Annual Environmental Report

2018

Kilsheelan

D0452-01

CONTENTS

1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0452-01, Kilsheelan, in Tipperary 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 TREATMENT SUMMARY

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

- Poulakerry WWTP with a Plant Capacity PE of 20
- Kilsheelan WWTP with a Plant Capacity PE of 1000

The treatment process includes the following:

1.1.1 POULAKERRY WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	No	
Primary Treatment	Yes	Septic tank
Secondary Treatment	No	
Nutrient Removal	No	
Tertiary Treatment	No	

1.1.2 KILSHEELAN WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Automatic Inlet Screen
Primary Treatment	Yes	Inlet sump
Secondary Treatment	Yes	Activated Sludge Process
Nutrient Removal	Yes	Chemical dosing
Tertiary Treatment	No	

1.2 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
TPEFF2900D0452SW001	Poulakerry WWTP	Treated	No influent or effluent sampling was carried out in 2018	Not Applicable
TPEFF2900D0452SW001	Kilsheelan WWTP	Treated	Compliant	Not Applicable

1.3 LICENCE SPECIFIC REPORTING INCLUDED IN AER

Assessment / Report	Included in AER
No Licence specific reports are included in the AER	No

2 TREATMENT PLANT PERFORMAND AND IMPACT SUMMARY

2.1 POULAKERRY WWTP - TREATED DISCHARGE

2.1.1 INFLUENT MONITORING SUMMARY - POULAKERRY 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
There is no Influent data included in the AER. No influent or effluent sampling was carried out in 2018			

2.1.2 EFFLUENT MONITORING SUMMARY - TPEFF2900D0452SW007

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 with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
There is no Effluent data included in the AER. No influent or effluent sampling was carried out in 2018								

2.1.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE

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	Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	229971, 127146	TPEFF2900D0452SW001	No	No	Yes	No	Good
Downstream	229301, 123007	TPEFF2900D0452SW001	No	No	Yes	No	Good

Significance of Results:

No ambient monitoring was carried out for the secondary discharge in 2018

2.1.4 OPERATIONAL PERFORMANCE SUMMARY

2.1.4.1 Treatment Efficiency Report - Poulakerry

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)	Comment
There is no Treatment Efficiency data included in the AER.				

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

2.1.4.2 *Treatment Capacity Report Summary - Poulakerry*

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.

Poulakerry WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	251
DWF to the Treatment Plant (m3/day)	251
Current Hydraulic Loading - annual max (m3/day)	251
Average Hydraulic loading to the Treatment Plant (m3/day)	251
Organic Capacity (PE) - As Constructed	20
Organic Capacity (PE) - Collected Load (peak week)	889
Organic Capacity (PE) - Remaining	0
Will the capacity be exceeded in the next three years? (Yes/No)	Yes

2.1.5 SLUDGE / OTHER INPUTS

'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.							

2.1.6 SLUDGE REMOVAL

The amount of sludge removed from the wastewater treatment plant is shown below along with the transported destination of the sludge from the treatment plant.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
Poulakerry WWTP	Liquid Sludge	120	Volume (m3)	1	Carrick WWTP

2.2 KILSHEELAN WWTP - TREATED DISCHARGE

2.2.1 INFLUENT MONITORING SUMMARY - KILSHEELAN 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
Total Nitrogen	12	57.1	29.62
Suspended Solids	12	382	194.31
Total Phosphorus (as P)	12	8.6	3.67
BOD, 5 days with Inhibition (Carbonaceous BOD)	12	420	159.45
COD-Cr	12	694	326.56
Hydraulic Capacity	N/A	724	284

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.

2.2.2 EFFLUENT MONITORING SUMMARY - TPEFF2900D0452SW001

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 with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
COD-Cr	125	250	0	12	0	0	12.73	Pass
Suspended Solids	30	75	0	12	0	0	3.07	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD)	20	40	0	12	0	0	1.78	Pass
Ammonia-Total (as N)	10	12	0	12	0	0	0.59	Pass
ortho-Phosphate (as P) - unspecified	3	3.6	0	12	0	0	0.21	Pass
pH	6-9	6-9	0	12	0	0	7.91	

Cause of Exceedance(s):

Not Applicable

Significance of Results:

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

2.2.3 AMBIENT MONITORING SUMMARY FOR THE TREATMENT PLANT DISCHARGE

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	Code	Bathing Water	Drinking Water	FWPM	Shellfish	WFD Status
Upstream	229971, 127146	TPEFF2900D0452SW001	No	No	Yes	No	Good
Downstream	229301, 123007	TPEFF2900D0452SW001	No	No	Yes	No	Good

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

Significance of Results:

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

The ambient monitoring results meet the required EQS.

The discharge from the wastewater treatment plant does not have an observable impact on the water quality.

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

Other Potential causes of deterioration in water quality relevant to this area are: None

2.2.4 OPERATIONAL PERFORMANCE SUMMARY

2.2.4.1 Treatment Efficiency Report

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)	Comment
cBOD	15733.45	175.41	98.89	
TP	362.25	28.39	92.16	
COD	32331.77	1255.9	96.1	
SS	19772.45	303.13	98.42	
TN	2923.10	1408.54	51.81	

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

2.2.4.2 Treatment Capacity Report Summary

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.

Kilsheelan WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	675
DWF to the Treatment Plant (m3/day)	225
Current Hydraulic Loading - annual max (m3/day)	724

Average Hydraulic loading to the Treatment Plant (m3/day)	284
Organic Capacity (PE) - As Constructed	1000
Organic Capacity (PE) - Collected Load (peak week)	962
Organic Capacity (PE) - Remaining	38
Will the capacity be exceeded in the next three years? (Yes/No)	No

2.2.5 SLUDGE / OTHER INPUTS

'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.							

2.2.6 SLUDGE REMOVAL

The amount of sludge removed from the wastewater treatment plant is shown below along with the transported destination of the sludge from the treatment plant.

Treatment Plant	Sludge type	Quantity	Unit	% Dry Solids	Destination
Kilsheelan WWTP	Liquid Sludge	502.64	Weight (Tonnes)	2	Clonmel WWTP

3 COMPLAINTS AND INCIDENTS

3.1 COMPLAINTS SUMMARY

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

Number of Complaints	Nature of Complaint	Number Open Complaints	Number Closed Complaints
2	Blocked Sewer	0	2

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 Irish Water 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	No. of incident occurrences	Recurring (Y/N)	Closed (Y/N)
There is no Incident data included in the AER.				

3.2.2 SUMMARY OF OVERALL INCIDENTS

Question	Answer
Number of Incidents in 2018	0
Number of Incidents reported to the EPA via EDEN in 2018	0
Explanation of any discrepancies between the two numbers above	

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	Irish Grid Ref.	Included in Schedule A4 of the WWDL	Significance of the overflow(High / Medium / Low)	Assessed against DoEHLG Criteria	No. of times activated in 2018 (No. of events)	Total volume discharged in 2018 (m3)	Monitoring Status
SW2	229206, 123047	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW3	229206, 123047	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW4	228824, 123193	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW5	228633, 123244	Yes	Low	Meeting	Unknown	Unknown	Not Monitored
SW6	228144, 123467	Yes	Low	Meeting	Unknown	Unknown	Not Monitored

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	Unknown
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?	No

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 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
D0452-SIP:01	Cease the discharge from SW7 (229029E 123134N), to River Suir	C	30/06/2012	Yes	Not Started		The improvement programme will be reviewed by Irish Water to assess the works required to comply with the licence condition on a prioritised basis

D0452-SIP:02	Relocate primary discharge point SW1 to River Suir, 226206E 123047N	C	30/06/2012	Yes	Works Completed		

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

4.2.2 IMPROVEMENT PROGRAMME SUMMARY

Improvement Identifier	Improvement Description	Improvement Source	Expected Completion Date	Comments
There are no Improvements Programme for this Agglomeration.				

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 Table.

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 list of the various reports required for this agglomeration and a brief summary of their recommendations.

5.a Licence Specific Reports Summary Table

Licence Specific Report	Required by licence	Year included in AER	Included in this AER	Reference to relevant section of AER
Priority Substances Assessment	Yes	No	No	To be prepared and submitted in 2019 AER

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?	No
List reason e.g. additional SWO identified	
Is there a need to request/advise the EPA of any modifications to the existing WWDL?	No
List reason e.g. changes to monitoring requirements	
Have these processes commenced?	
Are all outstanding reports and assessments from previous AERs included as an appendix to this AER	No – Priority Substances assessment to be completed

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

Signed: Date: 29/04/2019

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

Eleanor Roche

Acting Head of Environmental Regulation.

7 APPENDIX

Appendix
Appendix 7.1 - Ambient monitoring summary

Kilsheelan Ambient Monitoring Data 2018

								Parameter	Ammonia N	Biological Oxyg	COD Chemical	Dissolved Oxyg	Ortho-Phospha	pH	TN	Temperature
								Max.	--	--	--	--	--	--	--	--
								Min.	--	--	--	--	--	--	--	--
								Test Method	--	--	--	--	--	--	--	--
Category	Entity	Station	Station Reference	Easting	Northing	Sample Referer	Sample Date	Analyst Conclu	mg/l	mg/l	mg/l	mg/l	mg/l	pH units	mg/l	Degrees C
Ambient Monitoring	River Suir	Upstream @ Kilsheelan WWTP	RS16S022710	229138	123062	18550182	19/02/2018	-	0.04	3			0.02	7.9	2.9	8.5
Ambient Monitoring	River Suir	Downstream @ Kilsheelan WWTP	RS16S022720	229303	123029	18550183	19/02/2018	-	0.04	1			0.02	8	3.1	8.6
Ambient Monitoring	River Suir	Upstream @ Kilsheelan WWTP	RS16S022710	229138	123062	18550182	25/07/2018	-	0.11	2		12.39	0.02	8.2	3.2	19.2
Ambient Monitoring	River Suir	Downstream @ Kilsheelan WWTP	RS16S022720	229303	123029	18550183	25/07/2018	-	0.03	2		12.56	0.02	7.4	3.1	19.1