Annual Environmental Report 2017

Agglomeration Name:	**Scotstown**
Licence Register No.	**D0494-01**

Contents

Section 1. Executive Summary and Introduction to the 2017 AER

1.1 Summary Report on 2017

This Annual Environmental Report has been prepared for **D0494-01, Scotstown,** in County **Monaghan**, in accordance with the requirements of the wastewater discharge licence for the agglomeration.

The agglomeration is served by a wastewater treatment plant with a Plant Capacity PE of 1000. The treatment process includes the following:-

- Preliminary Treatment (Screening)
- Primary Treatment (Settlement)
- Secondary Treatment (RBC and Percolating Filters)
- Nutrient Removal (Chemical dosing for phosphorus removal)

The final effluent from the Primary Discharge Point was non-compliant with the Emission Limit Values in 2017.

The following parameters exceeded the emission limit values in 2017:-

- Ortho P / MRP (mg/l)
- Ammonia N (mg/l)

360,000kgs total weight liquid sludge was removed from the wastewater treatment plant in 2017.
Sludge was transferred to Monaghan WWTP D0061

The following improvement works were undertaken in 2017:-

1. *Issue* *2 no. Breaches of ELV for orthophosphate in 2017*
   Measure *Review of ferric dosing system carried out. Flow proportional dosing regime was changed to time based dosing . Compliance samples have been within licence ELV's since the 22/08/17.*
   Status *Complete 2017*

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

2.1.1 Monthly Influent Monitoring	BOD (mg / l)	COD (mg / l)	SS (mg / l)	TP (mg / l)	TN (mg / l)	Hydraulic Loading (m3/d)
Number of Samples	6	6	6	6	6	
Annual Max.	349	928	560	10.2	69.4	528
Annual Mean	237.56	524.66	214.47	4.49	37.64	153.74

Other inputs in the form of sludge/leachate are added to the WWTP after the influent monitoring point and are therefore not represented by influent monitoring. Other inputs, where relevant, are detailed in Section 3.6.

Significance of results

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2

The annual maximum hydraulic loading is less than the peak Treatment Plant Capacity as detailed further in Section 3.2. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliant with Emission Limit Values

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

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

2.2 Discharges from the agglomeration

Table 2.2 - Effluent Monitoring

2.2.1 Effluent Monitoring Summary	BOD (mg/l)	COD (mg/l)	TSS (mg/l)	Ortho P / MRP (mg/l)	Ammonia N (mg/l)	pH (Range)
WWDL ELV (Schedule A) where applicable	20.00	125.00	35.00	1.00	2.00	6 to 9
ELV with Condition 2 Interpretation included	40.00	250.00	87.50	1.20	2.40	No allowable exceedances
% Reduction (Schedule A)						
Number of sample results	6	6	6	6	6	6
Number of sample results above WWDL ELV	0	0	0	2	1	0
Number of sample results above ELV with Condition 2 Interpretation	0	0	0	2	1	0
Annual Mean (for parameters where a mean ELV applies)						
Overall Compliance (Pass/Fail)	Pass	Pass	Pass	Fail	Fail	Pass

Significance of results

The WWTP was non-compliant with the ELV's set in the wastewater discharge licence. There were 3 samples non-compliant with the ELVs in relation to Ortho P / MRP (mg/l), Ammonia N (mg/l). The non-compliance is due to breach of ELV for orthophosphate and ammonia.
25/04/17 ortho p 3.5mg/l P
20/06/17 ortho p 2.3 mg/l P
22/08/17 ammonia 7.8 mg/l N. The impact on receiving waters is assessed further in Section 2.3.

2.3 Ambient Monitoring Summary

Table 2.3. Ambient Monitoring Report Summary Table

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	EPA Feature Coding Tool code	Bathing Water	Drinking Water	FWPM	Shellfish
Upstream Monitoring Point	261094, 336873	IE_NB_03B010123				
Downstream Monitoring Point	261322, 335999	IE_NB_03B010130	No	No	No	No
Downstream Monitoring Point #2						

Table 2.3.2 Ambient Impact Assessment Table

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Current WFD Status	cBOD	0-Phosphate (as P)	Ammonia (as N)	Nitrogen		
Upstream Monitoring Point	Good	2.05	0.022	0.043			
Downstream Monitoring Point	Good	1.91	0.07	0.066			
Downstream Monitoring Point #2							
Difference between Upstream and Downstream		-0.14	0.048	0.023			
Difference between Upstream and Downstream #2							
EQS		2.6	0.075	0.075			
% of Eqs		-5.38%	64.00%	30.67%			
% of Eqs #2							

The results for the upstream and downstream monitoring and/or additional monitoring data sets from Irish Water are included in the Appendix.

Significance of results

- The WWTP was non-compliant with the ELV's set in the wastewater discharge licence as detailed in Section 2.2.
- The receiving waters do not meet the EQS required.
- The discharge from the wastewater treatment plant has an observable negative impact on the water quality.
- A deterioration in water quality has been identified however it is not known if it is or is not caused by the WWTP.
- The discharge from the WWTP has an observable negative impact on the Water Framework Directive status.

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

A PRTR is not required as the PE is < 2000

Section 3. Operational Reports Summary

3.1 Treatment Efficiency Report

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)	Total P (kg/yr)	Total N (kg/yr)
Influent mass loading (kg/year)	15,073	33,289	13,608	285	2,388
Effluent mass emission (kg/year)	263	1,723	279	68	1,742
% Efficiency (% reduction of influent load)	98%	95%	98%	76%	27%

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/day)	227
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/day)	681
Hydraulic Capacity – Current loading (m3/day)	154
Hydraulic Capacity – Remaining (m3/day)	527
Organic Capacity - Design / As Constructed (PE)	1,000
Organic Capacity - Collected Load (PE)	412
Organic Capacity – Remaining (PE)	588
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 created 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	**Estimated / Measured**
Load generated in the agglomeration that is collected in the sewer network	100%	Estimated
Load collected in the agglomerations that enters treatment plant		Estimated
Load collected in the sewer network but discharges without treatment (includes SWO, EO, and any discharges that are not treated)		Estimated

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.

3.4 Complaints Summary

There were no complaints recorded in 2017.

3.5 Reported Incidents Summary

A summary of reported incidents is included below.

Table 3.5.1 - Summary of Incidents

3.5.1 Incident Type (e.g. Non-compliance, Emission, spillage, pollution incident)	Incident Description	Cause	No. of Incidents	Recurring Incident (Yes/No)	Corrective Action	Authorities Contacted. Note 1	Reported to EPA (Yes/No)	Closed (Yes/No)
INCI012076 Breach of ELV for ortho P and Ammonia	Breach of ELV for Orthophosphate and Ammonia. 25/04/17 Ortho P 3.5mg/l P 20/06/17 Ortho P 2.3 mg/l P 22/08/17 Ammonia 7.8 mg/l N	Other	3	Yes	Ferric dosing was flow proportional, it has been changed to time based dosing. The cause of the Ammonia exceedance was not determined.	IFI	Yes	Yes

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 2017	3
Number of Incidents reported to the EPA via EDEN in 2017	3
Explanation of any discrepancies between the two numbers above	N/A

3.6 Sludge / Other inputs to the WWTP

There were no sludge/other imports to the WWTP in 2017.

Section 4. Infrastructure Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

A summary of the Stormwater Overflow (SWO) significance and operation is included below. The Stormwater Overflow Assessment was submitted previously in AER 2016.

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/Med/ Low)	Compliance with DoEHLG criteria	No. of times activated in 2017 (No. of events)	Total volume discharged in 2017 (m3)	Total volume discharged in 2017 (P.E.)	Estimated / Measured data
SW0	261135, 336742	Yes	Low	Compliant	Unknown	Unknown	Unknown	Estimated

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 2013?	Unknown
Is each SWO identified as non-compliant with DoEHLG Guidance included in the Programme of Improvements?	
The SWO assessment includes the requirements of relevant WWDL Schedules (Yes/No)	Yes
Have the EPA been advised of any additional SWOs / changes to Schedules A/C under Condition 1 ?	N/A

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

There are no specified improvements associated with the WWTP.

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	Reference to relevant section of AER (e.g. Appendix 2 Section 4.	Specified improvements	Comment
Hydraulic Risk Assessment Score	Medium	100	Appendix 7.3 AER 2016		
Environmental Risk Assessment Score	Low	145	Appendix 7.3 AER 2016		
Structural Risk Assessment Score	High	140	Appendix 7.3 AER 2016		
Operation & Maintenance Risk Assessment Score	Low	40	Appendix 7.3 AER 2016		
Overall Risk Score for the agglomeration	Low	425	Appendix 7.3 AER 2016		

Section 5. Licence Specific Reports

Licence Specific Reports Summary Table

Licence Specific Report	Required by Condition 5 in Licence	Required in this AER or outstanding from previous AER?	Included in this AER?	Reference to previous AER containing report or relevant section of this AER
Priority Substances Assessment	Required	No	No	AER 2014
Drinking Water Abstraction Point Risk Assessment	Not Required	No	No	
Shellfish Impact Assessment	Not Required	No	No	
Pearl Mussel Report	Not Required	No	No	
Toxicity/Leachate Management	Not Required	No	No	
Toxicity of Final Effluent Report	Not Required	No	No	
Small Stream Risk Score Assessment	Not Required	No	No	
Habitats Impact Assessment	Not Required	No	No	

Licence Specific Reports Summary of Findings

Licence Specific Report	Recommendations in Report	Summary of Recommendations in Report
Priority Substances Assessment	Yes	No further screening required
Drinking Water Abstraction Point Risk Assessment	No	
Shellfish Impact Assessment	No	
Pearl Mussel Report	No	
Toxicity/Leachate Management	No	
Toxicity of Final Effluent Report	No	
Habitats Impact Assessment	No	

5.1 Priority Substances Assessment

The Priority Substance Assessment Report was submitted previously in AER 2014. A summary of the significance and operation is included below.

Table 5.1 - Priority Substance Assessment Summary Report

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?	Desktop Study and Screening Analysis
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?	No
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?	No
Recommendations	No further screening required
Status of any improvement measures required	N/A

Section 6. Certification and Sign Off

Table 6.1 - Summary of AER Contents

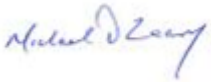
Does the AER include an executive summary?	Yes
Does the AER include an assessment of the performance of the Waste Water Works (i.e. have the results of assessments been interpreted against WWDL requirements and or Environmental Quality Standards)?	Yes
Is there a need to advise the EPA for consideration of a technical amendment / review of the licence?	No
List reason e.g. additional SWO identified	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	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?	Yes
Ensure the following reports are included	

Declaration by Irish Water

The AER contains the following:

- Introduction and background to 2017 AER.
- Monitoring Reports Summary.
- Operational Reports Summary.
- Infrastructural Assessment and Programme of Improvements.
- Licence specific reports
- Certification and Sign Off
- Appendices

I certify that the information given in this Annual Environmental Report is truthful, accurate and complete:

Signed:  Date: 20/02/2018

Michael O'Leary
Acting Head of Environmental Regulation

Section 7. Appendices

Appendix 7.1 Statement of Measures / Improvement Programme

1. Issue 2 no. Breaches of ELV for orthophosphate in 2017
   Measure Review of ferric dosing system carried out. Flow proportional dosing regime was changed to time based dosing . Compliance samples have been within licence ELV's since the 22/08/17.
   Status Complete 2017

Appendix 7.2 Ambient Monitoring

Upstream

Date	Ammonia (mg/l)	Ortho P (mg/l)	BOD (mg/l)	Total N (mg/l)	D.O. (% Sat)	D.O. (mg/l)	pH (mg/l)	Temp °C
21/02/2017	0.02	0.02	1.30			11.01	8.00	8.50
25/04/2017	0.01	0.01	2.30				8.20	
20/06/2017	0.03	0.04	2.00			9.69	8.20	15.20
22/08/2017	0.01	0.03	2.60			10.10	7.80	15.41
18/10/2017	0.17	0.01	2.10			8.62	7.70	11.30
22/11/2017	0.02	0.03	2.00			9.21	7.60	7.20
Mean	0.04	0.02	2.05			9.73	7.92	11.52
95%ile	0.13	0.03	2.53			10.83	8.20	15.37

Downstream

Date	Ammonia (mg/l)	Ortho P (mg/l)	BOD (mg/l)	Total N (mg/l)	D.O. (% Sat)	D.O. (mg/l)	pH (mg/l)	Temp °C
21/02/2017	0.03	0.03	1.60			10.05	8.00	8.90
25/04/2017	0.00	0.01	2.00				8.10	
20/06/2017	0.05	0.26	1.00			9.79	8.20	15.60
22/08/2017	0.02	0.05	2.20			9.81	7.80	16.02
18/10/2017	0.25	0.02	2.50			8.51	7.70	11.82
22/11/2017	0.05	0.05	2.20			9.36	7.60	7.40
Mean	0.07	0.07	1.92			9.50	7.90	11.95
95%ile	0.20	0.21	2.43			10.00	8.18	15.94