Annual Environmental Report

2018

Killorglan

D0182-01

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1 EXECUTIVE SUMMARY AND INTRODUCTION TO THE 2018 AER

This Annual Environmental Report has been prepared for D0182-01, Killorglan, in Kerry in accordance with the requirements of the wastewater discharge licence for the agglomeration. Specified reports are included as an appendix to the AER as follows:

1.1 Licence specific reporting included in AER

Assessment / Report	Included in AER
There is no Licence Specific Reports included in the AER.	

1.2 Treatment Type

The agglomeration is served by a wastewater treatment plant Killorglin WWTP with a Plant Capacity PE of 5000. The treatment process includes the following:

1.2.1 Killorglin WWTP

Treatment type	Yes / No	Details
Preliminary Treatment	Yes	Prelimenary Screening
Primary Treatment	Yes	Surface Aeration
Secondary Treatment	Yes	Final Settlement
Nutrient Removal	No	
Tertiary Treatment	No	

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 2.2 Discharges from the agglomeration.

1.3 ELV Overview

1.3.1 Killorglin WWTP

Compliance Status	
Were all parameters compliant for Killorglin WWTP treatment plant	Yes
Where noncompliant see table 2.2.1 for details of parameters	

1.4 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
Killorglin WWTP	Cake Sludge	71.4	Weight (Tonnes)	18.5	ENVA

Annual Statement of Measures

No capital works undertaken in 2018

2 MONITORING REPORTS SUMMARY

2.1 Summary report on monthly influent monitoring

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

2.1.1 Influent Monitoring Summary - Killorglin WWTP

Parameters	Number of Samples	Annual Max	Annual Mean
Suspended Solids mg/l	12	226	92.73
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	12	194	84.99
COD-Cr mg/l	12	350	189.98
Hydraulic Capacity	0	3954	2233.31

If other inputs in the form of sludge / leachate are added to the WWTP then these are included in Section 3.5 if applicable

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 tretament plant allows for peak values and therefore the peak loads have not impacted on compliance with Emission Limit Values.

2.2 Discharges from the agglomeration

2.2.1 Effluent Monitoring Summary - Killorglin WWTP

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Nitrate (as N) mg/l	0	0	0	1	0	0	2.27	Pass
Total Oxidised Nitrogen (as N) mg/l	20	24	0	11	0	0	3.36	Pass
BOD, 5 days with Inhibition (Carbonaceous BOD) mg/l	25	50	0	12	0	0	4.51	Pass
Odour Descriptive	0	0	0	1	0	0	0	Pass
Total Phosphorus (as P) mg/l	0	0	0	1	0	0	0.58	Pass
Visual Inspection Descriptive	0	0	0	12	0	0	0	Pass
Suspended Solids mg/l	35	87.5	0	12	0	0	9.43	Pass
Enterococci (Intestinal) no./100mls	0	0	0	2	0	0	2135.48	Pass
ortho-Phosphate (as P) - unspecified mg/l	8	9.6	0	12	0	0	0.75	Pass
pH pH units	0	0	0	12	0	0	7.14	Pass

Parameter	WWDL ELV (Schedule A)	ELV with Condition 2 Interpretation included Note 1	Interim % reduction from influent concentration	Number of sample results	Number of exceedences	Number of with Condition 2 Interpretation included	Annual Mean	Overall Compliance (Pass/Fail)
Ammonia-Total (as N) mg/l	10	12	0	12	0	0	0.31	Pass
E. Coli no./100mls	0	0	0	2	0	0	12584.02	Pass
Conductivity 20 C µS/cm	0	0	0	10	0	0	257.41	Pass
COD-Cr mg/l	125	250	0	12	0	0	34.47	Pass
Faecal coliforms no./100mls	0	0	0	2	0	0	0	Pass

Notes:
1– This represents the Emission Limit Values after the Interpretation provided for under Condition 2 of the licence is applied
2 - For parameters where a mean ELV applies

Cause of Exceedance(s):

Not Applicable

Significance of Results:

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

2.3 Ambient monitoring summary

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.

2.3.1 Ambient Monitoring Report Summary - Killorglin WWTP

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	77856, 96817	TPEFF1300D0182SW001	No	No	No	Yes	Unassigned
Downstream	78561, 97600	TPEFF1300D0182SW001	No	No	No	Yes	Unassigned

2.3.2 Ambient Monitoring Parameter Summary - Killorglin WWTP

The table below provides a summary of monitoring results for designated ambient monitoring points. The upstream and downstream annual mean values are shown (mg/l), and the difference between both monitoring stations is given as a percentage of the Environmental Quality Standard (EQS) where relevant.

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
pH pH units	RS22L010510	7.38	RS22L010540	7.47		
Conductivity 20 C µS/cm	RS22L010510	130	RS22L010540	130		
BOD - 5 days (Total) mg/l	RS22L010510		RS22L010540	0.83	2.6	
Salinity(Lab) 0/oo	RS22L010510	0	RS22L010540	0		
Dissolved Oxygen mg/l	RS22L010510	11.1	RS22L010540	11.05		
ortho-Phosphate (as P) - unspecified mg/l	RS22L010510	0.02	RS22L010540	0.01	0.08	-9.3
Enterococci (Intestinal) no./100mls	RS22L010510	75.5	RS22L010540	994		

Parameter Name	Upstream Monitoring Point Location	Upstream Monitoring Point Annual Mean	Downstream Monitoring Point Location	Downstream Monitoring Point Annual Mean	EQS	% of EQS
Total Oxidised Nitrogen (as N) mg/l	RS22L010510	0.55	RS22L010540	0.57		
Faecal coliforms no./100mls	RS22L010510	256	RS22L010540	904		
Temperature °C	RS22L010510	12.38	RS22L010540	11.5		
Suspended Solids mg/l	RS22L010510	3	RS22L010540	9		
E. Coli no./100mls	RS22L010510	176.5	RS22L010540	353.5		
Dissolved Inorganic Nitrogen (as N) mg/l	RS22L010510	0.53	RS22L010540	0.5		
Dissolved Oxygen % Saturation	RS22L010510	96.78	RS22L010540	97.79		
Ammonia-Total (as N) mg/l	RS22L010510	0.05	RS22L010540	0.03	0.14	-17.5
COD-Cr mg/l	RS22L010510	15	RS22L010540	10		
Salinity 0/oo	RS22L010510	0	RS22L010540	0		

Significance of Results:

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

The parameters which exceeded the EQS and may be causing an are: None.

Any other know impacts: The EQS assessed relates to the Oxygenation and Nutrient Conditions set out in the Surface Water Regulations 2009, as amended.

3 OPERATIONAL REPORTS SUMMARY

3.1 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:

3.1.1 Treatment Efficiency Report Summary - Killorglin WWTP

Parameter	Influent mass loading (kg/year)	Effluent mass emission (kg/year)	Efficiency (% reduction of influent load)	Comment
TP		758.06		
cBOD	74000.13	3867.18	94.77	
TN				
COD	165423.41	29552.96	82.13	
SS	80739.58	8086.18	89.98	

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

3.2 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.

Killorglin WWTP	
Peak Hydraulic Capacity (m3/day) - As Constructed	11250

Killorglin WWTP	
DWF to the Treatment Plant (m3/day)	3750
Current Hydraulic Loading - annual max (m3/day)	3954
Average Hydraulic loading to the Treatment Plant (m3/day)	2233.31
Organic Capacity (PE) - As Constructed	5000
Organic Capacity (PE) - Collected Load (peak week)	4284
Organic Capacity (PE) - Remaining	716
Will the capacity be exceeded in the next three years? (Yes/No)	No

3.3 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
4	Blocked Sewer	1	3

3.4 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.

3.4.1 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.				

3.4.2 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	

3.5 Sludge / Other inputs to the 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)?[3]	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP?[2](Y/N)
Domestic /Septic Tank Sludge	314	Volume (m3)		0.04	No	No	No
Waterworks Sludge	370	Volume (m3)		0.05	No	No	No
Industrial / Commercial Sludge	726.5	Volume (m3)		0.09	No	No	No

Input type	Quantity	Unit	P.E.	% of load to WWTP	Included in Influent Monitoring (Y/N)?[3]	Is there a leachate/sludge acceptance procedure for the WWTP?	Is there a dedicated leachate/sludge acceptance facility for the WWTP?[2](Y/N)
Landfill Leachate (delivered by tanker)	12.2	Volume (m3)		0.01	No	No	No

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:

No Appendix Included

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
SW003 (INTERIM CODE AS NONE LISTED IN THE LICENCE) (WWTP)	78465, 97626	No	Low	Not yet Assessed			Not Monitored
SW004 (INTERIM CODE AS NONE LISTED IN THE LICENCE) (GLENBEIGH RD.)	76377, 96105	No	Low	Meeting			Not Monitored
SW005 (INTERIM CODE AS NONE LISTED IN THE LICENCE) (KILLARNEY RD.)	79515, 95698	No	Low	Meeting			Not Monitored
SW006 (INTERIM CODE AS NONE LISTED IN THE LICENCE) (STEELROE)	79056, 97573	No	Low	Meeting			Not Monitored
TPEFF1300D0182SW002 (KILLORGLIN BR.)	77832, 96549	No	Medium	Not Meeting			Not Monitored

4.1.2 Inspection Summary Report

SWO Summary	
How much sewage was discharged via SWOs in the agglomeration in the year (m3)?	
Is each SWO identified as non meeting DoEHLG Guidance included in the Programme of Improvements?	No
The SWO Assessment included the requirements of relevant of WWDL schedules?	Yes
Have the EPA been advised of any additional SWOs / charges 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)	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 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 (e.g. Appendix X).
There is no Licence Specific Report Required in this AER Annual Review.				

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	Additional SWOs
Is there a need to request/advise the EPA of any modifications to the existing WWDL?	
List reason e.g. changes to monitoring requirements	
Have these processes commenced?	No
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: 26/03/2019

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

In the appendix include all the detailed or site specific reports that are relevant to the AER. Reports omitted from previous AERs should also be appended here.

Appendix
Appendix 7.1 - Ambient monitoring summary

Killorglin	WWTP Ambient Monitoring	Name of Receiving Water	Sampling Point Description	EDEN Code	Monitoring Location Easting/Northing	Upstream/Downstream	Sample Reason	Sampling Method	Sample ID No.	Sample Date	Sample Time	Name of Sample Collector	Laboratory Used (KCC/S.Scientific)	Visual Inspection	pH	BOD	COD	SS	Total P	Ortho P	Total N	NH3-N	TON	Faecal Coli	E. coli	Enterococci	Dissolved Inorganic Nitrogen	Temperature (degree C)	Dissolved Oxygen	Salinity
Killorglin	WWTP Ambient Monitoring	River Laune	River	RS22L010510	E77856 N96817	Upstream	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	WW0413	14/02/2018	10:00	John Horgan	KCC	Normal	7.1	<1.3		2		0.01		<0.05	0.62				0.64	7.3	94.40%	0
Killorglin	WWTP Ambient Monitoring	River Laune	River	RS22L010540	E78561 N97639	Downstream	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	WW0414	14/02/2018	10:15	John Horgan	KCC	Normal	7.1	<1.3		<1		0.01		<0.05	0.5				0.52	8.4	92.30%	0
Killorglin	WWTP Ambient Monitoring	River Laune	River	RS22L010510	E77856 N96817	Upstream	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	C18-may 193	09/05/2018	13:00	John Horgan	SSS	Normal	7.2	<1.0	15	<2		<0.01		<0.02		41	74	41	0.53	11.5	98%	0
Killorglin	WWTP Ambient Monitoring	River Laune	River	RS22L010540	E78561 N97639	Downstream	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	C18-may 194	09/05/2018	12:45	John Horgan	SSS	Normal	7.2	<1.0	10	<2		<0.01		<0.02		201	228	20	0.53	12.3	99.10%	0
Killorglin	WWTP Ambient Monitoring	River Laune	River	RS22L010510	E77856 N96817	Upstream	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	WW2466	22/08/2018	12:00	John Horgan	KCC	Normal	7.3	<1.3		4		0.02		<0.05	<0.5				0.43	18.7	91.60%	0
Killorglin	WWTP Ambient Monitoring	River Laune	River	RS22L010540	E78561 N97639	Downstream	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	WW2467	22/08/2018	12:15	John Horgan	KCC	Normal	7.4	<1.3		4		0.01		<0.05	<0.5				0.45	18.5	91.40%	0
Killorglin	WWTP Ambient Monitoring	River Laune	River	RS22L010510	E77856 N96817	Upstream	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	C18-NOV-116	06/11/2018	13:45	John Horgan	SSS	Normal	7.9	<1.0		<4		<0.01		0.05	0.47	471	279	110	0.52	12	103.40%	0
Killorglin	WWTP Ambient Monitoring	River Laune	River	RS22L010540	E78561 N97639	Downstream	SAMPLETYPE_COMPLIANCE	SAMPLINGMETHOD_DAY_GRAB	C18-NOV-117	06/11/2018	13:30	John Horgan	SSS	Normal	7.8	1.8		14		<0.01		0.06	0.44	1607	479	1968	0.5	11.7	103.70%	0