.2 Surface Water

The development is located within the Eastern River Basin District (ERBD), as defined under the European Communities Directive 2000/60/EC. Surface water quality is monitored continuously by the EPA at various regional locations along principal and other smaller watercourses.

Storm water drainage from the site discharges via hydrocarbon interceptors and flow control devices, as outlined in Attachment 4-8-1-Operational Report of this application to the IDA storm sewer, which ultimately outfalls into the Boyne River. The hydrocarbon interceptors are equipped with an oil warning system, which is connected to the BMS/EPMS critical alarm.

The internal surface drainage comprises a series of remnant drainage ditches. There are no direct hydrological pathways to the River Boyne. The Sheephouse Stream drains land to the northwest and is culverted under the motorway before leading to the River Boyne. There is no connectivity between the site and this stream.

The storm water from site discharges in the IDA storm water drainage system, which is in the River Boyne catchment area. Currently, the EPA classifies the Sheephouse Stream waterbody to the northwest and the Stagrennan stream to the southeast with a Water Framework Directive (WFD) risk status '*under review'*, most likely due to a lack of information being currently available to assign a risk rating. The Boyne Estuary (transitional Water bodies) to the north currently has a rating of 1a, '*At risk of not achieving good status'.*

3.4.4.3 Air

Ambient air quality monitoring was not undertaken as part of the assessment for this site. Reference has been made to the latest air quality monitoring programs that have been undertaken in recent years by the EPA. Attachment-7-1-3-2-Air Emissions Impact of this application provides a summary of the relevant air quality that has been used as a baseline for the air dispersion modelling completed for this application.

3.4.4.4 Noise

Environmental noise surveys have previously been conducted to quantify the existing noise environment. The survey was conducted in general accordance with guidance contained in the EPA NG4 publication and ISO 1996-2:2017 *Acoustics - Description,*

Measurement and Assessment of Environmental Noise -Determination of Sound Pressure Levels. Specific details are set out in Attachment-7-1-3-2-Noise Emissions Impact Assessment of this application.

4.0 BEST AVAILABLE TECHNIQUES AND COMMISSION IMPLEMENTING DECISION

Section 86A(3) of the EPA Act 1992 as amended, requires that the Agency shall apply BAT conclusions as a reference for attaching one or more conditions to an IE Licence. The installation has principally been assessed against the BAT conclusions contained in Table 4.1:

Table 4.1 Applicable BAT documents

Horizontal BREF	Publication date	Attachment
Best Available Techniques (BAT) Reference Document for Large Combustion Plants	2021	Attachment-4-7-1-BREF - Large Combustion Plants
Reference Document on the Best Available Techniques for Energy Efficiency	2009	Attachment-4-7-2-BREF - Energy Efficiency
Reference Document on the Best Available Techniques on Emissions from Storage	2006	Attachment-4-7-3 BAT REF - Emissions from Storage
Reference Document on the application of Best Available Techniques to Industrial Cooling Systems	2001	Attachment-4-7-4 BAT REF - Industrial Cooling Systems

The assessment has demonstrated that the installation will comply with all applicable BAT Conclusion requirements specified in the CID and will be in line with the guidance specified in the other relevant BREF Documents and relevant national BAT notes.

5.0 EMISSIONS AND ABATEMENT TREATMENT SYSTEMS

This section describes the emissions from the Installation and the abatement or treatment system in place for those emissions and summarises any monitoring controls in place.

5.1 AIR EMISSIONS

Main Air Emissions

There are no main air emissions proposed.

Minor emissions

The following is a list of the minor air emission points from each of the emergency back-up generators on the Site. These emission points are shown in Drawing No. 21_123G-CSE-00-XX-DR-C-2000 Emission Layout Plan.

Existing Installation

- Building A: 26 no. 6.82 MW_{th} emergency back-up generator stacks with a minimum height of 25m above ground level; 1 no. 1.55 MW_{th} admin generator.

Extended Installation

- Building B: 26 no. 6.79 MW_{th} emergency back-up generator stacks with a minimum height of 25m above ground level; 1 no. 2.02 MW_{th} admin generator.

The environmental impacts of these minor emissions are set out in Section 7, Attachment-7-1-3-2-Air Emissions Impact of this license application.

Potential Air Emissions

Potential Air Emissions are emissions which only operate under abnormal conditions. Typical examples include bursting discs, pressure relief valves, and emergency generators.

Existing Installation

- 1 no. Fuel Tank Emergency Breather Vent.
- Sprinkler Pumphouse: 2 no. 0.37 MW_{th} emergency back-up fire sprinkler pumps.

Extended Installation

- 1 no. Fuel Tank Emergency Breather Vent.

The fuel top-up tanks at the Installation includes breather vents (pressure relief vents). These produce minor fuel vapour (trace) emissions.

Fugitive Air Emissions

Fugitive emissions are defined as low level diffuse emissions, mainly of volatile organic compounds, that occur when either gaseous or liquid process fluids escape from plant equipment. There are no such emissions anticipated from the Installation. External pipelines containing fuel will have flange guards to prevent fugitive emissions.

5.1.1 Control and Monitoring

The emissions from the emergency back-up generators have been considered against the Medium Combustion Plant (MCP) Regulations (S.I No. 595 of 2017), which transposed the Medium Combustion Plant Directive ((EU) 2015/2193).

The emergency backup generators are exempt from complying with the emission limit values subject to Section 13(3) of the Medium Combustion Plant (MCP) Regulations as the generators are for emergency back-up only and are not anticipated to operate in excess of 500 hours (i.e. the MCP Regulation limit) per generator per annum.

The results of the air dispersion model undertaken for the Installation is set out in Attachment-7-1-3-2-Air Emissions Impact. The USEPA methodology modelling results indicate that ambient ground level concentrations are below the relevant air quality standards for NO_2, CO, PM_{10}, $PM_{2.5}$, and SO_2 for all scenarios modelled and no additional abatement systems are required.

As part of the air dispersion modelling assessment, 100 emergency operational hours per generator per annum was modelled for the back-up generators at the Installation.

5.2 EMISSIONS TO SEWER (WASTEWATER EMISSIONS)

Foul drainage is collected in the onsite foul sewer network and discharged to the IDA foul sewer. The foul sewerage from the site discharges into the existing foul network at one location to the east of the site at Emission Point SE1, which caters for foul flows from the existing Installation, as described in Section 3.4.3.

The foul drainage from the extended Installation (Building B) will connect to the existing foul sewer network, which outfalls via emission point SE1.

As there are no food preparation areas within the buildings there is no requirement for the Installation of a grease trap to prevent fats, oils and greases (FOG) from entering the foul network.

No monitoring of the overall discharge to sewer is proposed.

The emission / offsite discharge point is labelled SE1 on Drawing 21_123CSE-00-XX-DR-C-1200 Foul Water Layout plan included with the application.

5.3 STORM WATER EMISSIONS

The emissions to storm sewer consist of storm water runoff from building roofs, yards and the road network and residual evaporative cooling water (mains water that has passed through the cooling equipment).

For the existing Installation, the attenuated storm water from the detention basin outfalls at 1 no. Emission Point (SW1) into the existing 450mm storm sewer to the east of the site.

For the extended Installation, the storm water will also discharge to the existing detention basin on site, which discharges at SW1. The site drainage is shown on Drawing 21_123G-CSE-00-XX-DR-C-1100 Surface Water Layout Plan.

No online monitoring is proposed for the storm water discharge. The only bulk chemicals stored are hydrocarbons; adequate control measures are in place to monitor any potential leaks or spills of hydrocarbons at source.

In accordance with the existing Licence (P1181-01), regular visual inspections for discolouration and odour will be undertaken upstream of the storm water discharge points, and pH, temperature, TOC and conductivity will also be monitored (Monitoring Point SW1-1).

There is no further requirement for abatement of the storm water from the site.

5.4 NOISE EMISSIONS

During operation, the primary source of noise is expected to arise from building service plant, which services the data storage facilities (i.e. the AHU air intake and the AHU air exhaust) as well as the operation of the emergency back-up generators during testing and emergency scenarios (i.e. generator air intake, generator air exhaust and generator engine exhaust).

An assessment of the noise emission impacts in line with the EPA *Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)* has been conducted by AWN and included in Attachment-7-1-3-2-Noise Emissions Impact Assessment.

Plant items have been selected in order to achieve the required noise levels in order that the plant noise emission levels are achieved on site during operations. Each emergency generator is contained within an acoustic container to dampen the noise, and in-line attenuators for the generator stacks and exhausts are used where necessary.

Assessments have taken place during the Installation's design process to ensure that the site operates within the constraints of best practice guidance noise limits adopted as part of the detailed noise assessment.

It is anticipated that the noise abatement measures are sufficient to ensure that the noise levels comply with the daytime, evening and night-time noise limits stipulated in the IE licence at the nearest noise sensitive receptors.

Annual day time, evening and night-time monitoring are undertaken in accordance with IE licence requirements.

See Attachment-7-1-3-2-Noise Emissions Impact Assessment for further details on noise emissions.

6.0 MANAGEMENT OF RAW MATERIALS, INTERMEDIARIES AND WASTES

The only chemical stored on site in bulk is diesel, HVO, or HVO/diesel blend. There are no other raw materials held onsite other than domestic cleaning chemicals for cleaning of the staff facilities. These are managed by the cleaning company. All oils, paints, adhesives or other materials required are brought onsite and removed from site by the relevant contractors.

Refrigerant is held within the VRF (Variable Refrigerant Flow) system for the offices. No refrigerants are stored onsite. R410A and R32 refrigerants are held within this system on a continuous basis and would only be removed during decommissioning.

A list of all raw materials in use on the site is provided in Attachment 4-6-2 of this Licence application.

The small amounts of hazardous waste generated are stored in appropriate waste receptacles on bunds. Details of the estimated waste volumes, types, disposal/recovery techniques are provided in Section 8 of this application. The majority of the wastes generated are non-hazardous. Appropriate segregation and management of waste operators ensures no significant impacts on downstream facilities.

6.1 ENERGY EFFICIENCY AND RESOURCE USE

The operation of the Installation will involve the consumption of electricity, fuel and mains water. The estimated quantities to be used when the Installation is operational (once extended) are specified in Attachment 4-6-1 of the application and are shown below in Table 6.1 below.

Table 6.1 *Summary of the Estimated Future Resource use at the Installation Resource*

Resource	Estimated quantity per annum
Electricity (purchased) (average consumption)	840,960 MWh
Total Electricity (generated and used) (average consumption)	840,960 MWh
Electricity (generated and exported)	N/A
Natural Gas	N/A
Fuel Oil (expected use)*	2,717.13 tonnes (using diesel only) 2,672.89 (using HVO only)
Fuel Oil (maximum use)**	3,371.99 tonnes (using diesel only) 3,317.09 tonnes (using HVO only)
Water (Public Supply)	14,918 m^3

* Expected fuel use represents a conservative value based on 50 no. emergency back-up generators running at the required load to power the site for a total of 100 hours per generator per year, in addition to testing and maintenance of all 54 emergency back-up generators.

** Maximum fuel use represents a conservative value based on 50 no. emergency back-up generators running at 100% load for a total of 100 hours per generator per year, in addition to testing and maintenance of all 54 emergency back-up generators.

The applicant will employ a variety of technologies to maximise the efficient use of energy within the Installation and it will be operated in accordance with an Energy Efficiency Management System (ENEMS) as well as the requirements of BAT.

The application of BAT 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 ENEMS.

7.0 PREVENTION OF ACCIDENTS

Based on the information available for products used on site and corresponding usage and storage volumes, the EC (Control of Major Accidents Hazards involving Dangerous Substances) Regulations 2015 (S.I. No. 209 of 2015) do not apply to this site.

Regardless of the potential for major accident hazards, the operation of any activity involves a certain amount of risk to the environment and human health. Preventative/Control measures are implemented to reduce the likelihood of accidents and mitigate the effects of the consequences of an accident at the Installation.

8.0 MANAGEMENT AND PROCESS CONTROL SYSTEMS

8.1 ENVIRONMENTAL MANAGEMENT SYSTEM

An Environmental Management System (EMS) has been developed for the Site in accordance with the requirements of BAT. The EMS outlines the management of the Site's environmental program and is certified by ISO14001.

8.1.1 Building Management System (BMS) and Electrical Power Monitoring System (EPMS)

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, emergency back-up generators, water supply, fire alarms, fire detection and suppression systems and fuel oil use.

The BMS/EPMS will ensure the Installation is running at optimal efficiency and will alert the operators in the event of a malfunction through the use of visual and auditable alarms. This includes malfunctions of the top-up fuel tank level indications and of the hydrocarbon interceptors, and any fuel bund or tank leaks.

8.2 EMERGENCY RESPONSE PLAN

An on-site Emergency Response Plan (ERP) has been developed for the existing data storage facilities and will be updated to incorporate the extended Installation and future development.

8.3 STANDARD OPERATING PROCEDURES

Standard Operating Procedures (SOPs) have been developed for ADSIL sites and these will be continuously updated in conjunction with the EMS. These address all the relevant environmental matters onsite including, but not limited to;

- Spill prevention and response procedures,
- Pollution management and prevention,
- Waste Management,
- Fuel delivery,
- Emergency electricity supply and changeover procedures.

8.4 PREVENTATIVE MAINTENANCE

Preventative Maintenance (PM) is undertaken on mechanical moving parts equipment and electrical equipment including pumps, AHUs, humidifiers, generators, power transformers, etc. This maintenance includes all the regular and systematic tasks that ADSIL will carry out to ensure that the equipment is in an acceptable working condition, delivering required performance and expected durability.

8.5 WASTE MANAGEMENT

Waste Management Standard Operating Procedures (SOPs) are in place for the operation of the data storage facilities. This will ensure the proper management and recycling of wastes generated at the facilities. The waste SOPs will enable the Installation to contribute to the targets and policies outlined in the *National Waste Management Plan for a Circular Economy 2024 – 2030.*

8.6 ENERGY MANAGEMENT

Energy management forms an integral part of the Installation's management. Measures are in place to minimise energy use as far as possible. ADSIL is committed to continually improving their energy efficiency and reducing their carbon footprint.

A Building Management System (BMS) and an Electrical Power Management System (EPMS) are in place to track the operation of critical sub-units and report back on energy efficiency of each section.

8.7 FIRE MANAGEMENT

A system is provided for detection, alarm and fire suppression to enhance life safety and protection of property by the detection of fire, enabling an audio/visual alarm to be given such that emergency actions may be taken fully compliant with Irish and EU regulations and in accordance with the insurers' requirements.

The data storage facilities are equipped with automated fire detection systems (heat and smoke). The fire detection and alarm systems are/will be subject to routine checks by site personnel and are/will be inspected and tested by the external service provider on a regular basis.

8.8 SITE CLOSURE

Upon cessation of operations and subsequent decommissioning of the Installation, it is anticipated that there will be no remaining environmental liabilities, i.e. Clean Closure is expected. Environmental monitoring will be conducted upon agreement and request of the Agency. Once operations cease and site is decommissioned, there will be no significant emissions to atmosphere at the Installation so monitoring of emissions will not be required. A Site Closure Plan is described in Attachment 9-2-3 of this Licence Application.

9.0 ENVIRONMENTAL IMPACT ASSESSMENT

Environmental Impact Assessment Reports (EIAR) relating to this activity, were prepared by AWN Consulting et. al. For the existing Installation, an EIAR dated December 2019 was prepared and submitted to MCC with Planning Ref. LB191735 (Attachment 6-3-6 of the IE Licence application). For the extended Installation, an EIAR dated April 2021 was prepared and submitted to MCC with Planning Ref. MCC 21/0663 (Attachment 6-3-6 of the IE Licence application).

All planning permissions for the data storage facilities that are relevant to this Licence review application under Class 2.1 of the EPA Act 1992 (as amended) have been granted on site and listed within Section 6 of this licence review application. Any further information, including reports and advice, relating to the environmental assessment of the proposed activity is made available and contained within Section 7 of this licence application.

10.0 ALTERNATIVES

In terms of technology, the Installation employs similar data server technology that is used by ADSIL at their other facilities, in the greater Dublin area and around the world, and represents state of the art technology.

Alternative technologies are considered on an ongoing basis by the Operator as a part of each of its designs based on many factors including technical feasibility, environmental impact, efficiency, security, reliability and cost.

11.0 CONCLUSIONS

This non-technical summary includes a brief overview of the IE licence review application, detailing each of the sections contained within the application that are relevant and applicable to the site.

It should be noted that in order to obtain comprehensive detailed description of the Installation and the activities that will be carried out there, the full application should be viewed.