

EPA Application Form

7.3.2 - Equivalent Level of Protection (Sewer) - Attachment

Organisation Name: *

Application I.D.: *

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Amendments to this Application Form Attachment

Version No.	Date	Amendment since previous version	Reason
V.1.0	July 2017	N/A	Online application form attachment
As above	Mar 2018	Identification of required fields	Assist consistent completion of attachment

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7.3.1 Equivalent Level of Protection (Emissions to Sewer)

Background information

In relation to emissions to sewer, Article 15 of the Industrial Emissions Directive (Directive 2010/75/EU) states:

With regard to indirect releases of polluting substances into water, the effect of a water treatment plant may be taken into account when determining the emission limit values of the installation concerned, provided that an equivalent level of protection of the environment as a whole is guaranteed and provided this does not lead to higher levels of pollution in the environment.

Furthermore, emission limit values (ELV's) applied by the Agency for an installation's emissions to sewer must satisfy the consent conditions (ELVs and other requirements) specified by Irish Water, as required by Section 99E of the EPA Act 1992 as amended.

(Note: To avoid unnecessary delays in the application assessment process, it is important that the applicant licensee liaises with Irish Water (or other water services authority responsible for the sewer network) at the earliest available opportunity, with a view to establishing consent conditions.)

Assessment of 'equivalent level of protection'

To comply with Article 15 above, the following must be demonstrated:

It must be demonstrated that the level of treatment of an installation's effluent, on and off site, is collectively equivalent to BAT and environmental quality standards will be observed in the receiving water (i.e., 'equivalent level of protection').

- (1) Consider the parameters relevant to the installation's emissions to sewer (i.e., characteristics of discharge)
- (2) Do sectoral BAT associated emission levels (BAT-AELs) exist for these parameters? These are the relevant sectoral BAT-AELs.
- (3) Do the emission limits proposed for installation comply with all the relevant sectoral BAT-AELs? If Yes, ok; if not proceed to (4) below.
- (4) If not, does the licence for the relevant Irish Water agglomeration discharge specify limits which comply with all/the remainder of the relevant sectoral BAT-AELs for the installation? If Yes, ok; if not proceed to (5) below.
- (5) If no to (3) and (4) above, the applicant/licensee needs to otherwise determine whether the level of treatment in the sewer network is sufficient to treat the installation's discharges to comply with relevant sectoral BAT-AELs.

Assessment of 'levels of pollution in the environment'

To comply with Article 15 above, the following must be demonstrated:

In granting a licence for an installation, and in accordance with Section 83(5)(a)(iii) of the EPA Act 1992 as amended, as well as in accordance with Articles 5 and 7 of S.I. 272 of 2009, the Agency must ensure that the quality of any relevant receiving water is not impaired or that the relevant Environmental Quality standards are not exceeded. It must be demonstrated whether or not, upon discharge from the Irish Water WWTP, the environmental quality standards¹ (EQSs) for the receiving water will be breached as a

¹ EQSs as specified in Schedule 5 of *European Communities Environmental Objectives (Surface Waters) Regulations 2009* as amended.

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result of the installation's discharges. (i.e. 'does not lead to higher levels of pollution in the environment')

Details on level of protection provided (on and off-site)

Please provide details in the table below on the installation emissions to the sewer; the processes which contribute to the emissions, the type of on-site treatment (if any), off-site treatment (if any) and the proposed maximum daily flows.

Table 1: On-site treatment – abatement at installation				
Emission Reference	Proposed / Existing	Process Description	Abatement	Proposed max. flow (m ³ /day)
SE1	Proposed	Domestic Sewerage And Cooling wastewater from industrial cooling system	No Abatement	15
SE2	Proposed	Domestic Sewerage And Cooling wastewater from industrial cooling system	No Abatement	5
Total:				20
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 (m ³ /day: 959,040, Average Hydraulic loading (m ³ /day):470,071				
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. <ul style="list-style-type: none"> • 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: Connection Application made to IW.				
The maximum discharge volumes from the installation represent about 0.004 % of the average effluent influent volumes from the Irish Water municipal wastewater treatment plant (MWWTP).				

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The maximum discharge volumes from the installation represent about 0.002 % of the peak effluent influent volumes from the Irish Water municipal wastewater treatment plant (MWWTP).

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Assessment details

Please enter the required details in the assessment table below.

Edit the parameters in column 1 in accordance with the installation's characteristics of emissions to sewer.

Enter any limits specified by Irish Water (or other water service authority) in column 3.

In column 4 determine, if necessary for any parameter, the concentration of the installation's discharges after having received any treatment at the installation prior to discharge, and after having received any treatment in the sewer network/agglomeration prior to discharge.

Specify the relevant the BAT-AELs in Column 5.

Specify the relevant the EQSs in Column 6.

Table 2					
Parameter (sample parameters included below)	Foul Water	Cooling Water	After on and off site treatment	BAT-AEL	EQS
Temperature	2C above ambient	2C above ambient	N/A	N/A	No greater than 1.5°C rise in ambient temperature
pH	6 - 8	6 - 8	6 - 9 (Ringsend ELV)	N/A	Soft Water 4.5 < pH < 9.0 Hard Water 6.0 < pH < 9.0
EC	1500 uS/cm	1500 uS/cm	N/A (Ringsend ELV)	N/A	No EQS for Surface Water

Table 3: Please include any other information you consider relevant in the (free text) box below:

The proposed facility will contribute 0.04 % of the average influent to the Ringsend WWTP. The proposed emissions are not anticipated to cause a breach in the licenced ELVs for the Ringsend WWTP. Discharges from the treatment plant are subject to further dilution in the near field mixing zone which combined with the upgrades within the plant is sufficient for achieving the water quality standards from S.I. 272 of 2009.

Water is recycled 5 times in the air conditioning system, evaporation is 80% of the incoming water, 20% remains as a wastewater for disposal. Average day during summer demand = 52.5 m³/d, 50m³/d is for Industrial cooling, 40m³/d evaporated, 10 m³/d for discharge (+2.5 m³/d domestic wastewater) = 12.5 m³/d combined discharge Peak day during summer demand = 102.5 m³/d, 100m³/d is for Industrial cooling, 80m³/d evaporated, 20 m³/d for discharge (+2.5 m³/d domestic wastewater) = 22.5 m³/d combined discharge (Conductivity 1,500 uS/cm + domestic sewer contribution)

There is currently no provision for sampling on the combined wastewater discharge nor on the Industrial Cooling water collection prior to combination with sewage flows prior to discharge. The Industrial wastewater has no organic load and is an absolute maximum of 1,500 uS/cm of concentrated ions that are contained in the potable water and due to the volumes of water evaporated in the cooling process.

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