



OFFICE OF CLIMATE, LICENSING, RESOURCES & RESEARCH

INSPECTORS REPORT ON A WASTE WATER DISCHARGE LICENCE APPLICATION

To:	Dara Lynott, Director
From:	Yvonne English, Deirdre French, Donal Grant, Michael Martin & Éimer Godsil Environmental Licensing Programme
Date:	07/04/2015
RE:	Application for a Waste Water Discharge Licence from Irish Water, for the agglomeration named Killeagh, Reg. No. D0301-01

Application & Agglomeration Details

Agglomeration Name:	Killeagh (See map Appendix 1)
County:	Cork
Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of 2,001 to 10,000
Licence application received:	27/02/2009
Notices under Regulation 18(3)(b) ¹ issued:	31/05/2010
Information under Regulation 18(3)(b) received:	30/09/2010
Site notice check:	25/03/2009
Site Visit:	17/02/2015
Submission(s) Received:	None
Design Population Equivalent:	2,400
Actual Population Equivalent:	700
Type of treatment:	Secondary
Wastewater treatment plant (WWTP) description:	The plant consists of two rotating biological contactors and two clarifying tanks

¹ Waste Water Discharge (Authorisation) Regulations, 2007, as amended.

1. Discharges to waters

The following table outlines the main considerations in relation to discharges to waters from this agglomeration.

Table 1: Discharges to waters

Primary discharge point	
Receiving water name	Dissour River
Type of receiving water	Freshwater
Normal flow	540 m ³ /day
Maximum flow	3,240 m ³ /day
Storm water overflow(s)	
Storm water overflow(s)	Yes (1 No.)
Receiving water name(s)	Dissour River (Freshwater)

Schedule A: Discharges & Discharge Monitoring of the recommended licence (RL) specifies the Emission Limit Values (ELVs) to which the discharge from the Killeagh agglomeration must conform. Monitoring of the discharges will take place as per this schedule of the RL.

There is a large variation noted between the normal and maximum flows recorded from the primary discharge point. This variation can be attributed to the combined nature of the collection network.

2. Receiving waters and impact

The following table summarises the main considerations in relation to the Dissour River downstream of the primary discharge.

Table 2: Receiving waters

Characteristic	Classification	Comment
Receiving water name	Dissour River	WFD Code: IE_SW_19_1798
Designations	Ballymacoda (Clonpriest and Pillmore) SAC	SAC (Site code: 0077)
	Ballymacoda SPA	SPA (Site code: 4023)
Receiving water monitoring stations	Dissour – Killeagh Br (EPA RS Code: RS19D030400)	~200m u/s of discharge
	Dissour – 1km S of Killeagh (EPA RS Code: RS19D030500)	~800m d/s of discharge
Biological quality rating (Q value)	Q4, Good status (2005)	~200m u/s of discharge
	Q4, Good status (2011)	~1,700m d/s of discharge
WFD status	Good (2010-2012)	Protect (Derogation until 2021)

The Womagh Water Management Unit Action Plan (WMUAP) identifies the WWTP in Killeagh as a point pressure on the Dissour River catchment.

Mass balance calculations were carried out using the monitoring information provided by the Agency. The mass balance calculations are based on the 95%ile flow in the receiving water, the mean background concentration of each parameter in the receiving water, the normal effluent discharge rate and the maximum permitted concentration of the parameter in the effluent (Table 3).

Table 3: Mass Balance Calculations.

Parameter	Background Concentration (mg/l)	Proposed ELVs for discharge (mg/l)	Contribution from discharge (mg/l)	Predicted downstream concentration (mg/l)	Relevant standard (mg/l)
BOD	0.59	25	1.62	2.18	2.6 ^{Note 2}
Orthophosphate	0.036	0.5	0.032	0.066	0.075 ^{Note 2}
Total Ammonia	0.028	1	0.065	0.091	0.14 ^{Note 2}

Note 2: European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

The 95%ile flow in the river at the primary discharge point is 0.09m³/s.

The European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended, set environmental quality objectives for the receiving water for orthophosphate (0.075mg/l), ammonia (0.14mg/l) and BOD (2.6mg/l).

An emission limit value of 0.5mg/l is recommended for orthophosphate, 1mg/l for ammonia and 25mg/l for BOD in the RL. The limits are set based on the mass balance calculations.

The WWTP consists of Rotating Biological Contactors which can achieve standards of 4.5-9mg/l for orthophosphate and 5-10mg/l for ammonia in the discharge. Based on this information the emission limit values for orthophosphate and ammonia in the RL are not achievable with the current treatment.

The RL has set emission limit values (ELVs) 25 mg/l for cBOD, 125 mg/l for chemical oxygen demand (COD), 35 mg/l for suspended solids (SS) from date of grant of licence. These limits are in accordance with UWWT Regulations, 2001, as amended. The RL specifies ELVs of 0.5mg/l for orthophosphate and 1mg/l for ammonia, effective from 31/12/2019.

The proposed limits are necessarily stringent in order to achieve the requirements of the *European Communities Objectives (Surface Water) Regulations, 2009, as amended* and are unlikely to be achieved utilising existing infrastructure.

Schedule C: Specified Improvement Programme of the RL requires the provision of nutrient removal and for appropriate works be completed to ensure compliance with the emission limit values as set out in *Schedule A: Discharges & Discharge Monitoring* of the RL by 31/12/2019.

Ballymacoda Bay Shellfish Area

The Ballymacoda Bay shellfish area is located 11km from the primary discharge point. The Ballymacoda Bay Pollution Reduction Programme (PRP) Revised/Updated does not list the Killeagh urban waste water system as a key pressure on the protected shellfish area.

The results of monitoring (2012) undertaken in accordance with this PRP indicated that there were no historical water quality issues with faecal coliform levels within / in the vicinity of the shellfish area. The bivalve mollusc production areas in Ballymacoda Bay are classified as 'Class B', for the purposes of EC Regulation 854/2004. The results of shellfish water monitoring for the other parameters do not indicate any other water quality issues within/ in the vicinity of this shellfish area.

3. Ambient Monitoring

Schedule B: Ambient Monitoring of the RL specifies the parameters, analysis method and frequency for which ambient monitoring of the primary discharge shall be carried out. The requirements for ambient monitoring in *Schedule B: Ambient Monitoring* are sufficient to ensure that there will be no deterioration in the status of the receiving water as a result of the discharge.

4. Combined Approach

The Waste Water Discharge (Authorisation) Regulations, 2007, as amended, specify that a 'combined approach' in relation to licensing of waste water works must be taken, whereby the emission limits for the discharge are established on the basis of the stricter of either or both, the limits and controls required under the Urban Waste Water Treatment Regulations, 2001, as amended, and the limits determined under statute or Directive for the purpose of achieving the environmental objectives established for surface waters, groundwater or protected areas for the water body into which the discharge is made. The RL as drafted gives effect to the principle of the Combined Approach as defined in Waste Water Discharge (Authorisation) Regulations, 2007, as amended.

5. Programme of Improvements

The WWTP in Killeagh provides secondary treatment for wastewater from the Killeagh agglomeration. Condition 5.1 of the RL requires the licensee to prepare and submit to the Agency a programme of infrastructural improvements to maximise the effectiveness and efficiency of the waste water works.

The conditions and emission limit values specified in the RL will ensure no deterioration in the quality of the receiving waters as a result of the discharge.

Schedule C: Specified Improvement Programme of the RL requires the licensee to provide nutrient removal and to carry out improvement works in order to achieve the ELVs as specified in the RL.

6. Compliance with EU Directives

In considering the application, regard was had to the requirements of Regulation 6(2) of the Waste Water Discharge (Authorisation) Regulations, 2007, as amended, notably:

Table 4: Compliance with EU Directives/Regulations

Compliance with Directives/Regulations	Description and Conditions in RL
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Urban Waste Water Treatment Directive [91/271/EEC]	Compliant in 2013
Water Framework Directive [2000/60/EC]	Good status to be protected
EC Environmental Objectives (Surface Water) Regulations 2009 (S.I. No. 272 of 2009), as amended	Schedule A of RL sets ELVs to maintain the environmental quality objectives
Drinking Water Abstraction Regulations	There are no drinking water abstractions downstream
Bathing Water Directive [2006/7/EC]	Bathing waters present approx. 14 km downstream
Dangerous Substances Directive [2006/11/EC]	Condition 4 requires screening for priority substances
Environmental Impact Assessment Directive [85/337/EEC]	An EIS was not required for Killeagh WWTP
Environmental Liability Directive	Condition 7.2 of RL

Birds Directive [79/409/EEC] & Habitats Directive [92/43/EEC]

The Killeagh WWTP discharges indirectly via the Dissour River, into the Ballymacoda (Clonpriest & Pillmore) SAC² (Site Code: 000077). The site is protected for habitats listed under Annex 1 of the Habitats Directive. The site is also designated as the Ballymacoda Bay SPA³ (Site Code: 004023) under the Birds Directive for the conservation of wild birds.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects, is likely to have a significant effect on a European Site(s). In this context, particular attention was paid to the European sites at Ballymacoda (Clonpriest & Pillmore) SAC (Site Code: 000077) and Ballymacoda Bay SPA (Site Code: 004023).

The Agency considered, for the reasons set out below, that the activity is not directly connected with or necessary to the management of these sites as European sites and that it can be excluded, on the basis of objective information, that the activity, individually or in combination with other plans or projects will have a significant effect on a European site, and accordingly the Agency determined that an Appropriate Assessment of the activity was not required.

This determination is based on the consistent high quality of the effluent discharged from the agglomeration and the distance from the primary discharge to the European sites.

In addition, the receiving water downstream of the primary discharge (Dissour River (IE_SW_19_1798)) is classified as having good water quality status under the Water Framework Directive, thereby minimising the potential of significant effects on water dependent qualifying interests of the European sites.

² SAC: Special Area of Conservation designated under the *Habitats Directive*, Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

³ SPA: Special Protection Area designated under the *Birds Directive*, Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.

7. Cross Office Liaison

Advice and guidance issued by the Waste Water Technical Working Group (TWG) was followed in the assessment of this application. Advice and guidance issued by the TWG is prepared through a detailed cross-office co-operative process, with the concerns of all sides taken into account. The Board of the Agency has endorsed the advice and guidance issued by the TWG for use by licensing inspectors in the assessment of wastewater discharge licence applications.

8. Submissions

No submissions were received in relation to this application.

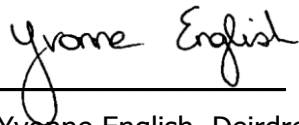
9. Charges

The RL sets an annual charge for the agglomeration at €1,827.09 and is reflective of the monitoring and enforcement regime being proposed for the agglomeration.

10. Recommendation

I recommend that a Final Licence be issued subject to the conditions and for the reasons as set out in the attached Recommended Licence.

Signed

A handwritten signature in black ink that reads "Yvonne English". The signature is written in a cursive style and is positioned above a horizontal line.

Yvonne English, Deirdre French, Donal Grant, Michael Martin & Éimer Godsil
Environmental Licensing Programme

Appendix 1: Map showing location of Killeagh WWTP and associated primary discharge point.

