



Amazon Data Services Ireland Ltd.

Non Technical Summary

Attachment-1-2

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April 2022

Licence Application (LA009978)

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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 on Cruiserath Road, Dublin 15. The site context is shown on Site Location Plan 21_123H-CSE-00-XX-DR-C-0001 - Overall Site Location Plan included with this application. The application relates to the entire facility that is c. 26.05 hectares (ha) in total (‘the Site’).

The Installation comprises 3 no. two-storey data storage installation buildings (Buildings A, B and C) and ancillary elements. The ancillary elements of the development include loading bays, maintenance and storage spaces, associated water tanks, sprinkler tanks, pump house and electrical rooms, security and utility spaces, underground foul and storm water drainage network, attenuation basin, internal roading network, and site landscaping. The site includes the Cruiserath 220 kV Substation. The site layout and main buildings is shown on Site Layout Plan Drawing Ref: 21_123H-CSE-00-XX-DR-C-0002-Overall Site Plan included with this application and shown in Figure 1 below.

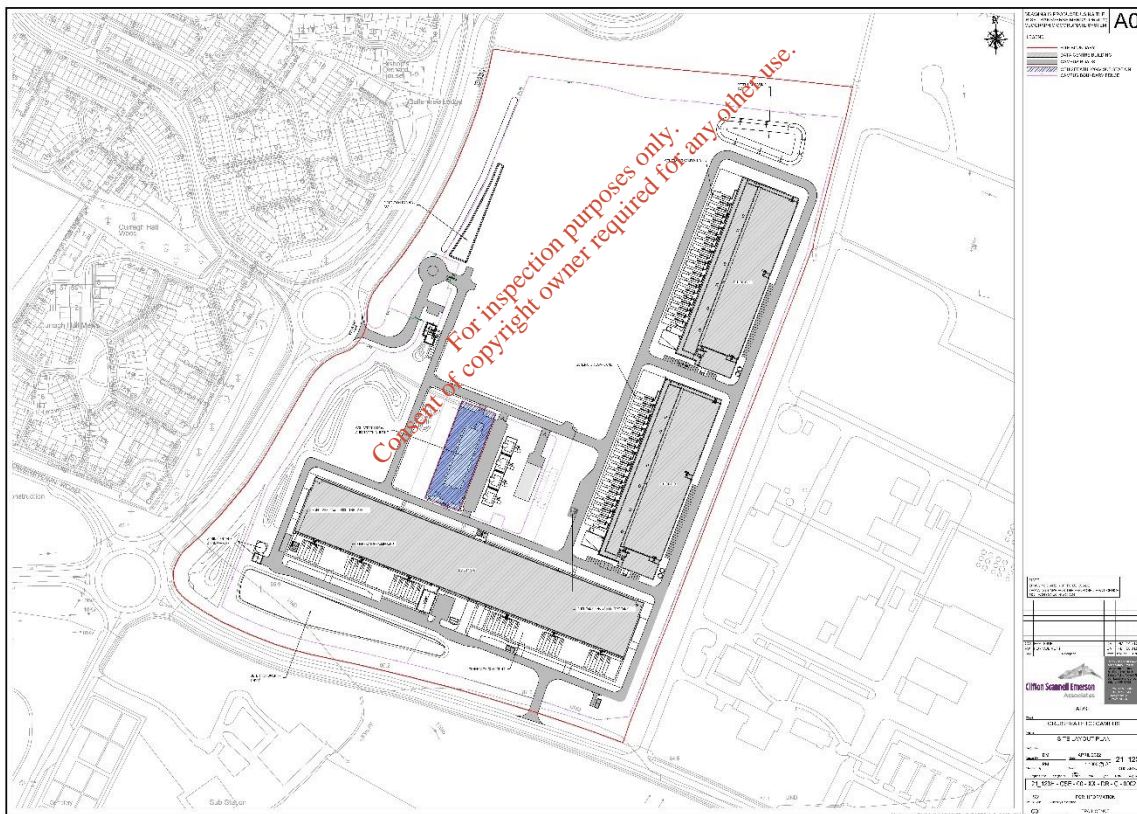


Figure 1 Site Location (21_123H-CSE-00-XX-DR-C-0002 - Overall Site Plan)

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 onsite battery installations and then by some or all of the onsite 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.

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*' specifically relates to this installation.

2.1 ACTIVITIES TO BE LICENSED

The Installation will include:

- 70 no. 6.49 megawatt thermal (MW_{th}) diesel powered emergency back-up generators,
- 2 no. 2.19 MW_{th} diesel powered emergency back-up generators,
- 2 no. 0.52 MW_{th} diesel powered fire sprinkler pumps.

The combined thermal input from the installation is 459.72 MW_{th} , this exceeds the 50 MW_{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 diesel-powered 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 c. 26.05 hectares and is located along the R121 Cruiserath Road, Dublin 15. The Installation is built on a greenfield site and is relatively flat though it slopes gently northwards. An existing ESB Wayleave, relating to existing underground power lines, is present along the northern boundary.

The site was previously used for agricultural crops. Much of the surrounding land has been developed in the past 10-15 years, mainly for industrial use (to the east and south) and residential (to the west). The site is not located directly adjacent to any areas of national or local environmental sensitivity/designation.

The eastern boundary of the Site is adjacent to an existing pharmaceutical facility, Bristol-Myers Squibb (herein referred to as BMS). The site is bound to the west by the Cruiserath Road R121 (dual-carriageway) and residential developments and to the north by undeveloped land. Immediately west of this undeveloped land is Cruiserath Drive and the Carlton Hotel. Blanchardstown village is located c. 2.5 km to the south. The closest residential properties are located c. 160m west of the proposed site boundary (across the R121).

The closest occupied residential properties are located c. 200m west of the Site boundary along the Cruiserath Road. The surrounding 1 km of the Site includes IE and IPC Licenced sites including:

- Alexion Pharma International Operations Unlimited Company (P1030), located to the south of the Site in College Business & Technology Park
- Mallinckrodt Pharmaceuticals Ireland Limited (P1060) located to the east in College Business & Technology Park
- Swords Laboratories Unlimited Company Trading As Bristol Myers Squibb Cruiserath Biologics (P0552) located to the east in Cruiserath Road
- Ipsen Manufacturing Limited (P0117) located to the east in Blanchardstown Industrial Park.

The site location and wider context is presented in 21_123H-CSE-00-XX-DR-C-0001 - Overall Site Location Plan included with this application.

3.0 DESCRIPTION OF ACTIVITY

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

3.1 SITE OVERVIEW

The Installation comprises 3 no. two-storey data storage installation buildings (Buildings A, B and C) with facilities containing; data storage rooms, electrical and mechanical plant rooms and support areas including offices and welfare facilities, loading bays, back-up generators with emission stacks, water storage tanks, and mechanical plant at roof level.

The layout of the existing data storage facilities, ancillary buildings, structures and attenuation systems (and the area of application) is shown in Site Layout Plan Drawing Ref: 21_123H-CSE-00-XX-DR-C-0002 Site Plan included with this application.

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

Development Phasing

Construction of Phase 1 of the Installation commenced in Q3 2019. This comprised the construction of Building A, as well as 2 no. attenuation basins and site landscaping. Construction works were completed in Q3 2020.

Phase 2 of the Installation commenced in Q3 2021 with the construction of the data centre (Building B) located to the north of Building A. Building B is anticipated to be operational in Q3 2022.

Phase 3 of the Installation is anticipated to commence in Q3 2023 with the construction of the data centre (Building C) located to the north of Buildings B. Building C is anticipated to be operational in Q2 2024.

3.2 PRIMARY PROCESSES/ACTIVITIES

3.2.1 Emergency Backup Generators

The Installation is supported by diesel-powered 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.

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.

3.3 SECONDARY PROCESS/ACTIVITIES

3.3.1 Ancillary infrastructure

There are integrated administration areas, associated with the data hall 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:

- Underground foul and storm water drainage network,
- Utility ducts and cables,
- Internal road network and 147 car and motorcycle parking spaces, 65 bicycle parking spaces,
- security hut and security fencing; and
- Drainage infrastructure including 3 no. attenuation basins.

3.3.2 Data Hall 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 equipment will be fitted with airside condensers to utilise this outdoor air to cool the space.

The cooling units or Air Handling Units (AHUs) provide conditioned air to maintain temperature, relative humidity and pressurisation in the data halls. 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 direct connection the 220 kV Gas Insulated Switchgear (GIS) Substation Compound located in the west of the Site approved under ABP Planning Ref 306834-20.

The 220 kV Substation (known as Cruiserath) and MV Substation are shown on the Site plan ref 21_123H-CSE-00-XX-DR-C-0002 - Overall Site Plan. In addition, there is a medium voltage (MV) Substation approved under FCC Planning Ref. FW20A/0164 located to the south east corner of the Site. The MV Substation is temporary connection for the Site until the Cruiserath Substation is completed.

The western part of the Substation compound accommodates a two storey 220kV 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.

3.4 WATER, SEWER, AND STORMWATER DRAINAGE INFRASTRUCTURE

3.4.1 Water Supply

The water supply to the Site is sourced from mains water supply via a metred connection from the existing main to the south-east corner of the Installation in accordance with the FCC Planning Ref. FW17A/0025 and FW19A/0087 and ABP Ref. L06F.248544. Water is used at the Installation for both staff welfare and cooling functions of the building's AHUs. The Installation has a demand for general potable supply, for cleaning, drinking and sanitary facilities, cooling equipment, and for firefighting.

The development requires an average demand of 1.0 litres/sec whilst peak water demand 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 Stormwater Drainage Systems

Rainwater runoff from impermeable areas of the Site will be collected via the onsite stormwater drainage network in accordance with FCC Planning Ref. FW17A/0025 and FW19A/0087 and ABP Ref. L06F.248544.

This network will convey the stormwater collected from buildings and roads via hydrocarbon interceptors to 2 no. offline stormwater detention basins and 1 no. online stormwater detention basin (See Drawing 21_123H-CSE-00-XX-DR -C-1100). The attenuated stormwater discharges offsite at 1 no. Emission Points (SW1) at greenfield runoff rates.

The top up tank bund and fuel unloading bay associated with Building B and C have sump with pumping system that discriminates between hydrocarbons and water. The sump pump activates as required to remove only water from the bund, when hydrocarbons are detected the sump pump shuts off. There are hydrocarbon level alarms that will send signal to the BMS to alert EOTs if the sump is full of hydrocarbons. The sump pump for the top up tank bund at Building B and C connects to stormwater via hydrocarbon Interceptor. The hydrocarbon interceptors are equipped with an oil warning system which is connected to the BMS to alert EOTs to warn of high hydrocarbon, liquid and silt levels in the separator.

Evaporative cooling water from the AHUs discharges to the stormwater drainage network. This is recirculated mains water that has been through the AHUs only. There is no addition of water treatment chemicals and therefore the water is of sufficient quality to be discharged to the stormwater drainage network.

3.4.3 Wastewater (Sewer) Drainage System

Domestic effluent arising from occupation of the Site, including the transformer compound and control building will be discharged to the public foul sewer (at Emission Point SE1). Refer to Drawing 21_123H-CSE-00-XX-DR-C-1200 for the foul drainage layout. The foul water connection to the public foul sewer is in accordance with the FCC Planning Ref. FW17A/0025 and FW19A/0087 and ABP Ref. L06F.248544.

The foul network ultimately conveys the wastewater for final treatment and disposal at Ringsend Wastewater Treatment Plant (WWTP) in Dublin.

The top up tank bund and delivery bay associated with Building A has a sump with pumping system that discriminates between hydrocarbons and water. The sump pump activates as required to remove only water from the bund, when hydrocarbons are detected the sump pump shuts off. There are hydrocarbon level alarms that will send signal to the BMS to alert EOTs if the sump is full of hydrocarbons. The sump pump for the top up tank bund at Building A connects to foul water via a hydrocarbon interceptor. The hydrocarbon interceptors are equipped with an oil warning system which is connected to the BMS to alert EOTs to warn of high hydrocarbon, liquid and silt levels in the separator.

Drainage from the Cruiserath Substation transformer compound is equipped with a hydrocarbon interceptor. The location of these is illustrated on Drawing 21_123H-CSE-00-XX-DR-C-1200. The hydrocarbon interceptors are equipped with an oil warning system which is connected to the BMS to alert EOTs to warn of high hydrocarbon, liquid and silt levels in the separator.

3.4.4 Environmental Conditions

3.4.4.1 Soil and Groundwater

A Complete Baseline Report for the Site has been produced and included in 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.

Based on the site-specific data available from the Site investigations undertaken in 2016, prior to the construction of the ADSIL facilities buildings, an assessment of source-pathways-receptors has been completed. The following conclusions have been made:

- Bedrock is shallow at the Site and the aquifer underlying the Site is poor to locally important, with high to extreme vulnerability.
- The site was used as agricultural land up to 2019 and there are no previous uses that could lead to historical contamination at the Site.
- Site specific soil and water quality data show no evidence of any historical contamination at the Site.
- There is only bulk diesel storage proposed for the facility. However, the risk prevention measures planned at the facility 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 storage areas. It was concluded that there are no direct pathways to either the soil and groundwater environment. Interceptors are installed on the surface water drainage. A leakage from a bulk 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 site South Dublin Bay and River Tolka Estuary SPA or the South Dublin Bay and North Dublin Bay SAC's.

3.4.4.2 Surface Water

The Installation is located within the former Eastern River Basin District ERBD (now the Irish River Basin District), as defined under the European Communities Directive 2000/60/EC, establishing a framework for community action in the field of water policy – this is commonly known as the Water Framework Directive (WFD).

Surface water quality is monitored continuously by the EPA at various regional locations along principal and other smaller watercourses.

The stormwater attenuation system outfalls at a no emission point (SW1) that discharges attenuated flows to the existing Fingal Council Council (FCC) network in the R121 Regional Road (Cruiserath Road) to the south-east of the Site as outlined in Attachment 4-8-3. Prior to discharge, the stormwater passes through hydrocarbon interceptors on site to ensure that the quality of the stormwater discharge is controlled.

The FCC network(s) eventually discharge to the Ballycoolin Stream and the River Tolka which flows to the Liffey Estuary transitional water body (11.6 km hydrologically downgradient). The River Tolka is ultimately connected with the South Dublin Bay and River Tolka Estuary SPA 11.62km to the southeast and the other Natura Designated Sites within Dublin Bay (South Dublin Bay and North Dublin Bay SAC's)

The water quality monitoring stations located on the River Tolka downstream of the Site have quality ratings available within the last twenty years. The first of these (Mulhuddart Bridge RS09T010800) obtained a Q2-3 -Poor Status (in 2017), Old Corduff Road Bridge (RS09T010900) has a Q rating of 3, 'Poor' status (in 1994). The further downstream monitoring station (Abbotstown RS09T011000) obtained a Q rating of 3 which also denotes a "Poor" rating for River Tolka in 2016 and 2019.

3.4.4.3 Air Quality

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 the project.

3.4.4.4 Noise Environment

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 6.1:

Table 4.1 Applicable BAT documents

Horizontal BREF	Publication date	Attachment
Best Available Techniques (BAT) Reference Document for Large Combustion Plants	2017	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 operations above 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_123H-CSE-00-XX-DR-C-2000 Air Emission Layout Plan.

- Building A: 26 no. 6.49 MW_{th} diesel powered emergency back-up generator stacks with a height of 20 m above ground level.

- Building B: 22 no. 6.49 MW_{th} diesel powered emergency back-up generator stacks with a height of 20 m above ground level. 1 no. 2.19 MW_{th} diesel powered emergency back-up administration generator.
- Building C: 22 no. 6.49 MW_{th} diesel powered emergency back-up generator stacks with a height of 20 m above ground level. 1 no. 2.19 MW_{th} diesel powered emergency back-up administration generator.
- Sprinkler Pumphouse associated with Building A: 2 no. 0.52 MW_{th} diesel powered emergency back-up fire sprinkler pumps.

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

These are emissions which only operate under abnormal process conditions. Typical examples include bursting discs, pressure relief valves, and emergency generators. The top up tank and belly at the facility each include two-way normal pressure (breather) vents. These produce minor diesel vapour (trace) emissions:

- 2 no. Diesel Top Up Tank Emergency Relief Vents (1 per each Top Up tank).
- 72 no. Belly Tank Emergency Relief Vents 1 per each belly tank).

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

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 (based on 72 hours of operation) indicate that ambient ground level concentrations are below the relevant air quality standards for NO₂ for all scenarios modelled and no additional abatement systems are required.

5.2 EMISSIONS TO SEWER (WASTEWATER EMISSIONS)

Foul drainage is collected in the onsite foul network and will be discharged to the mains foul sewer. The outfall into the mains foul network is at one location, one to the south of the Site (emission point SE1). This outfall (SE1) will cater for foul flows from Building A, B and C as well as the welfare facilities associated with the Cruiserath Substation.

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.

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

The emission / offsite discharge points are labelled SE1 on Drawing 21_123H-00-XX-DR-C-1200 Foul Water Layout plan included with the application.

5.3 STORMWATER EMISSIONS

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

The Site stormwater is attenuated prior to outfall, within 3 no. Attenuation Basin(s) located on the Site as described in Section 4.4.2. All stormwater from the Site stormwater network outfalls at 1 no. emission point (SW1) that discharges attenuated flows to the existing Fingal County Council (FCC) network in the R121 Regional Road (Cruiserath Road) to the south-east of the Site. This network is shown on Drawing 21_123H-00-XX-DR-C-1100 Surface Water Layout Plan.

The FCC network flows to the Baldonnel Stream, and eventually discharges to the Tolka River. The Tolka River is located to the south of the Site; and flows 11.6 km east, to the Liffey Estuary transitional water body, and ultimately the Dublin Bay.

No online monitoring is proposed for the stormwater 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.

It is proposed that weekly visual inspections for discolouration and odour are undertaken upstream of the stormwater discharge points (Monitoring Points SW1-1, and SW1-2).

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

5.4 NOISE EMISSIONS

During operation, the primary source of noise is expected to arise from building service plant which will be required to service 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 proposed, to be stipulated in the IE licence at the nearest noise sensitive receptors.

Annual day time, evening and night-time monitoring will be undertaken in accordance with the 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. 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 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.

The small amounts of hazardous waste generated are stored internally in appropriate waste receptacles on bunds, or externally to each building in appropriate waste receptacles in covered 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 are specified in Attachment 4-6-1 of the application and are shown below in Table 8.1 below.

Table 6.1 Summary of the Estimated Resource use at the Installation

Resource	Estimated quantity per annum
Electricity (purchased) (max consumption)	727,080 MWh
Total Electricity (generated and used) (max consumption)	727,080 MWh
Electricity (generated and exported)	N/A
Natural Gas	N/A

Diesel (Gas Oil)	987.92 tonnes annually
Water (Public Supply)	22,377 m3

The applicant will employ a variety of technologies to maximise the efficient use of energy within the installation. The installation 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) will be developed for The Site in accordance with the requirements of BAT. The EMS will outline the management of The Site's environmental program and, although not certified by ISO, will be in line with the principals of 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 an optimal efficiency and will alert the operators in the event of a malfunction through the use of visual and audible alarms. This includes malfunctions of the bulk 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 data storage facilities and will be updated to incorporate any requirements of the Licence 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 *Eastern-Midlands Region Waste Management Plan 2015-2021*.

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.

A firewater retention risk assessment is included with this application documentation Attachment-9-2-3-FWRA.

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

An Environmental Impact Statement (EIS) relating to Building A was prepared by AWN Consulting et. al. dated March 2017 with addendum dated September 2017. This EIS was previously submitted to FCC and ABP and is included with this IE Licence application as Attachment-6-3-6-EIS-Planning-Jan-2018 and Attachment-6-3-6-EIS-Addendum-Jan-2018. An Environmental Impact Assessment Report (EIAR) relating to Building B and Building C, was prepared by AWN Consulting et. al. dated May 2019. This EIAR was previously submitted to FCC and is included with Attachment 6-3-6-EIAR-Aug-2019 of the IE Licence application).

The Installation is constructed and operated in accordance with FCC Planning Ref. FW17A/0025 and FW19A/0087, therefore the EIS/EIAR (Attachment-6-3-6-EIS-Planning-Jan-2018, Attachment-6-3-6-EIS-Addendum-Jan-2018, Attachment-6-3-6-EIAR-Planning-Aug-2019) is relevant to this IE License activity.

All planning permissions for the data storage facilities that are relevant to this Licence application under Class 2.1 of the EPA Act 1992 (as amended) have been granted on site. Any further information, including reports and advice, relating to the environmental impact 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 will employ 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 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.

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