

Amazon Data Services Ireland Ltd.

Non Technical Summary Attachment-1-2 Consent of confining time transported by the consent of the confining time transported by the consent of consent of confining time transported by the consent of consen

January 2022

Licence Application (LA007494)

CONTENTS

1.0		Introduction	2
2.0		General Information	3
	2.1	Activities To Be Licensed	3
	2.2	Site Context	3
3.0		Description Of Activity	4
	3.1	Site Overview	4
	3.2	Primary Processes/Activities	4
	3.3	Secondary Process/Activities	4
	3.4	Water, Sewer, And Stormwater Drainage Infrastructure	5
4.0		Best Available Techniques And Commission Implementing Decision	8
5.0		Emissions And Abatement Treatment Systems	8
	5.1	Air Emissions	8
	5.2	Emissions to Sewer	9
	5.3	Stormwater Emissions	10
	5.4	Stormwater Emissions	10
6.0		Management Of Raw Materials, Intermedianes And Wastes	10
	6.1	Energy Efficiency And Resource Use	11
7.0			
8.0		Management And Process Control Systems	11
	8.1	Environmental Management System	11
	8.2	Emergency Response Plan	12
	8.3	Standard Operating Procedures	12
	8.4	Fire Management	12
	8.5	Site Closure	13
9.0		Environmental Impact Assessment	13
	9.1	Alternatives	13
10.	0	Conclusions	14

1.0 INTRODUCTION

Amazon Data Services Ireland Limited ('the operator) is applying to the Environmental Protection Agency ('the Agency') for an Industrial Emissions (IE) Licence for its Data Storage installation (hereafter referred to as the 'installation') located in Grange Castle South Business Park, Dublin 22. The Data Storage installation will provide secure data storage services, and distribution of information to individuals, businesses and organisations.

The site when fully constructed will consist of three no. two storey data storage installation buildings with mezzanine floors at each level (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, on site attenuation ponds, internal roading network, and site landscaping. The site overall sites includes the Clutterland 110 kV Substation. See Attachment 4-8-1 (Operational Report) for further information.

The permitted site layout is shown on Site Layout Plan A093-CSC-XX-XX-DR-C-0004 included with this application.

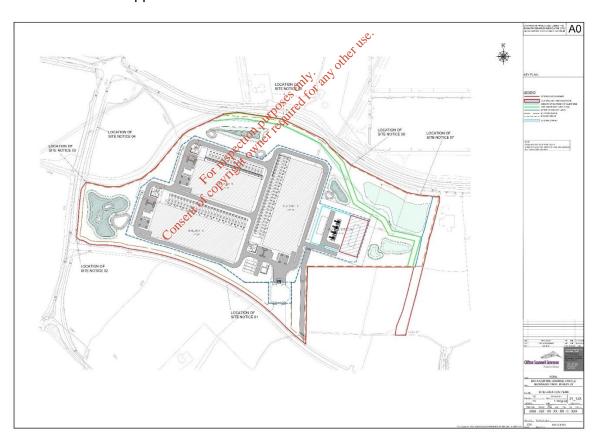


Figure 1 Site Location (A093-CSC-XX-XX-DR-C-0004 - Overall Site Location Plan)

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:

Attachment-1-2 - Page 2

- 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 requirement for an 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 75 no. emergency backup generators comprising:

- 70 no. 6.49 megawatt thermal (MW_{th}) emergency backup generators,
- 3 no. 3.03 MW_{th} House Generators, and
- 2 no. 0.45 MW_{th} Sprinkler Pumps will be installed at the installation.

The combined thermal input from the emergency backup generators once operational is 464.4 MW_{th}, this is above 50MW_{th} threshold of Class 2.1 First Schedule of the EPA Act 1992. The operator is therefore, applying to the nirronmental Protection Agency (EPA) for an IE Licence principally relating to the operation of diesel-powered emergency standby generators under Activity Class 2.1. Whilst it is not intended that the generators be used for any purpose other than for emergency power supply, Hof Inspection pure red maintenance, and testing

2.2 SITE CONTEXT.

2.2.1 Surrounding Land

The Installation is located on a site of c. 16.5 hectares that consists of a formerly greenfield site within the Grange Castle South Business Park. The site is bounded by the realigned Baldonnel Road to the west; by the old and new Nangor Road to the north; by agricultural fields and the Grange Castle Motor Company to the east; and by the Grange Castle South Access Road that provides access off the Baldonnel Road into Grange Castle South Business Park to the south.

The wider context of the site is defined primarily by commercial and industrial development. Large areas of the surrounding lands to the south and north within the Grange Castle Business Park and Profile Park have been developed in the past 10-15 years and are occupied by industrial campuses including pharmaceutical, data centres and food manufacturing uses. The Google data centre campus is located to the southeast of the site and the Cyrus One data storage facility development is currently being constructed to the immediate south. To the immediate north is the Microsoft data centre campus and the EdgeConneX data centre campus to the north west. The closest occupied residential properties are located c. 230m south of the site boundary along the Baldonnel Road.

The surrounding 5 km of the site includes IE and IPC Licenced sites including:

Takeda Ireland Limited (Shire Pharmaceuticals Ireland Limited) (P0693-01), Pfizer Ireland Pharmaceuticals (P0652-01) and Grange Back Up Power

(P1033-02) power station development located to the east in Grange Castle; and

• Crag Digital Limited (P1113-01) power station development to support datacentre located further to the east in Clondalkin.

The site layout and wider context is presented in Drawing Ref. 3.1 Site Location Plan included with this application.

3.0 DESCRIPTION OF ACTIVITY

Attachment 4.8.1 (Operations report) presents the project description as it relates to the IE Licence.

3.1 SITE OVERVIEW

The site when fully constructed will consist of three no. two storey data centre buildings with mezzanine floors at each level (Buildings A, B and C)with a gross floor area of 80,269sqm. 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 facility is supported by containerised diesel-powered emergency back-up generators that are located externally in the generator yard associated with each data centre building. These generators immediately provide the necessary power to ensure the data centre buildings continue to operate in the event of a temporary failure of electricity supply. 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. At typical data storage facility 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 of the Data Storage Facilities. 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 150 no. car parking spaces, and 78 no. sheltered bicycle parking spaces,
- security hut and security fencing; and
- Drainage infrastructure including 4 no. attenuation ponds.

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. Duty and standby units are in place to ensure cooling is available at all times. The AHUs have two modes of operation: Free Cooling which uses outside airair, and Evaporative Cooling mode or 'Adiabatic Cooling' which uses water from the mains supply as the cooling media.

Attachment 4-8-1 (Operational Report) presents further details on the 3.3.2 Electricity Supply and 110kV Substation.

3.3.3 Electricity Supply and 110kV Substation

The power requirements for the installation are to be provided via a connection to an 110kV Gas Insulated Switchgear (GIS) Substation Compound substation located to the east of the main buildings that was approved under ABP-308585-20. The 110kV Substation (known as Clutterland is shown on the site plan ref A093-CSC-XX-XX-DR-C-0004 - Overall Site Plan.

Attachment 4-8-1 (Operational Report) presents further details on the 3.3.2 Electricity Supply and 110kW Substation.

3.4 WATER, SEWER, AND STORMWATER DRAINAGE INFRASTRUCTURE

3.4.1 Potable water

The water supply will be sourced from mains water supply via a metred connection from the existing main to the south of the Proposed Development site. The design requires a peak water demand of up to 0.5 litres per second (I/s). 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 will be provided at each building in bulk water tanks.

These water tanks are to support the cooling function of the building's AHUs.

Cold water storage tanks will be provided. Pumps will supply water to the installation from the storage tanks. The storage tanks will act as break tanks and buffer demand on the public watermain infrastructure.

The installation has a demand for general potable supply, for cleaning, drinking and sanitary facilities, cooling equipment, and for firefighting. This is sourced from a metred

150mm uPVC connection from the existing 500mm Ductile Iron main to the south of the subject lands.

3.4.2 Foul and Process Sewer

Domestic Effluent

All internal foul drainage networks were designed in accordance with the SDCC Planning Ref. SD20A/0121, and Irish Waters Code of Practice for Wastewater Infrastructure, National Building Regulations Technical Guidance Document H – Drainage & Waste Disposal.

When constructed a gravity piped foul drainage network comprising of 225 mm uPVC pipes will take effluent from internal sanitary locations and outfall into the external foul network. When constructed the outfall into the existing foul network will be at two locations, one to the west (SE1) and the second to the east (SE2). The western outfall will cater for foul flows from Blocks A, B and 50% of Block C. while the second outfall to the east will cater for 50% of Block C. and the welfare facilities associated with the Clutterland Substation.

The foul network ultimately discharges into a regional pumping station before final treatment and disposal at Ringsend Wastewater Treatment Plant (WWTP) in Dublin.

Cooling Water Drain down

In additional to domestic effluent generated on site, there is a requirement to have the capability to discharge run-off from coolant effluent into the foul network. The coolant effluent is a biproduct of potable water used, when atmospheric temperatures are above the setpoint. to cool components within the facility. A Trade Effluent Discharge Licence has been applied for (Irish Water Reference 11712).

3.4.3 Stormwater Drainage Systems

Rainwater runoff from impermeable areas of the site will be collected via the onsite storm water drainage network. This network will convey the stormwater to one of three stormwater attenuation ponds to be constructed on site (See Drawing DUB69-CSC-XX-XX-DR-C-1101).

Storm water will be gathered in the new drainage network and directed to one of three attenuation areas. Prior to storm water entering the attenuation retention ponds, storm water is directed into 'forebays'. The forebays allow small intensity rainfall events to be stored separately from the main water body. This allows for any detritus material to be removed from the water and aids in particulate removal, increasing overall storm water quality prior to disposal.

All storm water generated on site from roof areas, hardstanding, and roads will pass through a suitably sized oil separator prior to disposal.

3.4.4 Environmental Conditions

3.4.4.1 Soil

The Baseline Report (Attachment 4.8.3) concluded that there is no evidence of any residual contamination beneath the site.

The only chemical stored on site in significant quantities is diesel. 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 and integrally bunded vessels, double lined drainage and containment systems 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 or groundwater environment.

3.4.4.2 Groundwater

Attachment 4-8-3 of this application provides a Baseline Report which identifies no historic contamination of groundwater.

3.4.4.3 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.

Hydrocarbon interceptors are installed on the surface water drainage 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.

3.4.4.4 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 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.

3.4.4.5 Noise

An environmental noise survey was 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 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 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 major 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 extended campus. These are classified as minor based on the size of the combustion plant and the routine testing and maintenance testing:

- Building A: 26 no. 6.49 MW_{th} diesel powered emergency back-up generator stacks with a minimum height of 25m above ground level; 1 no. 3.03 MW_{th} diesel powered emergency back-up generators
- Building B: 18 no. 6.49 MW_{th} diesel powered emergency back-up generator stacks with a minimum height of 25m above ground level, 1 no. 3.03 MW_{th} diesel powered emergency back-up generators

 Building C: 26 no. 6.49 MW_{th} diesel powered emergency back-up generator stacks with a minimum height of 25m above ground level, 1 no. 3.03 MW_{th} diesel powered emergency back-up generators

• Sprinkler Pumphouse: 2 no. 0.450 MW_{th} diesel powered emergency back-up fire pumps.

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 Emissions

These are emissions which only operate 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.

- 3 no. Diesel Top Up Tank Emergency Relief Vents (1 per each 40m³ bulk tank); and
- 70 no. Emergency Generator Diesel Belly Tank Emergency Relief Vents.

The diesel storage bulk tanks and belly tanks at the facility each include two-way normal pressure (breather) and pressure relief vents on the diesel belly tanks. These produce minor diesel vapour (trace) emissions.

Fugitive 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.

5.2 EMISSIONS TO SEWER

The foul drainage comprises domestic foul water as well as cooling water from the Evaporative Cooling system for the data halls. The Evaporative Cooling utilises 'Evaporative Cooling Water' mains water (at ambient temperature) from the mains supply as the cooling media. There is a requirement to have the capability to discharge run-off from coolant effluent into the foul network. The residual cooling water, associated with the evaporative cooling process, is discharged from the cooling systems to the foul network. This is recirculated mains water that has been through the AHUs only. There is no addition of water treatment chemicals. See Attachment 4-8-1 (Operational Report) for further information.

5.3 STORMWATER EMISSIONS

The surface water will be discharged to the stormwater network located to the south of the site. This is a new installation, and foul water and process water is separated from all stormwater lines in accordance with the Best Available Techniques.

Rainwater runoff from impermeable areas of the site will be collected via the onsite storm water drainage network in accordance with the SDCC Planning Ref. SD20A/0121. This network will convey the stormwater via Oil Separator to one of 4 no. stormwater basins (See Drawing DUB69-CSC-XX-XX-DR-C-1101). The attenuated stormwater discharges offsite at 4 no. Emission Points (SW1, SW2, SW3, SW4).

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

5.4 NOISE EMISSIONS

During operational, 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

A list of all raw materials in use on the site is provided in Attachment 4.6.2.

The site produces minimal amounts of waste. 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)	1,121,280 MWh
Total Electricity (generated and used) (MAX CONSUMPTION)	1,131,280 MWh
Electricity (generated and exported)	N/A
Natural Gas	N/A
Diesel (Gas Oil)	1,486 tonnes annually
Water (Public Supply & Rainwater Harvesting)	4,959 m ³

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 the BAT.

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 facility is running an 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 bulk fuel tank level indications and of the hydrocarbon interceptors, and any fuel bund or tank leaks.

The EPMS monitors the total fuel use as required for the GHG Permit. The EPMS will also control the changeover in electrical supply from the grid to the emergency backup generators in the event of an outage.

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 STANDARD OPERATING PROCEDURE Standard Operation

8.3

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 on site 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 FIRE MANAGEMENT

A system shall be 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). These are connected to a main fire panel in the security office which is manned at all times. In the event that a fire is detected, the fire panel will display the location of the detected fire. Once detected the location of the potential fire will go into an alarm state. The fire detection and alarm systems are connected to the sprinkler system and these will be triggered in the event of a fire.

Attachment-1-2 - Page 12

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.

8.5 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 Report (EIAR) relating to this activity, prepared by Marston Planning Consultancy et. al. dated April 2020, which has been previously submitted to SDCC for Planning Ref. SD20A/0121 has been submitted to the Agency as part of this application (Attachment 6-3-6 of the E 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.

The installation is to be constructed and operated in accordance with SDCC for Planning Ref. SD20A/0121 therefore the EIAR submitted to the EPA dated April 2020 (Attachment 6-3-6 of the IE Licence application) is relevant to this IE License activity. 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 .

9.1 ALTERNATIVES

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.

The Operator is committed to continually assessing and improving this technology particularly with respect to minimising power and water consumption, in accordance with the goals of Irelands Framework for Sustainable Development 'Our Sustainable Future'. The operator's designs are constantly evolving, and hardware is chosen with energy efficiency central to the decision-making process.

High efficiency EC direct drive fans will be used in all air supply and extract systems serving the data storage rooms. Also, the office air conditioning shall be served by a variable refrigerant flow (VRF) refrigerant system. Typically, the energy efficiency of a VRF system will exceed that of traditional air-cooled chillers by 15-25%.

CONCLUSIONS

10.0

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.

Consent of copyright owner reduced for any other use.