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 Signed: A. Bolger Date: 12/08/13



OFFICE OF CLIMATE, LICENSING & RESOURCE USE.

INSPECTORS REPORT ON A WASTE WATER DISCHARGE LICENCE APPLICATION

To:	Dara Lynott, Director
From:	Loretta Joyce Environmental Licensing Programme
Date:	12 th August 2013
RE:	Application for a Waste Water Discharge Licence from Monaghan County Council for the Newbliss agglomeration, Reg. No. D0458-01.

Application Details	
Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of 500 to 1000
Licence application received:	22/06/2009
Notice under Regulation 18(3)(b) issued:	21/07/2011
Information under Regulation 18(3)(b) received:	9/07/2013
Site notice check:	16/07/2009
Site visit:	29/06/2011 (J.Cope), 16/04/2013 (L.Joyce)
Submissions Received:	None

1. Agglomeration

This application relates to the Newbliss agglomeration in County Monaghan. The agglomeration had a population equivalent (p.e.) of 650 in 2011. The applicant has confirmed that the p.e. is not projected to exceed 915 p.e. by 2015. There are no identified sources of industrial waste water in the agglomeration.

The waste water treatment plant (WWTP) was constructed in 2003 - 2004 with a design capacity of 1,000 p.e. to provide effluent treatment to 10mg/l:10mg/l BOD:SS standard.

The plant consists of inlet works, primary settlement tanks, biofilter, clarifiers, ferric dosing and storm water holding tank.

2. Discharges to waters

Primary Discharge

The primary discharge (SW-1) is the gravity outfall from the WWTP to an unnamed stream, immediately (5m) upstream of the confluence with the Newbliss Stream, and

has a flap valve, which closes when the river rises in storm conditions. At 95%ile flow in the Newbliss Stream (0.01 m³/sec), there are approximately 6.8 dilutions available for the projected normal waste water discharge (0.001466 m³/sec). The 95%ile river flow was provided by the Office of Environmental Assessment. The applicant's 2012 treated effluent monitoring results are shown in Table 1, along with the WWTP design standards.

Table 1. WWTP monitoring results 2012 (average based on 6 samples)

Parameter	BOD (mg/l)	COD (mg/l)	Suspended solids (mg/l)	Ammonia (mg/l)	Orthophosphate (mg/l)
Average effluent	16	66	34	8	1.03
WWTP Design standards	10	-	10	-	-

Secondary Discharges

There is one secondary waste water discharge from the agglomeration which only activates during storm conditions when the flap valve on the primary discharge closes. The treated effluent is pumped to the unnamed stream approx. 10m upstream of the primary discharge location, at a level which exceeds the river level during high flow.

Storm water overflows

There is one storm water overflow (SWO) at the WWTP which discharges through the primary or secondary discharge point depending on river level.

Emergency overflows

There is one emergency overflow from the pumping station on the network. The emergency overflow would discharge to an unnamed tributary of the Newbliss Stream but has never activated according to the applicant. Condition 5.2 of the RL requires the licensee to assess all emergency overflows to determine the effectiveness of their operation.

3. Receiving waters and impact

The Newbliss Stream forms part of the North Western International River Basin District. The following table summarises the main considerations in relation to the receiving waters.

Table 2. Receiving waters

Characteristic	Description	Comment
Receiving water name and type	Newbliss Stream IE_NW_36_1288	
Relevant designations within 10km	None	
Drinking water abstraction within 10 km d/s	None	
EPA monitoring stations & Biological quality rating (Q value)	U/s station RS36N020600 located on Newbliss Stream 600m u/s No d/s station	Not monitored for Q value
WFD status	Moderate	2009
WFD Risk Category	1a, water body at	2008

	significant risk of failing objectives	
WFD Objective	Restore Good Status	Exemption until 2021
WFD protected areas	None	

Ambient water quality monitoring data for the Newbliss Stream provided by the applicant is summarised in Table 3 below. The results show that orthophosphate and ammonia levels deteriorate downstream of the primary discharge and do not comply with the good status water quality standards specified in the European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended.

Table 3. Water Quality in Newbliss Stream in 2008-2009 (average based on 1 - 4 samples)

Parameter	60m u/s of SW001	100m d/s of SW001	Water Quality Standards Note 1
BOD	2	2	≤ 1.5 mg/l (mean)
Orthophosphate (as P)	0.24	0.42	≤ 0.035 mg/l (mean)
Ammonia (as N)	0.05	0.25	≤ 0.065 mg/l (mean)

Note 1: Good status under European Communities Environmental Objectives (Surface Waters) Regulations 2009 as amended;

Table 4 below summarises the mass balance calculations which show the contribution from the primary discharge on the receiving water at a projected loading of 915 p.e. in 2015. The calculations use the 'notionally clean river' approach (a hypothetically clean stretch of river) provided by the Office of Environmental Assessment.

Table 4. Mass Balance Calculations

Parameter (mg/l)	Proposed ELVs for Primary discharge	Contribution from Primary discharge	Contribution from notionally clean background Note 1	Predicted Downstream concentration	Water Quality Standards Note 2
BOD	10	1.28	0.23	1.51	≤ 2.6
Orthophosphate (as P)	1.5 (interim)	0.192	0.004	0.196	≤ 0.075
	0.5 (from 2019)	0.064		0.068	
Ammonia (as N)	8 (interim)	1.023	0.0070	1.03	≤ 0.14
	1 (from 2019)	0.128		0.135	

Note 1: The notionally clean background concentrations are 0.26 mg/l BOD, 0.005 mg/l ortho-phosphate (as P) and 0.008 mg/l ammonia (as N).

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

The calculations show that the predicted downstream concentrations of BOD would comply with the good status standards in the Environmental Objectives Regulations 2009, as amended, at an ELV of 10mg/l.

The RL proposes an ELV of 10mg/l BOD which is the design limit of the WWTP. Average BOD for the discharge was 16mg/l in 2012 which indicates plant operational improvement may be required in order to achieve this ELV.

Predicted downstream concentration of Orthophosphate as P using an ELV of 1.5mg/l Orthophosphate as P, would not comply with good status standards in the Environmental Objectives (Surface Water) Regulations 2009, as amended. The RL proposes an interim ELV of 1.5mg/l Orthophosphate as P and applies 0.5mg/l Orthophosphate as P from 31st December 2019. Average Orthophosphate as P in the discharge was 1.03mg/l indicating that the interim ELV can be achieved. Plant operational improvement and upgrade will be required to achieve an ELV of 0.5mg/l Orthophosphate as P. Plants with chemical dosing for phosphorus removal, which is available at this WWTP, can achieve 0.5 to 0.8mg/l Orthophosphate as P.

Predicted downstream concentration of Ammonia as N using an ELV of 8mg/l Ammonia as N, would not comply with good status standards in the Environmental Objectives (Surface Water) Regulations 2009, as amended. The RL proposes an interim ELV of 8mg/l Ammonia as N and applies 1mg/l Ammonia as N as P from 31st December 2019. Average Ammonia as N in the discharge was 8mg/l indicating that the interim ELV can be achieved. Plant operational improvement and upgrade will be required to achieve an ELV of 1mg/l Ammonia as N.

Newbliss WWTP is listed as a point pressure in the Erne East Water Management Unit Action Plan with risks related to insufficient assimilative capacity for BOD. Newbliss WWTP is listed as a plant required to ensure the capacity of the treatment works is not exceeded.

4. Site Visit

I visited Newbliss agglomeration on 16/04/2013 and met with a representative of Monaghan County Council. I visited the WWTP and observed the primary and secondary discharge points and receiving waters.

5. Ambient Monitoring

Schedule B.2 Receiving Water Monitoring of the RL specifies quarterly monitoring of the Newbliss Stream for a number of specified parameters.

- Upstream: The location identified by Monaghan County Council is aSW-1u (grid ref.256269E 323653N) is approximately 60m upstream of SW001. There is a National monitoring station located approximately 600m upstream of SW001 (Station Code: RS36N020600) and this has been included in *Schedule B.2* of the RL.
- Downstream: The location provided by Monaghan County Council aSW-1d, (grid ref.256274E 323809N) is approximately 100m downstream of SW001 and is a National Monitoring Station, Station Code: RS36N02900. This has been included in *Schedule B.2* of the RL.

6. Programme of Improvements

There are no planned improvements proposed by the applicant for Newbliss WWTP. Plant upgrade and/or improvement will be required to achieve an ELV of 0.5mg/l Orthophosphate as P and 1mg/l Ammonia as N from 31st December 2019.

7. 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 5. Compliance with EU Directives/Regulations

Compliance with Directives/Regulations	Description and Conditions in RL
Urban Waste Water Treatment Directive [91/271/EEC]	Appropriate treatment was required by 31st December 2005.
Water Framework Directive [2000/60/EC]	Exemption from achievement of good status until 2021.
EC Environmental Objectives (Surface Water) Regulations 2009, S.I. No. 272 of 2009, as amended	Schedule A of RL sets ELVs to contribute towards good status water quality standards.
Drinking Water Abstraction Regulations	No drinking water abstractions present
EC Freshwater Fish Directive [2006/44/EC]	Not a designated salmonid river
Bathing Water Directive [2006/7/EC]	No bathing waters present
Shellfish Waters Directive [2006/113/EC]	No shellfish waters present
Dangerous Substances Directive [2006/11/EC]	Condition 4 requires screening for priority substances.
Birds Directive [79/409/EEC] & Habitats Directive [92/43/EEC]	Screening for Appropriate Assessment (AA) demonstrates that the discharges, individually or in combination with other plans or projects, are not likely to have significant effects on a European site, due to the lack of hydrological connectivity with a European site. AA was not required.
Environmental Impact Assessment Directive [85/337/EEC]	An EIS was not required for Newbliss WWTP.
Environmental Liability Directive [2004/35/CE]	Condition 7.2 of RL satisfies the requirements of the Directive.

8. Submissions

No submissions were received in relation to this licence application.

9. Charges

The RL sets an annual charge for the agglomeration at € 4,152.18 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

Loretta Joyce

Loretta Joyce
Inspector
Environmental Licensing Programme

Newbliss Agglomeration D0458-01



