Annual Environmental Report

2023

Sligo

D0014-01

CONTENTS

7 APPENDIX

7.1 AMBIENT MONITORING SUMMARY

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 AER

This Annual Environmental Report has been prepared for D0014-01, Sligo, in Sligo in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports where relevant are included as an appendix to the AER.

1.1 ANNUAL STATEMENT OF MEASURES

A summary of any improvements undertaken is provided where applicable.

1.2 TREATMENT SUMMARY

The agglomeration is served by a wastewater treatment plant(s)

- Sligo WWTP with a Plant Capacity PE of 50000, the treatment type is 3P - Tertiary P removal .

1.3 ELV OVERVIEW

The overall compliance of the final effluent with the Emission Limit Values (ELVs) is shown below. More detailed information on the below ELV's can be found in Section 2.

Discharge Point Reference	Treatment Plant	Discharge Type	Compliance Status	Parameters failing if relevant
TPEFF2700D0014SW001	Sligo WWTP	Treated	Compliant	N/A

1.4 LICENCE SPECIFIC REPORTING

Assessment / Report
There are no Licence Specific Reports included in this AER.

2 TREATMENT PLANT PERFORMANCE AND IMPACT SUMMARY

2.1 SLIGO WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - SLIGO WWTP

A summary of influent monitoring for the treatment plant is presented below. This monitoring is primarily undertaken in order to determine the overall efficiency of the plant in removing pollutants from the raw wastewater.

Parameters	Number of Samples	Annual Max	Annual Mean
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	11	88	35
Total Nitrogen mg/l	12	31	13
Total Phosphorus (as P) mg/l	12	2.80	1.38
COD-Cr mg/l	12	278	109
Suspended Solids mg/l	12	147	62
Hydraulic Capacity	N/A	78552	24536

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 2.1.5 if applicable.

Significance of Results:

The annual mean hydraulic loading is less than the peak Treatment Plant Capacity. The annual maximum hydraulic loading is greater than the peak Treatment Plant Capacity. Further details on the plant capacity and efficiency can be found under the sectional ‘Operational Performance Summary’. The design of the wastewater treatment plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF2700D0014SW000

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr mg/l	125	250	N/A	27	N/A	N/A	18	Pass
Suspended Solids mg/l	35	87.5	N/A	27	N/A	N/A	5.50	Pass
Temperature °C	25	25	N/A	25	N/A	N/A	13	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	N/A	27	N/A	N/A	1.67	Pass
Total Oxidised Nitrogen (as N) mg/l	15	18	N/A	26	N/A	N/A	4.07	Pass
Ammonia-Total (as N) mg/l	10	12	N/A	6	N/A	N/A	1.03	Pass
pH pH units	9	9	N/A	26	N/A	N/A	7.69	Pass
Total Phosphorus (as P) mg/l	2	2.4	N/A	27	N/A	N/A	0.292	Pass
Nitrate (as N) mg/l	N/A	N/A	N/A	26	N/A	N/A	4.53	
Nitrite (as N) µg/l	N/A	N/A	N/A	3	N/A	N/A	0.337	

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
E. Coli MPN/100ml	N/A	N/A	N/A	12	N/A	N/A	1556	
Ammonia-Total (as NH4) mg/l	N/A	N/A	N/A	21	N/A	N/A	1.27	
Total Nitrogen mg/l	N/A	N/A	N/A	1	N/A	N/A	7.20	
ortho-Phosphate (as PO4) mg/l	N/A	N/A	N/A	1	N/A	N/A	0.056	
Nitrite (as N) mg/l	N/A	N/A	N/A	23	N/A	N/A	0.365	
Conductivity @20°C µS/cm	N/A	N/A	N/A	26	N/A	N/A	1343	
Faecal coliforms MPN/100ml	N/A	N/A	N/A	2	N/A	N/A	842	
E. Coli no./100mls	N/A	N/A	N/A	1	N/A	N/A	10	
Enterococci (Intestinal) cfu/100ml	N/A	N/A	N/A	11	N/A	N/A	494	
Fats, Oils & Greases mg/l	N/A	N/A	N/A	4	N/A	N/A	5.00	

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedances	Number of exceedances with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	26	N/A	N/A	0.179	
Enterococci (Intestinal) MPN/100ml	N/A	N/A	N/A	2	N/A	N/A	594	
Chloride mg/l	N/A	N/A	N/A	2	N/A	N/A	93	
Salinity ppt	N/A	N/A	N/A	21	N/A	N/A	0.767	
Faecal coliforms no./100mls	N/A	N/A	N/A	11	N/A	N/A	967	
Dissolved Oxygen mg/l	N/A	N/A	N/A	26	N/A	N/A	8.48	

Notes:
1 – This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 – For pH the WWDA specifies a range of pH 6 - 9

Cause of Exceedance(s):

Not applicable

Significance of Results:

The WWTP is compliant with the ELV's set in the Wastewater Discharge Licence.

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE TPEFF2700D0014SW000

A summary of monitoring from ambient monitoring points associated with the wastewater discharge is provided in the sections below. For discharges to rivers upstream (U/S) and downstream (D/S) location data is provided. For other ambient points in lakes, coastal or transitional waters, monitoring data from the most appropriate monitoring station is selected.

The table below provides details of ambient monitoring locations and details of any designations as sensitive areas.

Ambient Monitoring Point from WWDL (or as agreed with EPA)	Irish Grid Reference	River Station Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Ecological Status
Upstream	170003, 335887	RS35G010180	No	No	No	Yes	Poor
Upstream	169485, 335974	RS35G010230	No	No	No	Yes	Poor
Downstream	168053, 337162	TW27005308SB5010	No	No	No	Yes	Moderate
Downstream	166501, 339153	TW27005308SB5011	No	No	No	Yes	Moderate
Downstream	168900, 336370	TW27005308SB5009	No	No	No	Yes	Moderate
Downstream	169045, 336236	TW27005308SB5008	No	No	No	Yes	Moderate
Downstream	166553, 336802	TW27005308SB5012	No	No	No	Yes	Moderate
Downstream	163026, 339692	TW27005308SB5013	No	No	No	Yes	Moderate

The results for ambient results and / or additional monitoring data sets are included in the **Appendix 7.1 - Ambient monitoring summary**

Significance of Results:

The coastal/transitional ambient monitoring results do not meet the required EQS. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

The WWTP discharge was compliant with the ELV's set in the wastewater discharge licence.

Based on ambient monitoring results a deterioration in Ammonia, concentrations downstream of the effluent discharge is noted.

A deterioration in water quality has been identified, however it is not known if it or is not caused by the WWTP.

Other causes of deterioration in water quality in the area are unknown.

The discharge from the wastewater treatment plant does not have an observable negative impact on the Water Framework Directive status.

2.1.4 OPERATIONAL PERFORMANCE SUMMARY - SLIGO WWTP

2.1.4.1 Treatment Efficiency Report - Sligo WWTP

Treatment efficiency is based on the removal of key pollutants from the influent wastewater by the treatment plant. In essence the calculation is based on the balance of load coming into the plant versus the load leaving the plant. The efficiency is presented as a percentage removal rate.

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

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)
COD	986290	133548	86
TP	12556	2130	83
TN	115373	31899	72
cBOD	312129	12185	96
SS	560507	40031	93

Note: The above data is based on sample results for the number of dates reported

2.1.4.2 Treatment Capacity Report Summary - Sligo WWTP

Treatment capacity is an assessment of the hydraulic (flow) and organic (the amount of pollutants) load a treatment plant is designed to treat versus the current loading of that plant.

Sligo WWTP	
Peak Hydraulic Capacity (m^3/day) - As Constructed	37500
DWF to the Treatment Plant (m^3/day)	12500
Current Hydraulic Loading - annual max (m^3/day)	78552
Average Hydraulic loading to the Treatment Plant (m^3/day)	24536
Organic Capacity (PE) - As Constructed	50000
Organic Capacity (PE) - Collected Load (peak week)[Note1]	27780
Organic Capacity (PE) - Remaining	22220
Will the capacity be exceeded in the next three years? (Yes/No)	No

Nominal design capacities can be based on conservative design principles. In some cases assessment of existing plants has shown organic capacities significantly higher than the nominal design capacity. Accordingly plants that appear to be overloaded when comparing a collected peak load with the nominal design capacity can be fully compliant due to the safety factors in the original design.

2.1.5 SLUDGE / OTHER INPUTS - SLIGO WWTP

'Other inputs' to the waste water treatment plant are summarised in table below

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP? (Y/N)
Domestic /Septic Tank Sludge	17792	Volume (m3)		2	No	Yes	No

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

A summary of complaints of an environmental nature related to the discharge(s) to water from the WWTP and network is included below.

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
There were no relevant environmental complaints in 2023.			

3.2 REPORTED INCIDENTS SUMMARY

Environmental incidents that arise in an agglomeration are reported on an on-going basis in accordance with our waste water discharge licences. Where an incident occurs and it is reportable under the licence, it is reported to the Environmental Protection Agency through their Environmental Data Exchange Network, or in some instances by telephone. Some incidents which arise in the agglomeration are recorded by Uisce Éireann but may not be reportable under our licence for example where the incident does not have an impact on environmental performance.

A summary of reported incidents is included below.

3.2.1 SUMMARY OF INCIDENTS

Incident Type	Cause	Recurring (Y/N)	Closed (Y/N)
Uncontrolled release	Broken Sewer Pipe	No	Yes
Uncontrolled release	Blocked Sewer	No	No
Uncontrolled release	Broken Sewer Pipe	No	Yes

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	3
Number of Incidents reported to the EPA via EDEN in 2023	3
Explanation of any discrepancies between the two numbers above	N/A

4 INFRASTRUCTURAL ASSESSMENTS AND PROGRAMME OF IMPROVEMENTS

4.1 STORM WATER OVERFLOW IDENTIFICATION AND INSPECTION REPORT

A summary of the operation of the storm water overflows and their significance where known is included below:

4.1.1 SWO IDENTIFICATION

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
SW4	169661,335962	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SW5	169348,335975	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
(P)SW1/SWB	168439,336785	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Monitored
SW3	168981,336274	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	169157,336064	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	169157,336064	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored

WWDL Name / Code for Storm Water Overflow (chamber) where applicable	Irish Grid Ref. (outfall)	Included in Schedule of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2023 (No. of events)	Total volume discharged in 2023 (m3)	Monitoring Status
TBC	-,-	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
TBC	168507,336839	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	Not Monitored
SWA	167882,337367	Yes	Low Significance	Meeting Criteria	Unknown	Unknown	TBC

Any TBC SWO(s) were identified as part of the on-going National SWO programme and will be updated in subsequent AER(s) once the information is confirmed.

SWO Summary	
How much wastewater discharge by metered SWOs during the year (m3)?	1441372
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	N/A
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / changes to Schedule C3 and A4 under Condition 1.7?	Yes

4.2 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MEET THE IMPROVEMENT PROGRAMME REQUIREMENTS.

4.2.1 SPECIFIED IMPROVEMENT PROGRAMME SUMMARY

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Specified Improvement Programmes (under Schedule A and C of WWDL)	Description	Licence Schedule	Licence Completion Date	Date Expired? (N/NA/Y)	Status of Works	Timeframe for Completing the Work	Comments
There are no Specified Improvement Programmes for this Agglomeration.							

A summary of the status of any other improvements identified by under Condition 5 assessments- is included below.

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description / or any Operational Improvements	Improvement Source	Expected Completion Date	Comments
No additional improvements planned at this time.				

4.2.3 SEWER INTEGRITY RISK ASSESSMENT

The utilisation of multiple capital maintenance programmes and the outputs of the workshops with the Local Authority Operations Staff held under the programme can be used to satisfy the requirements of Condition 5 regarding network integrity. Improvement works identified by way of these programmes and workshops will be included in the Improvements Summary Tables 4.2.1 and 4.2.2.

5 LICENCE SPECIFIC REPORTS

A wastewater discharge licence may require a number of reports on specific subject areas to be prepared for the agglomeration in question. These reports are submitted to the EPA as part of the Annual Environmental Report. This section provides a list of the various reports required for this agglomeration and a brief summary of their recommendations.

Licence Specific Report	Required by licence	Included in this AER
D0014-01-Priority Substances Assessment	Yes	No
D0014-01-Shellfish Impact Assessment	Yes	No

6 CERTIFICATION AND SIGN OFF

6.1 SUMMARY OF AER CONTENTS

Parameter	Answer
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?	Yes
List reason e.g. additional SWO identified	Agglomeration boundary change; Additional SWOs; Amalgamation with Rosses Point
Is there a need to request/advise the EPA of any modification to the existing WWDL with respect to condition 4 changes to monitoring location, frequency etc	N/A
List reason e.g. changes to monitoring requirements	N/A
Have these processes commenced?	Yes
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	Yes

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

Signed: Date: 11/04/2024

This AER has been produced by Uisce Éireann's Environmental Information System (EIMS) and has been electronically signed off in that system for and on behalf of ,

Eleanor Roche

Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Ambient Monitoring Data

Sample Reference	Date Sampled	Chlorophyll	Dissolved Inorganic Nitrogen	Dissolved Oxygen	Dissolved Oxygen	pH	Orthophosphate	Temperature	Total Ammonia	Total Nitrogen	Total Oxidised Nitrogen (TON)	cBOD
		µg/L	mg/L N	%**	mg/L	pH units	mg/L P	°C	mg/L N	mg/L	mg/L N	mg/L O2
U/S- Crozon Promenade	19/09/2023	< 2.0	0.26	95.67	9.61	7.5	0.01	15.2	< 0.02	0.8	0.23	< 1.0
U/S- Crozon Promenade	03/10/2023	< 2.0	< 0.25	90.89	9.7	8.2	0.01	12.4	0.04	0.8	< 0.20	< 1.0
U/S- Crozon Promenade	02/11/2023	< 2.0	0.31	100.4	10.61	8	0.01	11.1	< 0.02	0.8	0.3	< 1.0
U/S- Crozon Promenade	01/12/2023	< 2.0	0.39	93.6	11.13	8	0.03	7.9	< 0.02	0.8	0.36	< 1.0
D/S- Cregg Out	19/09/2023	< 2.0	1.12	107.66	10.98	8	0.02	14.5	0.58	1.1	0.54	< 1.0
D/S- Cregg Out	03/10/2023	20.3	1.08	106.8	11.41	8.2	0.03	12.4	0.14	1.5	1	1.2
D/S- Cregg Out	02/11/2023	< 2.0	1.09	107.6	11.66	8.2	0.03	10	< 0.02	1.3	1.25	< 1.0
D/S- Cregg Out	01/12/2023	< 2.0	1.34	106.3	12.42	8.2	0.04	8.5	0.04	1.4	1.22	< 1.0