

Annual Environmental Report 2017

Agglomeration Name:	Newport
Licence Register No.	D0325-01



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Section 1. Executive Summary and Introduction to the 2017 AER

1.1 Summary Report on 2017

This Annual Environmental Report has been prepared for **D0325-01, Newport**, in County **Tipperary**, 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:

- Storm water overflow assessment

The agglomeration is served by a wastewater treatment plant with a Plant Capacity PE of 1900. The treatment process includes the following:-

- Preliminary Treatment (Automated Screen)
- Secondary Treatment (Conventional Activated Sludge)
- Nutrient Removal (Spent alum dosing to remove phosphorus compounds)

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)

1,041,100kgs total weight liquid sludge was removed from the wastewater treatment plant in 2017. Sludge was transferred to H&L Environmental Services Ltd. Derryville, Moyne, Thurles, Co. Tipperary.

No additional measures have been taken in 2017 in relation to prevention of environmental damage. The need for measures to prevent environmental damage will be reviewed on an annual basis.

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)	Hydraulic Loading (m3/d)
Number of Samples	11	11	11	
Annual Max.	349	683	373	2335
Annual Mean	219.87	461.65	199.50	678.10

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.

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	25.00	125.00	25.00	1.50	3.00	6 to 9
ELV with Condition 2 Interpretation included	50.00	250.00	62.50	1.80	3.60	6 to 9
% Reduction (Schedule A)						
Number of sample results	11	11	11	11	11	11
Number of sample results above WWDL ELV	0	0	0	5	0	0
Number of sample results above ELV with Condition 2 Interpretation	0	0	0	5	0	0
Annual Mean (for parameters where a mean ELV applies)						
Overall Compliance (Pass/Fail)	Pass	Pass	Pass	Fail	Pass	Pass

Significance of results

The WWTP was non-compliant with the ELV's set in the wastewater discharge licence. One sample was non-compliant with the ELVs in relation to Ortho P / MRP (mg/l). The non-compliance is due to WWTP upgrade required to meet orthophosphate ELV. 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	171667, 161622	RS25N020290				
Downstream Monitoring Point	170972, 161624	RS25N020320	No	No	No	No

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	2.6	0.018	0.007			
Downstream Monitoring Point	Good	2.55	0.019	0.015			
Difference between Upstream and Downstream		-0.05	0.001	0.008			
EQS		2.6	0.075	0.14			
% of Eqs		-1.92%	1.3%	5.71%			

The results for the upstream and downstream 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 meet the EQS required.
- The discharge from the wastewater treatment plant does not have an observable negative impact on the water quality.
- The discharge from the WWTP has no 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 < 100000

Section 3. Operational Reports Summary

3.1 Treatment Efficiency Report

	cBOD (kg/yr)	COD (kg/yr)	SS (kg/yr)
Influent mass loading (kg/year)	126,710	266,051	114,973
Effluent mass emission (kg/year)	4,085	20,890	8,990
% Efficiency (% reduction of influent load)	97%	92%	92%

3.2 Treatment Capacity Report

Table 3.2 - Treatment Capacity Report Summary

Hydraulic Capacity – Design / As Constructed (dry weather flow) (m3/day)	413
Hydraulic Capacity – Design / As Constructed (peak flow) (m3/day)	1,238
Hydraulic Capacity – Current loading (m3/day)	678
Hydraulic Capacity – Remaining (m3/day)	560
Organic Capacity - Design / As Constructed (PE)	1,900
Organic Capacity - Collected Load (PE)	2,733
Organic Capacity – Remaining (PE)	-833
Will the capacity be exceeded in the next three years? (Yes / No)	Yes

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	Unknown	Estimated
Load collected in the sewer network but discharges without treatment (includes SWO, EO, and any discharges that are not treated)	Unknown	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

A summary of complaints of an environmental nature is included below.

Table 3.4 - Complaints Summary Table

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
3	Blocked sewer causing flooding	0	3

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)
Breach of ELV	Effluent exceeded Orthophosphate ELV on 5 occasions in 2017.	WWTP not designed for P removal	1	Yes	Irish Water are aware of the issue and are preparing to install Ferric dosing at the plant.	n/a	Yes	No

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	1
Number of Incidents reported to the EPA via EDEN in 2017	1
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	Quantity	P.E.	% of load to WWTP	Included in Influent Monitoring? (Y/N)	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 m3	0	0.00%	No	No	No	n/a
Waterworks Sludge	750 m3	<100	1.00%	No	Yes	No	n/a
Industrial / Commercial Sludge	0 m3	0	0.00%	No	No	No	n/a
Landfill Leachate (delivered by tanker)	0 m3	0	0.00%	No	No	No	n/a
Landfill Leachate (delivered by sewer network)	0 m3	0	0.00%	No	No	No	n/a
Other (specify)	0 m3	0	0.00%	No	No	No	n/a

Section 4. Infrastructure Assessments and Programme of Improvements

4.1 Storm water overflow identification and inspection report

The Storm Water Overflow Identification & Inspection report is included in the Appendix. A summary of the significance and operation is included below.

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
TPEFF2800D 0325SW003	172343 161983	Yes	Unknown	Unknown	unknown	unknown	unknown	Estimated
TPEFF2800D 0325SW005	171300 161577	Yes	Unknown	Unknown	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 2017?	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 relevant WWDL Schedules (Yes/No)	Yes
Have the EPA been advised of any additional SWOs / changes to Schedules A/C under Condition 1 ?	No

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

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	Licence Schedule	Licence Completion Date	Date Expired	Status of Works	% Construction Work Completed	Expected Completion Date	Comments
Improvements to meet ELVs as specified in Schedule A	C	31/12/2015	Yes	At planning stage	0	Unknown	Newport is on Irish Water's Capital Investment Programme
Improvements works may be required to increase the organic and hydraulic treatment capacity of the plant to ensure compliance with condition 1.7	C	31/12/2015	Yes	At planning stage	0	Unknown	Newport is on Irish Water's Capital Investment Programme

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 / Name	Improvement Description	Improvement Source	Progress (% complete)	Expected Completion Date	Comments
None					

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	2015 AER	n/a	
Environmental Risk Assessment Score	Low	240	2015 AER	n/a	
Structural Risk Assessment Score	High	140	2015 AER	n/a	
Operation & Maintenance Risk Assessment Score	Low	20	2015 AER	n/a	
Overall Risk Score for the agglomeration	Low	500	2015 AER	n/a	The overall assessment is probably medium risk

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 2016
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 impact on the receiving waters is anticipated.
Drinking Water Abstraction Point Risk 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
Habitats Impact Assessment	n/a	n/a

5.1 Priority Substances Assessment

The Priority Substance Assessment Report was submitted previously in AER 2016. 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?	Desk Top 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?	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?	No
Recommendations	No impact on the receiving waters is anticipated.
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?	N/A
Ensure the following reports are included	Storm water overflow assessment

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: 05/03/2018

Michael O'Leary
Acting Head of Environmental Regulation

Section 7. Appendices

Appendix 7.1 Statement of Measures / Improvement Programme

No additional measures have been taken in 2017 in relation to prevention of environmental damage. The need for measures to prevent environmental damage will be reviewed on an annual basis.

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)	
21-Feb-2017	< 0.01	0.02	3.40				7.23	
1-June-2017	0.01	0.02	2.10				7.97	
15-Aug-2017	< 0.01	0.02	2.80				7.87	
7-Dec-2017	< 0.01	0.02	2.10				7.93	
Mean	0.013	0.018	2.600				7.750	
95%ile	0.013	0.019	3.310				7.964	

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)	
21-Feb-2017	< 0.01	0.02	3.20				7.34	
1-June-2017	0.02	0.03	1.90				7.93	
15-Aug-2017	< 0.01	0.02	3.00				7.91	
7-Dec-2017	0.01	0.02	2.10				7.92	
Mean	0.015	0.019	2.550				7.775	
95%ile	0.017	0.024	3.170				7.929	

Storm water overflow assessment

Storm Water Overflow Assessment

Agglomeration Name:	Newport
Licence Register No.	D0325-01



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1 Introduction

This report has been prepared for D0325-01, Newport, in County Tipperary in accordance with the requirements of Condition 3.6 of the wastewater discharge licence for the agglomeration. This report identifies storm water overflows within the agglomeration and assesses the compliance of the storm water overflows with the criteria set out in the DoEHLG document on ‘*Procedures and Criteria in Relation to Storm Water Overflows*’, 1995.

There are 2Nr. SWOs within the agglomeration. These are listed in Table 1.

Table 1: Storm Water Overflows in the Agglomeration

Licence Code	Discharge Location		Receiving Water Name and WFD Code	WFD Status of Receiving Water	Other designation of receiving water
	Easting	Northing			
TPEFF2800D03 25SW003	E 172343	N 161988	Newport (Tipperary) River IE_SH_25_320	Good	Lower River Shannon SAC
TPEFF2800D03 25SW005	E 171300	N 161577	Newport (Tipperary) River IE_SH_25_320	Good	Lower River Shannon SAC

A storm water overflow assessment is required to comply with the requirements of the wastewater discharge licence condition as detailed below.

Condition 3.6 - Storm Water Overflows

3.6 Storm water overflows shall be as specified in Schedule A.3: Storm Water Overflows, of this licence. The licensee shall carry out an investigation to identify any additional storm water overflows within the waste water works as part of the programme of improvements. The Agency shall be notified in writing of any additional storm water overflows not listed in Schedule A.3: Storm Water Overflows, of this licence. All storm water overflows shall be in compliance with the criteria for storm water overflows, as set out in the DoECLG ‘Procedures and Criteria in Relation to Storm Water Overflows’, 1995 and any other guidance as may be specified by the Agency.

2 Storm Water Overflow Assessment

2.1 Description of SWOs

There are two SWOs within the Newport agglomeration. They are located at:

- Mulkear View Housing Estate (TPEFF2800D0325SW003), Newport: discharges directly into Newport River.

- Inlet works at Newport WWTP (TPEFF2800D0325SW005), Newport: discharges directly into Newport River. There is an automated screen at the inlet works. The WWTP is currently operating above its design capacity.

2.2 Assessment of Operating Criteria of SWOs

The following criteria for each SWO on the network have been examined in accordance with the assessment criteria set out in *Procedures and Criteria in Relation to Storm Water Overflows* in order to determine possible capacity constraints.

1. Does the SWO cause significant visual or aesthetic impact and public complaints
2. Does the SWO cause deterioration in water quality in the receiving water (i.e. is there a deterioration in ecological quality status attributable to the SWO)
3. Does the SWO gives rise to failure in meeting the requirements of national regulations on foot of EU Directives (e.g. bathing water quality standards, shellfish water quality standards, Water Framework Directive status etc.),
4. Does the SWO operate in dry weather.

Table 2: Assessment of Operating Criteria

CSO Ref	Causes significant visual or aesthetic impact and public complaints.	Causes deterioration in water quality in the receiving water	Gives rise to failure in meeting the requirements of national Regulations on foot of EU Directives.	Operates in dry weather	Compliant / Non-Compliant
TPEFF2800D0325SW003	Unknown	No Unlikely as the receiving water has a Water Quality of Q4 immediately upstream and downstream of the SWO	No	Unknown	Unknown
TPEFF2800D0325SW005	Unknown	No Unlikely as the receiving water has a Water Quality of Q4 immediately upstream and downstream of the SWO	No	Unknown	Unknown

2.3 Assessment of Design Criteria of SWOs

2.3.1 Compliance with Formula A

Information on the Newport network was not available to complete the Formula A calculation.

2.3.2 Significance of Spill

Monitoring information in relation to frequency and duration of overflows is not available.

The significance of overflows to inland freshwaters has been assessed as follows:

<p>Low Significance: >8:1 Dilutions in Receiving water (average SWO DWF / 95%ile river flow) No interaction with other discharges</p>
<p>Medium Significance - only if all these criteria apply. Dilution < 8 : 1 Limited or no interaction with other discharges > 2,000 population equivalent Cyprinid fishery</p>
<p>High Significance - only if all these criteria apply. Dilution < 2 : 1 Interaction with other discharges > 10,000 population equivalent Cyprinid or salmonid fishery</p>

Table 3: Assessment of Significance

CSO Ref	Dilution	PE Range	Designation of Receiving Water	Significance
TPEFF2800D03 25SW003	Unknown	< 2,000	Lower River Shannon SAC	Unknown
TPEFF2800D03 25SW005	Unknown	< 2,000	Lower River Shannon SAC	Unknown

2.4 Assessment of Requirement for Storage

The necessity for a storm tank within the sewer network has been assessed based on available dilution as detailed in Table 3 (from Procedures and Criteria in Relation to Storm Water Overflows) included as Table 4 below. The requirement for a storm tank at a wastewater treatment plant shall be based on an overflow setting of 3 DWF.

Table 4 – SDD Method Recommended Storage at Overflows¹

Dilution Factor ²	Overflow Setting	Storage Tank
> 8	Formula A	None
> 6	Formula A + 455 P or Formula A	None 40 l/PE
> 4	Formula A	40 l/PE
> 2	Formula A	80 l/PE
> 1	Formula A	120 l/PE

1. Table 3 extracted from Procedures and Criteria in Relation to Storm Water Overflows

2. Dilution factor = average DWF / 95%ile river flow

Table 5 – Stormwater Storage within Agglomeration

CSO Ref	Dilution Factor ¹	Required Overflow Setting (l/s)	Actual Overflow Setting (l/s)	Required Storage Tank Volume	Actual Storage Tank Volume	Compliant / Non-Compliant
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				(m ³)	(m ³)	
TPEFF2 800D032 5SW003	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
TPEFF2 800D032 5SW005	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown

1. Dilution factor = average DWF / 95%ile river flow

3 Remedial Measures to Ensure Compliance

3.1 Specified Improvement and Improvement Programme Works

There are no specified improvement works or improvement programmes relating to stormwater overflows.

3.2 Additional Measures

The additional measures required, identified in this report are as follows:

- It is not possible to determine the compliance of the various SWOs due to the absence of data. Therefore, further assessment of the agglomeration SWOs is required.