

**Amazon Data Services Ireland Ltd.**

# **Non Technical Summary**

**Attachment-1-2**

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**February 2022**

Licence Application (LA009828)

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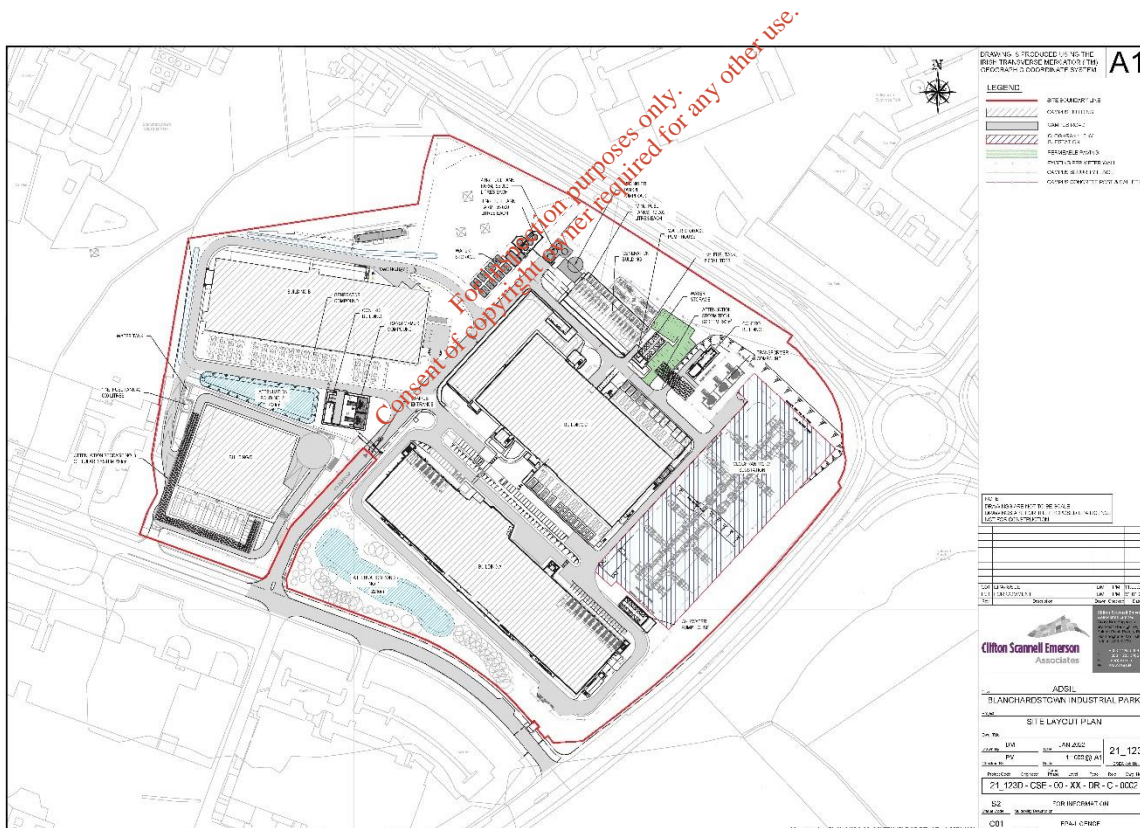
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### 1.0 INTRODUCTION

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 in the Blanchardstown Industrial Park, Snugborough Road, Dublin 15 located 2km from the N3 Road and 2.5km from the M50. 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 13.08 hectares (ha) in total (‘The Site’)

The Site is occupied by four no. data storage buildings (Buildings A, B, C and D) with 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 stormwater drainage network, on site attenuation systems, internal roading network, and site landscaping. The overall site includes the Cloghran 110 kV AIS Substation.

The Site layout and main buildings are shown on Site Layout Plan Drawing Ref: 21\_123D-CSE-00-XX-DR-C-0002 Site Plan included with this application and shown in Figure 1 below.



**Figure 1** Site Location (21\_123D-CSE-00-XX-DR-C-0002 - Overall Site Plan)

The Installation requires a continuous supply of electricity to operate. During normal operations, 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 a total of 72 no. emergency backup generators comprising:

- 9 no. 6.49 megawatt thermal (MW<sub>th</sub>) diesel powered emergency back-up generators
- 22 no. 6.33 MW<sub>th</sub> diesel powered emergency back-up generators
- 39 no. 5.59 MW<sub>th</sub> diesel powered emergency back-up generators, and
- 2 no. 0.42 MW<sub>th</sub> diesel powered emergency back-up fire pumps.

The combined thermal input from the emergency back-up generators once operational is 416.52 MW<sup>th</sup>, this exceeds the 50MW<sub>th</sub> 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 13.08 ha within the Blanchardstown IDA Business and Technology Park. The Site is bounded by the Ballycoolin Road to the north-east, and Snugborough road to the south-east. The Installation is accessed via the Blanchardstown Business and Technology Park access road to the south. The overall site is located between the N2 and N3 national primary roads, outside of the M50.

The lands in the immediate vicinity surrounding the industrial park comprise of predominantly commercial and institutional development, including pharmaceutical, data centres, food manufacturing, warehousing and logistics, and offices uses. Rosemount Business Park is located to the east, with the heavy industry further to the east including the Huntstown Quarry and Huntstown Power station (IE Ref: P0483 and P0777 and Anaerobic Digester facility (IE Ref: P0993). There are 2 no. residential properties located approximately 60 m to the north of the installation.

Located within the Blanchardstown IDA Business and Technology Park is Ipsen Manufacturing Ireland Ltd, (IE License ref: P0117-02), located immediately to the west of The Site. Ipsen produces generic tableted pharmaceutical products. 550 meters (m)

to the west of the Installation is the Equinix Hyperscale 1 (DB5) Limited, a Data Centre campus that is has IE licence currently under consideration by the EPA (IE Ref: P1168-01). The Jellybean factory (food production) is located adjacent to the southwest boundary, and a number of technology business, including software and data storage are located to the north of The Site. Inna labs a specialised engineering and manufacturing business, Securispeed, a logistics business and Edwards Technology Centre, a vacuum and abatement technology business, are located immediately to the south of the campus.

Within the Ballycoolin IDA Business Park, 450 m to the north is K2 Strategic Infrastructure Ireland Limited a Data Centre campus that is has IE licence currently under consideration by the EPA (IE Ref: P1143-01).

To the north and north west of the Installation are 3 IE Licenced pharmaceutical facilities within the College Business and Technology Park; which includes Alexion Pharma International Operations Unlimited Company (IE Ref: P0552); Swords Laboratories Unlimited Company Trading As Bristol Myers Squibb Cruiserath Biologics (IE Ref P1030); and Mallinckrodt Pharmaceuticals Ireland Limited IE Ref: P1060).

The area to the west and south of The Site generally comprise residential areas (Corduff), and educational and recreational facilities with areas of open space and parks. Specifically, this area includes Technological University Dublin Blanchardstown Campus, Riversdale Community College, and Saint Patricks Senior School, as well as the Sport Ireland National Campus located to the of The Site which houses a wide range of Sport Ireland facilities.

The generally site layout and wider context is presented in Drawing Reference: 21\_123D-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 project description as it relates to the IE Licence.

#### 3.1 SITE OVERVIEW

The Installation comprises 4 operational data storage facilities (Buildings A, B, C and D). 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\_123D-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.

#### 3.2 PRIMARY PROCESSES/ACTIVITIES

##### 3.2.1 Emergency Backup Generators (Generation Compound)

The Installation is supported by diesel-powered emergency back-up generators. These generators provide the necessary power to ensure the data storage 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 four data storage buildings are accompanied by a designated emergency backup generators for the supply of emergency power to that building. There is no interconnectivity between the generators of different buildings.

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 each main data hall buildings. 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 car and motorcycle parking spaces, sheltered bicycle parking spaces,
- security hut and security fencing; and
- Drainage infrastructure including 2 no. attenuation basins and 2 no. underground attenuation systems.

### 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 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 to the Air Insulated Switchgear (AIS) 110 kV Substation (operated by Eirgrid, owned by ESB); located in the east of The Site that was consented under FW11A/0104.

There is 1 no. transformer compound located to the north of the AIS Substation with associated control room (owned and operated by ADSIL); and 1 no. transformer compound located between building B and Building D with associated control room (owned and operated by ADSIL).

In addition to the mains connection, there is an array of PV panels on Building D which can generate on site renewable energy up to a peak of 9.6 kWe. The on-site renewable electricity generation will be back-fed to the electrical general supply for the building, serving lighting, office area general services and office IT equipment.

Attachment 4-8-1 Operational Report presents further details on the Electricity Supply and 110kV Substation.

## 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 of the installation in accordance with the FCC Planning Permissions (FCC Reg. Ref.: FW13A/0067, FW15A/0135 FW10A/0099 and FW18A/0078). Water is used at the installation for both staff welfare and cooling and humidification functions of the building's AHUs.

The design requires a average water demand of up to 35,099.6 m<sup>3</sup> per annum. Where water demand is required during a short-term drought, additional supply can be provided from an alternative source such as tanker supply.

On-site water storage to support the cooling and humidification functions of the building's AHUs is provided adjacent to each building.

### 3.4.2 Stormwater Drainage Systems

Rainwater runoff from impermeable areas of The Site will be collected via the onsite stormwater drainage network and discharged to the south of the installation in accordance with the FCC Planning Permissions (FCC Reg. Ref.: FW13A/0067, FW15A/0135 FW10A/0099 and FW18A/0078). The stormwater drainage network will convey the stormwater via various hydrocarbon interceptors to one of 4 no. stormwater attenuation systems (See Drawing 21\_123D-CSE-00-XX-DR-C-1100).

The stormwater discharges offsite at 4 no. Emission Points (SW1, SW2, SW3, SW4) as shown on Drawing Reference: 21\_123D-CSE-00-XX-DR-C-1100 Surface Water Layout Plan.

The 4 no. emissions points discharge stormwater to the 1200 mm diameter existing surface water drainage main, located to the south in the public road and runs through the IDA Blanchardstown Business and Technology Park. This stormwater main flows east to the man-made attenuation and detention structure (artificial lake) located in College Business Park, from here it drains westwards to the Ballycoolin Stream, the

Ballycoolin Stream flows 1.2 km downstream in a southerly direction and confluences with River Tolka.

### 3.4.3 Wastewater (Sewer) Drainage System

Domestic effluent arising from occupation of the data storage facilities will be discharged to the public foul sewer (at Emission Points SE1, SE2, SE3, and SE4) and from the transformer compound and control building located adjacent to the AIS Substation to the public foul sewer (at Emission Point SE5). Refer to Drawing 21\_123D\_CSE-00-XX-DR-C-1200 for the foul drainage layout.

This foul sewer discharges to a 450mm diameter public foul sewer located on the south side of the main access road which serves the IDA Blanchardstown Business and Technology Park. The foul network ultimately discharges into a regional pumping station before final treatment and disposal at Ringsend Wastewater Treatment Plant (WWTP) in Dublin.

Drainage from the bulk tank farm is equipped with a Class 2 hydrocarbon interceptor. The location of these are illustrated on Drawing 21\_123D\_CSE-00-XX-DR-C-1200. This hydrocarbon interceptor is equipped with an oil warning system which is connected to the BMS/EPMS critical alarm.

Drainage from the transformer compound is equipped with a Class 2 full retention hydrocarbon interceptor. The location of these are illustrated on Drawing 21\_123D\_CSE-00-XX-DR-C-1200. This hydrocarbon interceptor is equipped with an oil warning system which is connected to the BMS/EPMS critical alarm.

### 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 conditions of The Site as it existed prior to the construction and operation of the Installation.

The Complete Baseline Report concluded that soil quality data is limited for the facility. However, based on available data, there is no evidence of contamination within the soils beneath the site. There is no groundwater quality data available and no existing monitoring boreholes to facilitate collection of samples.

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 for back-up emergency generators. The risk prevention measures 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.



### 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.

Stormwater drainage from the site currently discharges to the attenuation ponds on site prior to discharge to the existing storm water system along the Business Estate Road via Class 1 hydrocarbon interceptors and flow control devices as outlined in Attachment 4-8-3 of this application. The interceptors will be equipped with an oil warning system which will be connected to the BMS/EPMS critical alarm.

This stormwater main flows east to the man-made attenuation and detention structure (artificial lake) located in College Business Park, from here it drains westwards to the Ballycoolin Stream, the Ballycoolin Stream flows 1.2 km downstream in a southerly direction and confluences with River Tolka.

The water quality monitoring stations located on the River Tolka downstream of the site have quality ratings available within the last twenty years. This monitoring location (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 2019.

### 3.4.4.3 Air

Ambient air quality monitoring was not undertaken as part of the preliminary 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

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 unit 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 Air 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 Drawings No. CSE-00-XX-DR-C-2000 Air Emission Layout Plan.

- Building A: 22 no. 5.59 MW<sub>th</sub> diesel powered emergency back-up generators with stacks with a minimum height of 20.4m above ground level.
- Building B: 17 no. 6.33 MW<sub>th</sub> diesel powered emergency back-up generators with stacks with a minimum height of 23.2m above ground level.
- Building C: 17 no. 5.59 MW<sub>th</sub> diesel powered emergency back-up generators with stacks with a minimum height of 6.8m above ground level.
- Building C Extension: 5 no. 6.33 MW<sub>th</sub> diesel powered emergency back-up generators with stacks a minimum height of 6.8m above ground level.
- Building D: 9 no. 6.49 MW<sub>th</sub> diesel powered emergency back-up generators with stacks with a minimum height of 22m above ground level.
- Sprinkler Pumphouse: 2 no. diesel powered fire pumps 0.450 MW<sub>th</sub>.

The environmental impact 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 occur under abnormal process conditions. Typical examples include bursting discs, pressure relief valves, and emergency generators. The emergency back-up generators are included as minor emission sources due to the routine testing and maintenance.

- 9 no. Diesel Tank Breather Vents (1 per each Bulk Tank and Top Up Tank).
- 18 Diesel Tank Breather Vents ( 1 per each Upright tank at Building C).
- 9 Diesel Belly Tank Breather Vents (1 per each belly tank at Building D).

The diesel storage bulk tanks and top up tanks at the Installation each include breather vents (pressure relief vents). These produce minor diesel 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 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 NO<sub>2</sub> for all scenarios modelled and no additional abatement systems are required.

#### **5.2 EMISSIONS TO SEWER (WASTEWATER EMISSIONS)**

Foul drainage will be collected in the onsite foul network and will be discharged to the mains foul sewer.

The outfall into the mains foul network is at five locations, one to the southwest (emission point SE1), two in the south (emission point SE2 and SE3) and two in the southeast (emission point SE4 and SE5). SE1 caters for foul flows from Building D. SE2 caters for foul flows from Building B, SE3 caters for foul flows from Building A and C and drainage from the diesel tank farm. SE4 will for foul flow from Building A., and SE5 caters for flows from the Control Building and Transformer compound located to the north of the AIS 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, SE2, SE3, SE4, and SE5 on Drawing 21\_123D-CSE-00-XX-DR-C-1200 Foul Water Layout plan included with the application.

### 5.3 STORMWATER EMISSIONS

Emission to storm sewer consists of stormwater runoff from building roofs, yards and the road network. Residual cooling water, associated with the evaporative cooling process, is also discharged from the cooling systems to the storm sewer.

The attenuated stormwater drains at 4 no. Emission Points (SW1, SW2, SW3, SW4). The Site drainage is shown on Drawing 21\_123D-CSE-00-XX-DR-C-1100 Surface Water Layout Plan included with this application.

This network conveys the stormwater through hydrocarbon interceptors to one of 4 no. stormwater attenuation systems constructed on the campus. The cooling water discharged from the evaporative cooling units is effectively clean water that has passed through the cooling equipment.

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 Point SW1-1, SW2-1, SW3-1, and SW4-1).

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.

With due consideration as part of the detailed design process, this approach will result in The Site operating well within the constraints of the best practice guidance noise limits that have been adopted as part of the detailed 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 R407c 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 Future Resource use at the Installation Resource

Resource	Estimated quantity per annum
Electricity (purchased) (MAX CONSUMPTION)	1,785,233 MWh
Total Electricity (generated and used) (MAX CONSUMPTION)	1,785,233 MWh
Electricity (generated and exported)	N/A
Natural Gas	N/A
Diesel (Gas Oil)	1,001 tonnes annually
Water (Public Supply & Rainwater Harvesting)	35,099.6 m <sup>3</sup>

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

The Environmental Impact Assessment Screening Reports relating to this activity which have been previously submitted to FCC have been submitted to the Agency as part of this application and referenced according to the month of the Final Grant of permission (Attachment-6-3-6-EIAS-Planning-Jan-2016 (AWN, 2016), Attachment-6-3-6-EIAS-Planning-Mar-2018 (AWN, 2018), and Attachment-6-3-6-EIAS-Planning-Aug-2018 (AWN, 2021) of the IE Licence application).

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 (see Section 6 of this licence application). Any further information, including reports and advice, relating to the environmental assessment of the proposed activity is 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.