Annual Environmental Report 2014

Agglomeration Name:	**Newbliss**
Licence Register No.	**D0458-01**

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Section 1. Executive Summary and Introduction to the 2014 AER

1.1 Summary report on 2014

This Annual Environmental Report has been prepared for D0458-01, Newbliss, in County Monaghan in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified assessments are included as an appendix to the AER as follows:

- Priority substances desk top study method (appendix 7.4)

The agglomeration is served by a wastewater treatment plant with a Design PE of 1,000. The treatment process includes the following:-

- preliminary treatment
- primary treatment
- secondary treatment
- chemical dosing for phosphorus removal

The final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values for BOD and Ammonia in 2014.

The following parameters exceeded the emission limit values in 2014:-

- BOD
- Ammonia

626 kgs sludge (total weight sludge) were removed from the wastewater treatment plant in 2014 as liquid sludge. Sludge was transferred to Monaghan WWTP (D0061).

There were no major capital or operational changes undertaken in 2014.

An Annual Statement of Measures is included in **Appendix 7.1.**

Section 2. Monitoring Reports Summary

2.1 Summary report on monthly influent monitoring

Table 2.1 - Influent Monitoring Summary

	BOD (mg/l)	COD (mg/l)	SS (mg/l)	TP (mg/l)	TN (mg/l)	Hydraulic Loading (m3/d)	Organic Loading (PE/day)
Number of Samples	8	8	8	8	8		
Annual Max.	479	960	270	8.35	98.86	427	3409
Annual Mean	321.5	684.17	135.17	5.48	49.24	178	954

Significance of results
The annual mean hydraulic loading is less than the Treatment Plant Capacity as detailed further in Section 3.2.

The annual maximum organic loading is greater than the Treatment Plant Capacity as detailed further in Section 3.2.

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring Summary

	pH	cBOD (mg/l)	COD (mg/l)	SS (mg/l)	Total P (mg/l)	Ortho P (mg/l)	Ammonia (mg/l)	Total N (mg/l)	Comment
WWDL ELV (Schedule A)	6 - 9	10	100	35	N/A	1.5	8	N/A	
ELV with Condition 2 Interpretation included	No allowable failures – No deviation allowed	1 allowable failure provided under 100% of ELV (20 mg/l)	1 allowable failure provided under 100% of ELV (200mg/l)	1 allowable failure provided under 150% of ELV (87.5mg/l	N/A	8 out of 10 consec. samples shall not exceed ELV. No individual result shall exceed ELV by more than 20% = (1.80mg/l)	8 out of 10 consec. samples shall not exceed ELV. No individual result shall exceed ELV by more than 20% = (9.6mg/l)	N/A	
Number of sample results	8	8	8	8	N/A	8	8	N/A	
Number of sample results above WWDL ELV	0	2	0	0	N/A	0	2	N/A	
Number of sample results above ELV with Condition 2 Interpretation included	0	1	0	0	N/A	0	2	N/A	

Annual Mean (for parameters where a mean ELV applies)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Overall Compliance (Pass/Fail)	PASS	FAIL	PASS	PASS	N/A	PASS	FAIL	N/A	

Significance of results

The WWTP was non-compliant with the ELVs for BOD and Ammonia set in the wastewater discharge licence. There were 3 results non-compliant with the ELVs in relation to Newbliss.

The reason for the BOD non-compliance was due to very low flow on the day of sampling at the discharge point. A greater RAS was recommended and works to the clarifier were also carried out on site, which have now rectified this issue.

The non-compliance for ammonia was due to outstanding maintenance works on site which have now been carried out. Results since September have been within ELVs.

The impact on receiving waters is assessed further in Section 2.3.

2.3 Ambient monitoring summary

Table 2.3 - Ambient Monitoring Report Summary

Ambient Monitoring Point from WWDL (or as agreed with EPA)	***Irish Grid Reference***	**EPA Feature Coding Tool code**	**Current EQS Status**	**Does assessment of the ambient monitoring results indicate that the discharge is impacting on water quality?**
Upstream monitoring point	E256207 N323351	RS36N020600	Moderate	n/a
Downstream monitoring point	E256274 N323809	RS36N020900	Moderate	No

The results for the upstream and downstream monitoring are included as in Appendix 7.2.

Significance of results

The WWTP was non-compliant with the ELVs for BOD and Ammonia set in the wastewater discharge licence as detailed in Section 2.2.

The discharge from the wastewater treatment plant doesn't have an observable impact on the water quality status.

2.4 Data collection and reporting requirements under the Urban Waste Water Treatment Directive

The electronic submission of data was completed on a monthly basis to EPA through MDS (EDEN) in XML format.

2.5 Pollutant Release and Transfer Register (PRTR) - report for previous year

A PRTR is not required as the agglomeration is less than 2000 p.e.

Section 3 Operational Reports Summary

3.1 Treatment Efficiency Report

A summary presentation of the efficiency of the treatment process including information for all the parameters specified in the licence is included below:-

Table 3.1 - Treatment Efficiency Report Summary

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Ammonia (kg/yr)	Ortho-P (kg/yr)	Comment
Influent mass loading (kg/year)	7131	15000	3096	733	105	
Effluent mass emission (kg/year)	273	1298	521	129	10	
% Efficiency (% reduction of influent load)	96	91	83	82	90	

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/year)	22630
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/year)	82855
Hydraulic Capacity – Current loading (m3/year)	26000
Hydraulic Capacity – Remaining (m3/year)	56855
Organic Capacity - Design / As Constructed (PE)	1000
Organic Capacity - Current loading (PE)	326
Organic Capacity – Remaining (PE)	674
Will the capacity be exceeded in the next three years? (Yes / No)	No

3.3 Extent of Agglomeration Summary Report

In this section Irish Water is required to report on the amount of urban waste water generated within the agglomeration. It does not include any waste water collected and treated in a private system and discharged to water under a Section 4 Licence issued under the Water Pollution Acts 1977 (as amended):

Table 3.3 - Extent of Agglomeration Summary Report

	% of p.e. load generated in the agglomeration
Load generated in the agglomeration that is collected in the sewer network	100%
Load collected in the agglomeration that enters treatment plant	100%
Load collected in the sewer network but discharged without treatment	0%

Load generated in the agglomeration that is collected in the sewer network is the total load generated and collected in the municipal network within the boundary of the agglomeration.

Load collected in the agglomerations that enters treatment plant is that portion of the previous figure which enters the waste water treatment plant

Load collected but discharged without treatment is that portion of the first figure which is discharged without treatment**.**

The data in Table 3.3 above is based on influent monitoring as detailed in Section 2.1 above.

3.4 Complaints Summary

There were no complaints of an environmental nature related to the discharge to waters from the Newbliss WWTP in 2014.

3.5 Reported Incidents Summary

Incidents are summarised in the table below. A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

Incident Type (e.g. Non-compliance, Emission, spillage, Emergency Overflow Activation)	Incident Description	Cause	No. of incidents	Corrective Action	Authorities Contacted Note 1	Reported to EPA (Yes/No)	Closed (Y/N)
ELV exceedance	BOD exceedance	Low RAS	1	RAS increased	No	Yes	Y
ELV exceedance	Ammonia exceedance	Overdue maintenance	2	Maintenance carried out	No	Yes	Y

Note 1: For shellfish waters notify the Marine Institute (MI) Sea Fisheries Protection Authority (SFPA) Food Safety Authority (FSAI) and An Bord Iascaigh Mhara (BIM). This should also include any other authorities that should be contacted arising from the findings of any Licence Specific Reports also e.g. Drinking Water Abstraction Impact Risk Assessment, Fresh Water Pearl Mussel Impact Assessments etc.

Table 3.5.2 - Summary of Overall Incidents

Number of Incidents in 2014	No. of 3
Number of Incidents reported to the EPA via EDEN in 2014	No. of 3
Explanation of any discrepancies between the two numbers above	N/A

3.6 Sludge / Other inputs to the WWTP

'Other inputs' to the waste water treatment plant are summarised in Table 3.6 below.

Table 3.6 - Other Inputs

Input type	**m3/year**	**PE/year**	**% of load to WWTP**	**Is there a leachate/sludge acceptance procedure for the WWTP? (Y/N)**	**Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)**
Domestic /Septic Tank Sludge	0	0	0	N	N
Industrial / Commercial Sludge	0	0	0	N	N
Landfill Leachate (delivered by tanker)	0	0	0	N	N
Landfill Leachate (delivered by sewer network)	0	0	0	N	N
Other (specify)	0	0	0	N	N

Notes:

1. Other Inputs include; septic tank sludge, industrial /commercial sludge, landfill leachate and any other sludge that is collected and added to the treatment plant.
2. Sludge that is added to a dedicated sludge reception facility at a waste water treatment plant not included in Table 3.6. Only include sludge which is added to the waste water treatment process stream. Enter zero where there are no inputs

Section 4. Infrastructural Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

As per condition 4.11 of the licence, a report on the investigation for the identification and assessment of storm water overflows is required to be submitted as part of the second AER, including a determination of compliance with the criteria for storm water overflows as set out in the DoECLG document '*procedures and Criteria in Relation to Storm Water Overflows*,' 1995. This has not been carried out in 2014 as the flow measurement in Newbliss was unreliable but this work is planned for 2015.

Table 4.1.1 - SWO Identification and Inspection Summary Report

WWDL Name / Code for Storm Water Overflow	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow (High / Medium / Low)	Compliance with DoEHLG Criteria	No. of times activated in 2014 (No. of events)	Total volume discharged in 2014 (m3)	Total volume discharged in 2014 (P.E.)	Estimated /Measured data
SW003	256277E, 323714N	Yes	Not yet assessed	Not yet assessed	3	Unknown	Unknown	E

Table 4.1.2 - SWO Identification and Inspection Summary Report

How much sewage was discharged via SWOs in the agglomeration in the year (m3/yr)?	Unknown
How much sewage was discharged via SWOs in the agglomeration in the year (p.e.)?	Unknown
What % of the total volume of sewage generated in the agglomeration was discharged via SWOs in the agglomeration in 2014?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO assessment includes the requirements of Schedule A3 & C3	N/A
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	N/A

4.2 Report on progress made and proposals being developed to meet the improvement programme requirements.

As per condition 5.1 of the discharge licence, as part of the second AER, '*a programme of infrastructural improvements to maximise the efficiency and effectiveness of the waste water works shall be prepared and submitted*'.

This report has not yet been completed but will be carried out in 2015.

The Improvement Programme report addresses the **Specified Improvement Programmes** as detailed in Schedules A3 and C of the WWDL. It should detail other improvements identified through assessments required under the licence

Table 4.2.1 - Specified Improvement Programme Summary

Specified Improvement Programmes (under Schedule A and C of WWDL)	Licence Schedule (A or C)	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works ((i) Not Started; (ii) At planning stage; (iii) Work ongoing on-site; (iv) Commissioning Phase; (v) Completed; (vi) Delayed;)	% Construction Work Completed	Timeframe for Completing the Work	Comments
Waste water works	C	31/12/2019	N	Not Started	0%	Unknown	The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis.

A summary of the status of any improvements identified by under Condition 5.2 is included below.

Table 4.2.2 - Improvement Programme Summary

Improvement Identifier	Improvement Description	Improvement Source	Progress (% completed)	Expected Completion Date	Comments
N/A	N/A	*WWTP assessment (Condition 5.2).*	N/A	N/A	
N/A	N/A	*Sewer Integrity Tool (Condition 5.2).*	N/A	N/A	
N/A	N/A	*Secondary discharges assessment (Condition 5.2).*	N/A	N/A	
No record of SWO activating or measurement of flows	Install SWO measurement/recorder device to measure flows/record no. times it activates	*SWO assessment (Condition 4 & 5.2).*	0%	Unknown	The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis.
N/A	N/A	*Drinking Water Abstraction Risk Assessment (Condition 4)*	N/A	N/A	
N/A	N/A	*Shellfish Impact Risk Assessment (Condition 5)*	N/A	N/A	
N/A	N/A	*Pearl Mussel Impact Assessment (Condition 4)*	N/A	N/A	
N/A	N/A	*Improved Operational Control*	N/A	N/A	
N/A	N/A	*Incident Reduction*	N/A	N/A	
N/A	N/A	*Elimination/Reduction of Priority Substances*	N/A	N/A	

Improvements identified above also include measures taken to prevent environmental damage anticipated following events or accidents/incidents associated with discharges or overflows from the waste water works and as such are considered to fulfil any Statement of Measures requirements. Refer also to Appendix 7.1 which summarises the Annual Statement of Measures.

Table 4.2.3 - Sewer Integrity Risk Assessment Tool Summary

The Improvement Programme should include an assessment of the integrity of the existing wastewater works for the following:	***Risk Assessment Rating (High, Medium, Low)***	***Risk Assessment Score***	***Comment***
Hydraulic Risk Assessment Score	*MEDIUM*	*UNKNOWN*	*THE SIRAT HAS NOT BEEN USED TO ASSESS THIS NETWORK TO DATE*
Environmental Risk Assessment Score	*MEDIUM*	*UNKNOWN*	*THE SIRAT HAS NOT BEEN USED TO ASSESS THIS NETWORK TO DATE*
Structural Risk Assessment Score	*MEDIUM*	*UNKNOWN*	*THE SIRAT HAS NOT BEEN USED TO ASSESS THIS NETWORK TO DATE*
Operation & Maintenance Risk Assessment Score	*MEDIUM*	*UNKNOWN*	*THE SIRAT HAS NOT BEEN USED TO ASSESS THIS NETWORK TO DATE*
Overall Risk Score for the agglomeration	*MEDIUM*	*UNKNOWN*	*THE SIRAT HAS NOT BEEN USED TO ASSESS THIS NETWORK TO DATE*

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required in 2014 AER or outstanding from previous AER	Included in 2014 AER	*Reference to relevant section of AER (e.g. Appendix 2 Section4.*
Priority Substances Assessment	Yes	Yes	Desktop study method in Appendix 7.4
Drinking Water Abstraction Point Risk Assessment	No	No	N/A
Habitats Impact Assessment	No	No	N/A
Shellfish Impact Assessment	No	No	N/A
Pearl Mussel Report	No	No	N/A
Toxicity/Leachate Management	No	No	N/A
Toxicity of Final Effluent Report	No	No	N/A

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	No	Appendix 7.4
Drinking Water Abstraction Point Risk Assessment	N/A	N/A
Habitats Impact Assessment	N/A	N/A
Shellfish Impact Assessment	N/A	N/A
Pearl Mussel Report	N/A	N/A
Toxicity/Leachate Management	N/A	N/A
Toxicity of Final Effluent Report	N/A	N/A

5.1 Priority Substances Assessment

The Priority Substances Assessment report is included in Appendix 7.5. A summary of the findings of this report is included below.

Table 5.1 - Priority Substance Assessment Summary

	Licensee self- assessment checks to determine whether all relevant information is included in the Assessment.
Does the assessment use the Desk Top Study Method or Screening Analysis to determine if the discharge contains the parameters in Appendix 1 of the EPA guidance	Desk Top Study method
Does the assessment include a review of Trade inputs to the works?	Yes
Does the assessment include a review of other inputs to the works?	Yes
Does the report include an assessment of the significance of the results where a listed material is present in the discharge? (e.g. impact on the relevant EQS standard for the receiving water)	Yes
Does the assessment identify that priority substances may be impacting the receiving water?	No
Does the Improvement Programme for the agglomeration include the elimination / reduction of all priority substances identified as having an impact on receiving water quality?	Yes

5.2 Drinking Water Abstraction Point Risk Assessment.

The Drinking Water Abstraction Point Risk Assessment report is not required for Newbliss.

5.3 Shellfish Impact Assessment Report.

The Shellfish Impact Assessment Report is not required for Newbliss.

5.4 Toxicity / Leachate Management

The Toxicity / Leachate Management Assessment report is not required for Newbliss.

5.5 Toxicity of the Final Effluent Report

The Toxicity of the Final Effluent Assessment report is not required for Newbliss.

5.6 Pearl Mussel Measures Report

A sub-basin management plan in relation to Pearl Mussels is not required for Newbliss.

5.7 Habitats Impact Assessment Report

The Habitats Impact Assessment Report is not required for Newbliss.

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

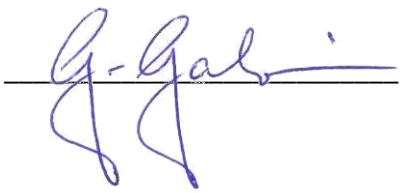
Does the AER include an executive summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a technical amendment / review of the licence?	No
List reason e.g. additional SWO identified *(insert lines as required)*	N/A
Is there a need to request/advise the EPA of any modifications to the existing WWDL? Refer to Condition 1.7 (changes to works/discharges) & Condition 4 (changes to monitoring location, frequency etc.)	No
List reason e.g. failure to complete specified works within dates specified in the licence, changes to monitoring requirements *(insert lines as required)*	N/A
Have these processes commenced? (i.e. Request for Technical Amendment / Licence Review / Change Request)	N/A
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER?	No
List outstanding reports *(insert lines as required)*	Sewer Integrity Risk Assessment, Storm Water Overflow Assessment, Specified Improvements Programme

Declaration by Irish Water

The AER contains the following;

- Introduction and background to 2014 AER
- Monitoring reports summary.
- Operational reports summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports.
- Certification and Sign Off
- Appendices

I certify that to the best of my knowledge the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed:  Date: 22/04/2015

Gerry Galvin
Chief Technical Advisor

Section 7. Appendix

Appendix 7.1 - Annual Statement of Measures
Appendix 7.2 - Ambient monitoring summary
Appendix 7.4 - Priority substances assessment

Risk /Description of issue	Risk Score	Mitigation Measure to be taken	Outcome	Action	Date for Completion	Owner/ Contact Person
No record of SWO activating or measurement or flows.		Install SWO measurement/recorder device to measure flows/record no. times it activates			Unknown	C McCrossan

Appendix 7.2 - Ambient monitoring summary

Table 2.3
Upstream monitoring results

Location	Location	Date of Sampling	Sample Type (C or G)	Temp	pH	cBOD mg/l	COD mg/l	SS mg/l	Ortho P (as P) mg/l	Ammonia (as N)	Total N mg/l (as N)	Total P mg/l (as P)	Dissolved Oxygen (DO)
Newbliss	Up Stream Of Works	18/02/2014	G	10.2	7	2			0.079	0.032			10.11
Newbliss	Up Stream Of Works	22/04/2014	G	12.8	7.9	1			0.018	0.043			9.92
Newbliss	Up Stream Of Works	10/06/2014	G	15.3	7.6	3			0.107	0.115			8.54
Newbliss	Up Stream Of Works	12/08/2014	G	15.9	7.7	2			0.151	0.094			8.96
Newbliss	Up Stream Of Works	14/10/2014	G	15.6	7.8	1			0.073	0.131			8.48
Newbliss	Up Stream Of Works	02/12/2014	G	7.3	7.8	1			0.084	0.010			11.01
Average				**12.85**	**7.63**	**1.67**			**0.085**	**0.071**			**9.503**

Table 2.4
Downstream monitoring results

Location	Location	Date of Sampling	Sample Type (C or G)	Temp	pH	cBOD mg/l	COD mg/l	SS mg/l	Ortho P (as P) mg/l	Ammonia (as N)	Total N mg/l (as N)	Total P mg/l (as P)	Dissolved Oxygen (DO)
Newbliss	Down Stream of Works	18/02/2014	G	10.3	7	1			0.073	0.038			10.22
Newbliss	Down Stream of Works	22/04/2014	G	13.4	7.7	1			0.009	0.108			9.67
Newbliss	Down Stream of Works	10/06/2014	G	15.5	7.6	3			0.09	0.16			8.81
Newbliss	Down Stream of Works	12/08/2014	G	15.1	7.7	3			0.131	0.111			9.1
Newbliss	Down Stream of Works	14/10/2014	G	13.1	7.7	1			0.055	0.092			8.37
Newbliss	Down Stream of Works	02/12/2014	G	6.4	7.9	1			0.068	0.02			11
Average				**12.30**	**7.60**	**1.67**			**0.071**	**0.088**			**9.528**

Priority Substance Assessment

A priority substance assessment is required under condition 4.18 of the licence, by undertaking a 'risk based assessment of the discharge in accordance with the Guidance on the screening for Priority Substances for Waste Water Discharge Licences', to identify any priority substances or pollutants in the discharge.

A desktop study is undertaken as follows:
The Newbliss WWTP catchment area serves a small rural village comprising primarily of domestic dwellings, along with a school, church and local shops. There are no industrial inputs to the waste water works or section 16 licensed companies discharging to the WWTP, or disposal of same at the waste water works. It can therefore be concluded from this desktop overview that there is no further screening necessary or required for organic compounds or metals. Furthermore, in 2009 when the initial discharge licence application for Newbliss was compiled, monitoring of the effluent discharges and upstream and downstream locations in the receiving Newbliss River was undertaken and analysed for dangerous substances and submitted with the application. There were no elevated levels of these compounds in the discharge as reported. It is therefore concluded that no further screening is required for Newbliss WWTP with regard to priority substances.