Runways Information Services Limited

REQUEST FOR AMENDMENT TO DISCHARGE TO SEWER FLOW LIMITS

August 2025

Licence Amendment Application
EPA IEL Ref.: P1192-01

1.0 INTRODUCTION

Runways Information Services Limited ("RISL" or 'the applicant') operates their Data Center located in the townlands of Gunnocks, Portan, Loughsallagh and Clonee, County Meath. The Installation consists of five main Data Center Buildings (named CLN1, CLN2, CLN3, CLN5, and CLN6), that include roof-level mechanical plant, ground-level generator yard, as well as associated office and administration buildings, security and utility spaces, on site attenuation, and internal roads. The Installation is licensed by the EPA under Licence Number P1192-01 (hereafter referred to as the IEL).

The IEL contains emission limits set down in Schedule B.3 Emissions to Sewer section. Since the site has become operational, the operational demands and discharges have changed due to variations in incoming water quality provided via the UÉ mains supply. These variations have resulted in more frequent discharging of process wastewater to sewer; the data submitted to the EPA for the site IEL application was based on incoming mains water quality data available at the time of the original facility design.

RISL submits this IEL Amendment Application is to amend the discharge flow rates for

Emission Point Reference Number SE1 set down in Schedule B.3 Emissions to Sewer of the existing Licence (P1192-01) to align with the revised connection agreement with UÉ (UÉ Ref: CDS2300688001).

The intial EPA requested further information request on 18 April 2024. The following includes a summary of the requests and RISL response:

Request 1: Submit the Uisce Eireann S99E approval.

Response 1: Uisce Eireann (UE) provided an S99E and this attached to the request

Request 2: Provide evidence that an equivalent level of protection for the environment as a whole is guaranteed.

Response 2: Section 3.1 of this report provided information on the equivalent level of protection.

Request 3: Confirm that the AA screening completed in 2018 is still appropriate and there have been no changes to the sites screened.

Response 3: Included with this submission is a reviewed Appropriate Assessment (AA) Screening Report (Moore Group, 2024). Section 3.2 summarises the findings of the AA Screening.

2.0 EXISTING SITUATION AND REQUESTED AMENDMENT

The operation of the Data Centre IT Equipment and associated ancillary equipment produces heat which is managed by use of the roof mounted cooling plant. The cooling systems for the Data Centre IT Equipment operates in two different modes dry cooling and wet cooling mode (adiabatic mode). There is process water demand on the Uisce Éireann (UÉ) (formally Irish Water) supply main to provide the required water for the cooling units wet cooling mode. During wet cooling mode operations, water use is optimised through the recirculation of cooling water, with a portion of this incoming water consumed through evaporation each cycle. Once the cooling water reaches a setpoint level of concentration, this is discharged to the wastewater network. The ability to do this is dependent on the hardness of the water, as hardness increases with numbers of cycles. CLN1, CLN 2, and CLN3, discharges combined sanitary and process wastewater to IEL emission point SE1..

Since the site has become operational, the operational demands and discharges have changed due to significant variations in incoming water quality provided via the UÉ mains supply. Water sampling records for the site have identified fluctuating changes in the levels of alkalinity and calcium levels over the past few years, with current sampling consistently recording higher levels of both (greater than x 3 increase in hardness levels compared to the original data at the time, on which the design was based). These raised levels are having a detrimental impact on the cooling processes, causing increased scaling, limiting the opportunity of cycling water and thus increasing discharge volumes. The recent increases in increased hardness of the incoming water supply are adversely impacting the ability to adhere to the original designed cycles of concentration and resulting in more frequent discharging of process wastewater (the data submitted to the EPA for the site IEL application was based on data provided by UÉat the time of the original facility design). As such RISL have undertaken a review of the previously agreed discharge rates and engaged with UÉ for a revised connection agreement.

The terminal pumping stations at the Installation pump the combined domestic and process wastewater to the UÉ wastewater network located on the R147 road, which then discharges into the 9C sewer. The UÉ sewer network ultimately discharges to Ringsend Wastewater Treatment Plant (WWTP). There are no on-site wastewater treatment systems.

Due to the hydraulic restriction on the 9C sewer, the network does not have has limited capacity to cater for the sanitary and process effluent discharge at times of high flow and therefore, a wastewater buffer tank is provided at each pumping station to store the equivalent peak volume of discharge over a 24 hour period (based on the parameters of the original design).

The outfall into the offsite mains foul sewer network is at two locations, emission point SE1 and SE2. The domestic wastewater and process wastewater networks and emission points locations are shown on Drawing Ref: 21_123A-CSE-00-XX-DR-C 1200, 1201, 1202, and 1203 included with this application.

2.1 EXISTING SITUATION (SCHEULE B.3 EMISSIONS TO SEWER)

The existing IEL Schedule B.3 Emissions to Sewer includes the following limits in relation to flow (m3) discharges to sewer set out in Table 2.1 below.

Schedule B.3 emission point SE1 include the following note:

Note 1: In the event that the 9C Sewer is offline, and trade effluent discharge is required to be held on site for 24 hr, then the discharge for the following 48hrs is allowable up to the maximum loadings. For discharge outside of this event, the average loadings are the relevant Emission Limit Values.

Table 2.1 Excerpt from SE1 emission limit values listed in the IEL

Emission Point Reference no:	SE1
Emission to (Sewer description):	UE sewer at R156
Location	703818 (E), 741332 (N)
Maximum in any one day	1,296 m³/day
Maximum rate per hour	54 m³/hr

2.2 REQUESTED AMENDMENT (CONNECTION OFFER UÉ REF: CDS2300688001)

The discharge load profile outlined on page 12 of the connection application (attached) is acceptable. Existing inhibitor to prevent discharge to the receiving networks when the receiving network is at capacity is to be maintained. It has been agreed with UÉ that the existing on-site storage of 1ML is to be utilised in the event if an inhibit signal.

The request to the EPA is for changes to be made to the Industrial Emissions License (IEL), specifically to Schedule B.3.

It is requested to amend the IEL specifically to Schedule B.3 Emissions to Sewer to reflect the UÉ Connection Offer (copy submitted with this report) limits in relation to flow (l/s) for the discharges to sewer (Emission ref. SE1) set out in Table 2.2 below. There is no change to the discharge quality parameters (mg/l) proposed. The emission values for SE2 are to remain unchanged.

Further, it is requested to amend Note 1 of the Schedule B.3 emission point SE2 to the following:

Note 1: In the event that the 9C Sewer is offline, and trade effluent discharge is required to be held on site ***within the 1,000 cubic meter on site storage****, then the discharge for the following 48hrs is allowable up to the maximum loadings.*

For discharge outside of this event, the average loadings are the relevant Emission Limit Values

Table 2.2 Proposed Revised SE1 emission limit values

Emission Point Reference no:	SE1
Emission to (Sewer description):	UE sewer at R156
Location	703818 (E), 741332 (N)
Maximum in any one day	2,726 m³/day
Maximum rate per hour	114 m³/hr
Maximum in any one second	31.55 l/s
Average daily volume (over a year)	1,195 m3/day

3.0 IMPACT ASSESSMENT OF PROPOSED CHANGE

3.1 EQUIVALENT LEVEL OF PROTECTION

Table 3.1 below outlines information regarding the off-site treatment measures in place and information on the contribution to the Ringsend Wastewater Treatment Plant based on the latest publicly available Ringsend Annual Environmental Report 2022.

Table 3.2 below outlines the detailed breakdown of the processes contributing to these emissions, the types of on-site treatment (if applicable), any off-site treatment measures in place.

Table 3.2 Ringsend Waste water treatment plant (MWWTP)

Off-site treatment – Municipal Waste water treatment plant (MWWTP)
Name of sewer network/agglomeration: Ringsend
Normal daily flow rate in network (m^3/day): **Peak Hydraulic Capacity (m3/day:** 959,040. **Average Hydraulic loading (m3/day):** 435,489 (2022 Annual Environmental Report Ringsend D0034-01)
Responsible authority for network/agglomeration: Irish Water
Type of treatment: The Ringsend WWTP treatment comprises preliminary treatment (initial screening of all flows to remove solids larger than 6mm in size); primary treatment (in settlement tanks), followed by biological treatment within sequential batch reactors. During the bathing season, the final effluent stream is subjected to ultraviolet treatment to ensure compliance with the requirements of the Bathing Water Directive. ● Screening/Grit Removal ● Rectangular primary tanks with Lamella settlers ● SBR and Nereda Pilot Plant ● UV treatment (during the bathing season ● Anaerobic digestion followed by thermal drying

Receiving water name (and waterbody type): Liffey Estuary Lower (Transitional Waterbody) & Dublin Bay (Coastal Waterbody)
No. of dilutions available in the receiving water: A minimum dilution factor of 2-5 in the near field mixing zone
Waste water discharge authorisation: D0034-01.
The maximum discharge volumes from the installation represent about 0.33 % of the peak hydraulic capacity (as constructed) or about 0.73 % of the average effluent influent volumes of effluent discharge volumes from the Irish Water municipal wastewater treatment plant (MWWTP). The Agency's most recent national annual report/the most recent AER (2022) indicates that this MWWTP is: Not in compliance with the discharge limits for the following parameters: BOD, COD, TSS, Total P In compliance with the discharge limits for the following parameters: Ph, Toxicity (TU), E.Coli The WWTP was non-compliant with the ELV's set in the wastewater discharge licence. There were 70 samples non-compliant with the ELV in relation to cBOD. The non-compliance is due to overloading. There were 103 samples non-compliant with the ELV in relation to COD. The non-compliance is due to overloading. There were 169 samples non-compliant with the ELV in relation to TSS. The non-compliance is due to overloading. There were 101 samples non-compliant with the ELV for TP. The non-compliance was due to no P removal treatment on site. There were 94 samples non-compliant with the ELV for TN. The noncompliance was due to overloading. The WWTP effluent was compliant with the pH and Toxicity ELVs set in the wastewater discharge licence. The WWTP was compliant with the ELV set in the wastewater discharge licence for Faecal Coliforms (E. Coli) monitored during the specified period 01/05/20 to 31/08/20.

Table 3.1 Limits Specified, off site treatment and BAT-AEL (where relevant)

Parameter (sample parameters included below)	**Irish Water/ WSA**	**After on and off site treatment**	**BAT-AEL**	**EQS**
Temperature	35 C	N/A	N/A	No greater than 1.5 oC rise in ambient temperature

Parameter (sample parameters included below)	**Irish Water/ WSA**	**After on and off site treatment**	**BAT-AEL**	**EQS**
pH	6.0 - 10.0 pH Units	6-9 pH Units (Ringsend ELV)	N/A	Soft Water 4.5 < pH < 9.0 Hard Water 6.0 < pH < 9.0
	Max. Hourly mg/l	**mg/l**	**mg/l**	**mg/l**
Biological Oxygen Demand	100	25 (Ringsend ELV)	N/A	≤ 4.0 mg/l (95%ile) for transitional waterbody
Chemical Oxygen Demand	200	125 (Ringsend ELV)	N/A	N/A

Suspended Solids	500	35 (Ringsend ELV)	N/A	N/A
Total Hardness (As CaCO3)	2000	N/A	N/A	N/A
Sulphates	1200	N/A	N/A	N/A
Chlorides	1000	N/A	N/A	N/A
Oils, Fats, Grease	10	N/A	N/A	≤ 4.0 mg/l (95%ile) for transitional waterbody

3.2 APPROPRIATE ASSESSMENT SCREENING REPORT

An Appropriate Assessment (AA) Screening Report (Moore Group, 2024) has been undertaken and is provided with this amendment application. The AA Screening Report concludes that:

There are no predicted effects on any European sites given:

- *The distance between the Proposed Development and any European Sites, approximately 5.8km;*
- *There are no predicted emissions to air, water or the environment during the construction or operational phases that would result in significant effects.*

It has been objectively concluded by Moore Group Environmental Services that:

1. *The Proposed Development is not directly connected with, or necessary to the conservation management of the European sites considered in this assessment.*
2. *The Proposed Development is not likely to either directly or indirectly significantly affect the Qualifying interests or Conservation Objectives of the European sites considered in this assessment.*
3. *The Proposed Development, either alone or in combination with other plans or projects, is not likely to have significant effects on a European site.*
4. *It is possible to conclude that significant effects can be excluded at the screening stage.*

It can be excluded, on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on any European site, in the absence of any mitigation.

An appropriate assessment is not, therefore, required.

A final determination will be made by the competent authority in this regard.

3.3 BEST AVAILABLE TECHNIQUES ASSESSMENT

There is no industry specific (data centre / IT equipment) Best Available Techniques (BAT) document (European, or National). The most relevant BAT document for the Installation is the following:

- Commission Implementing Decision (EU) 2021/2326 of 30 November 2021 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large

combustion plants

- Integrated Pollution Prevention and Control (IPPC) Reference Document on the application of Best Available Techniques to Industrial Cooling Systems December 2001

Regarding the large combustion plants (LCP) BAT the Installation does not operate as any LCP; however, the facility includes 90 no. 8.26 MWth combustion plant (emergency generators). These emergency back-up generators are medium combustion plant and fall under the scope of S.I. No. 595/2017 - European Union (Medium Combustion Plants) Regulations 2017. There is no industry specific BAT Reference Document for medium combustion plant.

The proposed amendment relates to the discharge to sewer flow limits (process emissions from IT cooling systems), a matter not addressed by either the LCP BAT or the Industrial Cooling Systems (ICS) BAT guidelines, as they do not establish limits or guidance to process water discharge flow (m^3 or l/s). Therefore, without additional specific guidelines from BAT documents it is concluded that no BAT assessment is required for the proposed amendment.

4.0 CONCLUSIONS

In summary, after careful evaluation of the existing off-site treatment measures, the findings of the AA Screening Report, and the absence of specific guidelines from the Best Available Techniques (BAT), we have determined that the proposed amendment regarding flow rates will not have a significant impact on the Ringsend Wastewater Treatment Plant (WWTP) or the receiving waters.

The proposed amendment has received the endorsement of the sanitary authority (UE) in writing via the included connection agreement, and on this basis, we respectfully request that the Environmental Protection Agency (EPA) proceed with the amendment of Industrial Emissions Licence (IEL) P1192-01 as outlined.