
Unsolicited Information

Project	Amazon Data Services Ireland Limited, Airton Road, Dublin 24, Dublin, Dublin. Reg. No.: P1173-01
Subject	Unsolicited Information
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1.0 INTRODUCTION:

This document sets out additional unsolicited information in respect of the Industrial Emissions licence application (Reg. No.: P1173-01) from Amazon Data Services Ireland Limited for an installation located at Amazon Data Services Ireland Limited, Airton Road, Dublin 24.

1.1 UNSOLICITED INFORMATION REGARDING EVAPORATIVE COOLING WATER

1.1.1 Details on how the public water supply is treated onsite prior to use as an 'evaporative cooling water'.

Mains water is used on site for both domestic purposes (offices and kitchens) and for data hall cooling at ambient temperatures above a set point. No treatment chemicals or softeners are added to the cooling water. Prior to the cooling process water is sanitised using ultraviolet disinfection. When water is used for cooling it is recirculated in a closed loop system. Cooling water discharges typically have conductivity values between 1,200-1,500uS/cm and is discharged at ambient temperature. When a conductivity setpoint of 1,500uS/cm is reached cooling water is automatically discharged to the stormwater system.

The below process water flow diagram Figure 1.1 below.

1.1.2 Evaporative cooling system drain down

The anti-legionella flush cycle drains the supply pipework of stagnant water when the evaporative cooling system has not been enabled for 7 Days. Once activated, the cycle opens the fill and drain valves simultaneously for 3 minutes. The water flushes through air handling units and to the cooling system drain ultimately discharging to the storm

water sewer. The system is gravity drained to ensure no pockets of water remain within the system. See Figure 1.1 below which details the flushing process.

The entire cooling water system is be drained and will remain dry during the winter months when evaporative cooling is not required. The cooling water storage tanks will discharge to the storm water drain.

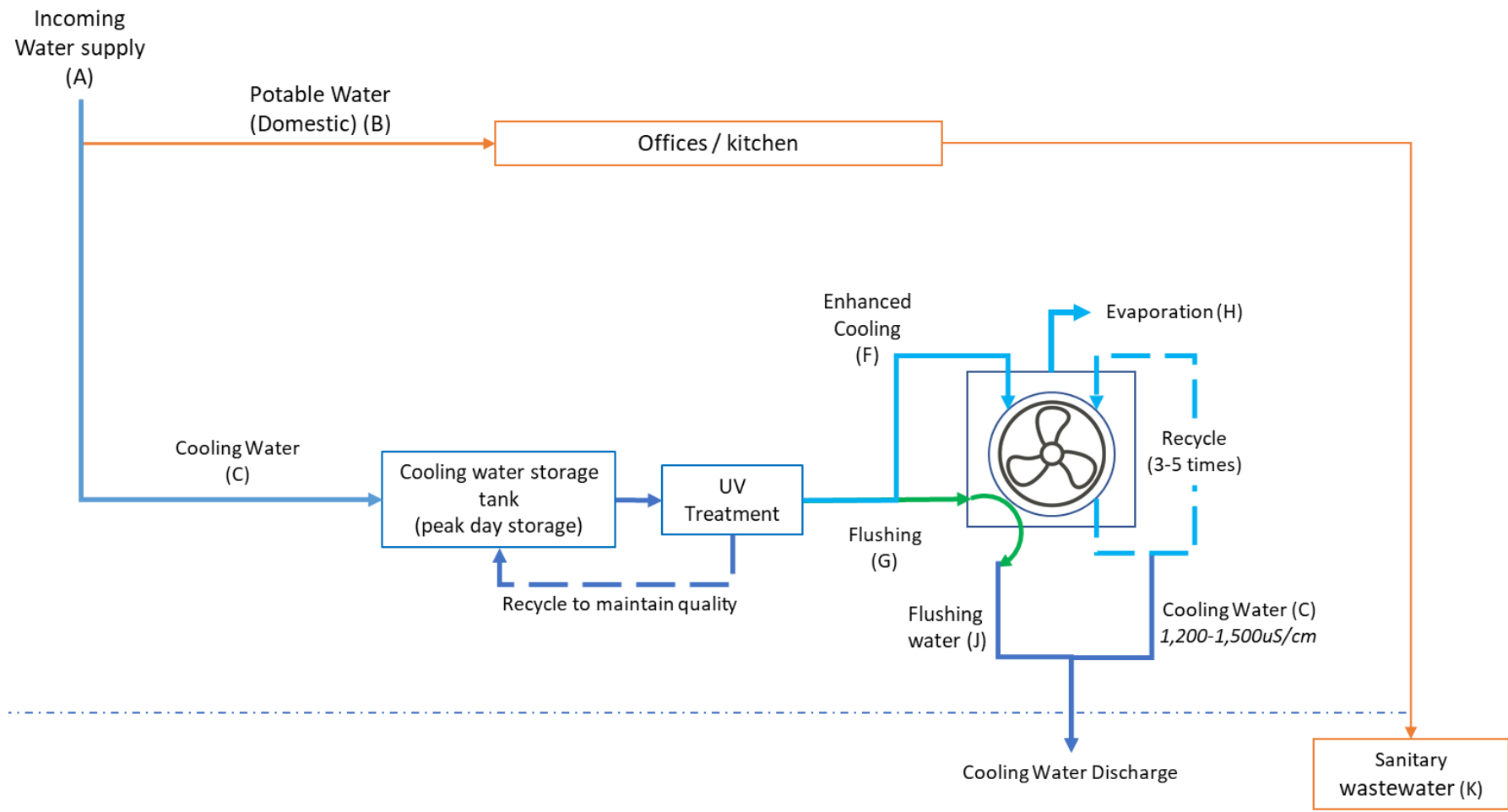


Figure 1.1 Water Use

1.2 UNSOLICITED INFORMATION REGARDING DRAINAGE SYSTEMS

1.2.1 Legionella Management

In accordance with ADSIL legionella management procedure, every cooling system is sampled annually for legionella bacteria. If a result exceeds 1000CFU/L, the air handling unit is disinfected with a hydrogen peroxide solution. Based on past experience, this is required on approximately 10% of systems annually. During the disinfection process 50mL of hydrogen peroxide solution is dosed into the air handling unit and water is recirculated through the cooling system. The disinfected water is discharged to the cooling system drain and ultimately to the foul network. Any residual hydrogen peroxide is oxidised by organics in the onsite foul drain network, is readily converted to water and oxygen and is consumed prior to discharge via foul sewer.

1.2.2 Emergency Backup Generator Flue Drainage Discharge

Rainfall which passes through the back-up generator exhaust stacks will discharge to the foul drainage network via hydrocarbon interceptors for Buildings A and B.

1.3 RECORD OF EMERGENCY GENERATOR RUN HOURS

The emergency backup generators operating hours are recorded on ADSIL's Enterprise Asset Management System (EAM). For each generator, the Operations team manually enters planned and emergency run hours and the description of the operation (run reason) onto the EAM system. This includes off-load testing/maintenance runs, on-load testing/maintenance runs and emergency operation. The Operation's team record start and end times and start and end fuel consumption for each generator operation on the EAM system. Dashboards can be created using the EAM Generator Run Tracking module. When an emergency generator operation is logged, an email alert is sent to the Environmental Team for review and tracking.

The environmental team must approve all generator operation associated with on-load planned maintenance/testing to ensure the run hours do not exceed what is allowed under the site's planning permission. This is done automatically on ADSIL's internal maintenance approval system platform. The Operations teams must attach an excel spreadsheet to the approval request which shows all of the maintenance/testing events and associated run hours for the year to date. This 'Run Hour Spreadsheet' is maintained by the Operations Team

The Operations team also maintain an excel spreadsheet on which they record every emergency operation of a generator. The environmental team review this information on a regular basis.

1.4 ADSIL'S CLIMATE COMMITMENTS: SUSTAINABILITY IN THE CLOUD

AWS (Amazon Web Services) is focused on efficiency and continuous innovation across global infrastructure, as we continue on our path to powering our operations with 100% renewable energy by 2025. AWS is committed to achieving Amazon's goal of net-zero carbon by 2040. More about these commitments and sustainability in the cloud can be found here: <https://aws.amazon.com/sustainability/>.

AWS is committed to building a sustainable business for their customers and the planet. In 2019, the Operator co-founded The Climate Pledge—a commitment to be

net zero carbon across their business by 2040, 10 years ahead of the Paris Agreement. Part of that commitment is powering the Operator's global cloud infrastructure with 100% renewable energy, including in Ireland. As part of this commitment, the Operator is investing and innovating in efficiency in every aspect of their operations and is on a path to be powered by 100% renewable energy by 2025 – five years ahead of its original target of 2030, Amazon is the largest corporate purchaser of renewable energy in the world and has announced a total of 379 renewable energy projects across 21 countries globally, representing 18.5 gigawatts (GW) of renewable energy capacity. Once fully operational, Amazon's global renewable energy portfolio will generate 50,000 gigawatt hours (GWh) of clean energy, which is the equivalent amount of electricity needed to power 4.6 million U.S. homes each year. Amazon was the first company in Ireland to deliver unsubsidised Corporate Power Purchase Agreements (CPPAs). This means Amazon is helping to add renewable energy to the grid without direct government support, thus reducing subsidy costs on other local energy users. In Ireland alone, Amazon has committed to offtake 100% of the power from renewable wind projects in Cork, Donegal, and Galway. Amazon does not own these projects, but our commitment to purchasing the power from these projects enable them to be built. In total, these three wind projects are projected to add 229 megawatts of renewable energy to the Irish grid, reducing carbon emissions by 366,000 tonnes of CO₂ each year, and producing enough renewable energy to power 185,000 Irish homes, per annum. These three wind projects will make Amazon the largest single corporate buyer of renewable energy in the country.

ADSIL's Customers are able to support their own goals to become sustainable by moving to the cloud. The results of a recent study of US enterprise data centres by 451 Research found the Operator's data storage facilities to be 3.6 times more energy efficient than the traditional alternative and achieved an 88% reduction in carbon footprint for workloads that moved from on-premises data storage to the Operator's, helping the Operator's customers to become greener in the cloud.

To reduce both the energy and water use in their Irish data centres, the Operator utilises direct evaporative cooling systems, which predominately utilizes outside air to cool the servers. This means that for more than 95% of the year they use no water to cool their data centres in Ireland.

1.5 SOP FOR THE DIESEL UNLOADING OPERATION AT THE INSTALLATION.

The Standard Operating Procedure (SOP) 'Refuelling Process for Diesel' for the diesel unloading operation at the installation has been provided with this unsolicited information.

1.6 BIOFUEL USE

ADSIL has recently participated in a pilot study to test the suitability of Renewable Diesel use within their emergency back-up generator fleet. Renewable diesel burns cleaner than regular diesel, releasing less carbon and potentially reducing CO₂ emissions. Following positive outcomes of the pilot tests, ADSIL are progressing to secure a supply of Renewable Diesel which will be used in their backup generators. ADSIL's preference will be to use Renewable Diesel as this is a more sustainable option to traditional diesel as far as is possible, however this will be dependent on the availability of supply.

1.7 ESB SUBSTATION

The Airton 110 kV Substation is held by ADSIL under a long lease/ virtual freehold and will be demised to ESB Networks by a long lease/ virtual freehold. ESB's demise will include the land and building.