

Annual Environmental Report

2023



Glenamaddy

D0379-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2023 AER

This Annual Environmental Report has been prepared for D0379-01, Glenamaddy, in Galway 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)

- Glenamaddy WWTP with a Plant Capacity PE of 700, the treatment type is 1 - Primary treatment .

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
TPEFF1200D0379GW001	Glenamaddy 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 GLENAMADDY WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - GLENAMADDY 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	12	1117	479
Suspended Solids mg/l	12	300	140
Hydraulic Capacity	N/A	297	151

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 less 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 - TPEFF1200D0379GW001

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 cfu/100ml	N/A	N/A	N/A	1	N/A	N/A	24197	
Cyanide (unspecified) mg/l	N/A	N/A	N/A	1	N/A	N/A	0.004	
Faecal coliforms MPN/100ml	N/A	N/A	N/A	10	N/A	N/A	4285	
Faecal coliforms no./100mls	N/A	N/A	N/A	3	N/A	N/A	6.98	
ortho-Phosphate (as P) - unspecified mg/l	N/A	N/A	N/A	1	N/A	N/A	0.035	
COD-Cr mg/l	N/A	N/A	N/A	1	N/A	N/A	47	
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	N/A	N/A	N/A	12	N/A	N/A	3.40	
Enterococci (Intestinal) cfu/100ml	N/A	N/A	N/A	12	N/A	N/A	3057	
Total Phosphorus (as P) mg/l	N/A	N/A	N/A	12	N/A	N/A	0.755	

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)
Total Nitrogen mg/l	N/A	N/A	N/A	13	N/A	N/A	9.20	
Sodium - unfiltered mg/l	N/A	N/A	N/A	1	N/A	N/A	58	
E. Coli MPN/100ml	N/A	N/A	N/A	12	N/A	N/A	13184	
Ammonia-Total (as N) mg/l	N/A	N/A	N/A	13	N/A	N/A	6.51	
Suspended Solids mg/l	N/A	N/A	N/A	13	N/A	N/A	11	
BOD - 5 days (Total) mg/l	N/A	N/A	N/A	1	N/A	N/A	3.50	

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 TPEFF1200D0379GW001

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

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

The ambient monitoring results do not meet the required EQS at the upstream and the downstream monitoring locations. The EQS relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009.

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

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 - GLENAMADDY WWTP

2.1.4.1 Treatment Efficiency Report - Glenamaddy 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)
SS	7855	582	93
cBOD	26904	180	99
TP	N/A	40	N/A
TN	N/A	473	N/A
COD	N/A	1510	N/A

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

2.1.4.2 Treatment Capacity Report Summary - Glenamaddy 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.

Glenamaddy WWTP	
Peak Hydraulic Capacity (m³/day) - As Constructed	472
DWF to the Treatment Plant (m³/day)	157
Current Hydraulic Loading - annual max (m³/day)	297
Average Hydraulic loading to the Treatment Plant (m³/day)	151
Organic Capacity (PE) - As Constructed	700
Organic Capacity (PE) - Collected Load (peak week)^{Note1}	978
Organic Capacity (PE) - Remaining	0
Will the capacity be exceeded in the next three years? (Yes/No)	Yes

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 - GLENAMADDY 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)
There is no Sludge and Other Input data for the Treatment Plant included in the AER.							

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)
There were no reportable incidents in 2023.			

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2023	0
Number of Incidents reported to the EPA via EDEN in 2023	0
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
GW002	163465,261528	Yes	Low Significance	Not Meeting Criteria	Unknown	Unknown	Monitored
-	-, -	No	-	Not yet Assessed	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)?	Unknown
Is each SWO identified as not meeting DoEHLG Guidance included in the Programme of Improvements?	Yes
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
D0379-SIP:01	All discharges from the Glennamaddy Town agglomeration shall cease in accordance with Condition 3.7	C	31/12/2016	Yes	Not Started		Upgraded licence review under review in 2023
D0379-SIP:02	GW001 Primary Discharge Point to be Discontinued	C	31/12/2016	Yes	Not Started		Upgraded licence review under review in 2023
D0379-SIP:03	GW002 Storm Water overflow to be discontinued	C	31/12/2016	Yes	Not Started		Upgraded licence review under review in 2023

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
D0379-01-Drinking Water Abstraction Point Risk 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	Retain existing primary discharge point , proposed new emission limit values and remedial network upgrades
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	No

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

Signed: Date: 23/04/2024

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 Locations

Ambient Monitoring Locations	Description	Co-ordinates
aGW1u	At the inlet stream entering the turlough	164615 259503
aGW1a	Within the flooded turlough near the discharge point	163802 261414
aGW1d	At Lettera Spring which is considered to be a downstream ground water outlet from the Glenamaddy Turlough	159550 262115

Ambient Monitoring Data

Monitoring Location	Date	pH	BOD mg/l	SS mg/l	Total Phosphorus (as P) mg/l	Ammonia (as N) mg/l	Orthophosphate (as P) mg/l	Faecal Coliforms cfu/100ml	Escherichia coli cfu/100ml	Intestinal Enterococci cfu/100ml
aGW1a	23-Jan-2023	7.4	< 1	< 5	< 0.2	< 0.05	< 0.05	> 100	980.4	< 1
aGW1a	10-Feb-2023	7.6	1.3	< 5	< 0.2	< 0.05	< 0.05	31	9.7	5
aGW1a	3-Mar-2023	7.6	1.3	11	< 0.2	< 0.05	< 0.05	560	3.1	3
aGW1a	28-Apr-2023	8.2	<1	<2	0.05	0.02	<0.01	8	>201	>201
aGW1a	27-Jun-2023	8.1	1.8	29	<0.04	< 0.02	<0.01	150	93	68
aGW1a	4-July-2023	8.5	< 1	< 4	< 0.04	0.11	< 0.01	91	91	2
aGW1a	21-July-2023	8.3	1.3	< 4	< 0.04	< 0.02	< 0.01	161	79	14
aGW1a	02-Aug-2023	8.2	1.5	<4	0.1	0.71	<0.01	16	16	<1
aGW1a	08-Sep-2023	8.5	1.4	<4	<0.04	<0.02	<0.01	49	77	1
aGW1a	05-Oct-2023	8	1.1	8	0.04	<0.02	<0.01	31	26	4
aGW1a	09-Nov-2023	8.1	<1	<4	<0.04	<0.02	<0.01	8	5	2
aGW1a	07-Dec-2023	8	1	<4	0.05	<0.02	<0.01	86	29	3
aGW1d	23-Jan-2023	7.8	6.6	< 5	< 0.2	< 0.05	< 0.05	25	20.3	4
aGW1d	10-Feb-2023	7.1	2	< 5	< 0.2	< 0.05	< 0.05	34	14.8	2
aGW1d	3-Mar-2023	8	1.7	< 5	< 0.2	< 0.05	< 0.05	5	4.1	1
aGW1d	28-Apr-2023	7.9	<1	5	0.08	<0.02	<0.01	12	7	5
aGW1d	27-Jun-2023	7.4	<1	4	<0.04	< 0.02	0.02	27	26	5
aGW1d	4-July-2023	7.5	< 1	5	0.05	0.17	0.01	228	1733	11

Monitoring Location	Date	pH	BOD mg/l	SS mg/l	Total Phosphorus (as P) mg/l	Ammonia (as N) mg/l	Orthophosphate (as P) mg/l	Faecal Coliforms cfu/100ml	Escherichia coli cfu/100ml	Intestinal Enterococci cfu/100ml
aGW1d	21-July-2023	7.4	1	16	0.04	< 0.02	< 0.01	121	28	8
aGW1d	02-Aug-2023	7.3	<1	23	0.11	0.02	0.01	29	56	24
aGW1d	08-Sep-2023	8.7	<1	13	<0.04	<0.02	0.02	6	6	1
aGW1d	05-Oct-2023	7.3	<1	12	0.06	0.27	<0.01	33	25	12
aGW1d	09-Nov-2023	7.4	<1	9	0.04	<0.02	<0.01	36	17	12
aGW1d	07-Dec-2023	7.5	<1	6	0.05	<0.02	<0.01	205	98	16
aGW1u	23-Jan-2023	7.3	1.1	< 5	< 0.2	< 0.05	< 0.05	40	14.8	7
aGW1u	10-Feb-2023	7.1	7.4		< 0.2	< 0.05	< 0.05	33	7.4	2
aGW1u	3-Mar-2023	8	4.1	5	< 0.2	< 0.05	< 0.05	50	13.2	8
aGW1u	28-Apr-2023	6.9	<1	2	0.35	0.03	<0.01	411	>201	45
aGW1u	27-Jun-2023	8.1	1.7	26	<0.04	< 0.02	<0.01	158	17	35
aGW1u	4-July-2023	8.5	1.1	9	< 0.04	0.05	< 0.01	60	51	3
aGW1u	21-July-2023	8.3	1.3	< 4	0.06	< 0.02	< 0.01	138	54	3
aGW1u	02-Aug-2023	7.3	<1	22	<0.04	0.95	0.01	35	30	6
aGW1u	08-Sep-2023	8.6	<1	<4	<0.04	<0.02	0.01	60	49	14
aGW1u	05-Oct-2023	7.6	1.1	<4	0.04	0.07	<0.01	488	435	84
aGW1u	09-Nov-2023	7.4	<1	7	0.11	<0.02	<0.01	22	11	68
aGW1u	07-Dec-2023	7.5	1.4	20	0.09	0.04	<0.01	613	326	113