



## OFFICE OF CLIMATE, LICENSING & RESOURCE USE

### INSPECTORS REPORT ON A WASTE WATER DISCHARGE LICENCE APPLICATION

To:	Dara Lynott, Director	
From:	Yvonne English	Environmental Licensing Programme
Date:	21 <sup>st</sup> May 2014	
RE:	Application for a Waste Water Discharge Licence from Irish Water, for the agglomeration named Tipperary Town, Reg. No. D0146-01.	

#### Application Details

Schedule of discharge licensed:	Discharges from agglomerations with a population equivalent of 2,001 to 10,000.
Licence application received:	22/09/2008
Notices under Regulation 18(3)(b) issued:	3/3/2010, 23/5/2012
Information under Regulation 18(3)(b) received:	1/4/2011, 6/3/2013
Site notice check:	16/10/2008
Site Visit:	28/03/2014
Submission(s) Received:	None

#### 1. Agglomeration

This application relates to the agglomeration named Tipperary Town located in Co. Tipperary (See map in Appendix 1).

The WWTP was designed to cater for a population equivalent (p.e.) of 9,800. The existing p.e. served by the wastewater works is 8,732. The influent to the wastewater treatment plant is primarily domestic wastewater, however, the WWTP does accept leachate from the Donohill Landfill. The leachate accepted from Donohill Landfill accounts for 1.3% of the influent to the plant on an annual basis.

The WWTP provides tertiary treatment. The plant consists of an activated sludge process, in an oxidation ditch and includes screening, grit removal and phosphorus removal.

## 2. Discharges to waters

The final treated effluent discharges through the primary discharge point (SW001) to the River Ara. The normal flow from the WWTP is 4668m<sup>3</sup>/day, while the maximum discharge from the WWTP is 7424m<sup>3</sup>/day. The final treated effluent quality from the WWTP in 2011 was within the limits prescribed in the Urban Wastewater Treatment Regulations (BOD 25mg/l, COD 125mg/l and suspended solids 35mg/l). The effluent monitoring results for 2012 for BOD, COD and suspended solids were on average 2.25mg/l, 17.16mg/l and 5.55mg/l, respectively.

There are no secondary discharge points within the agglomeration.

There are 2 stormwater overflows within the agglomeration. They are located at the inlet to the WWTP and on Abbey Street and discharge to the River Ara. The licence, as drafted, requires that the stormwater overflow must conform with the criteria 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. The programme of infrastructural improvements required under Condition 5 of the RL requires an assessment of all storm water overflows (Condition 5.2.3) and preparation of an implementation plan as necessary (Condition 5.3).

*Schedule A: Discharges & Discharge Monitoring* of the recommended licence (RL) specifies the Emission Limit Values (ELVs) to which the discharge from the Tipperary Town agglomeration must conform. The ELVs are aimed at providing a high degree of protection to the receiving water body. Monitoring of the discharges will take place as per this schedule of the RL.

## 3. Receiving waters and impact

The following table summarises the main considerations in relation to the River Ara downstream of the primary discharge.

Table 1: Receiving waters

Characteristic	Classification	Comment
Receiving water name and type	River Ara	(WFD Code: IE_SE_16_1127)
Applicable Regulations	UWWT Regulations <sup>Note 1</sup>	In compliance (2011)
	Surface Water Regulations <sup>Note 2</sup>	Not in compliance
Designations	Lower River Suir SAC	SAC (Site code: 002137) (Approximately 15km d/s)
Receiving water monitoring stations	Nr Railway Br Tipperary Town (EPA RS Code: RS16A030300)	Distance u/s of SW001 on River Ara – approx. 225m
	Br nr Cordangan Manor (EPA RS Code: RS16A030400)	Distance d/s of SW001 on River Ara – approx. 2.8km
Biological quality rating (Q value)	Q3 (Poor Status) (2011) (EPA RS Code: RS16A030300)	Approximately 225 meters u/s of WWTP on River Ara
	Q3-4 (Moderate Status) (2011) (EPA RS Code: RS16A030440)	Approximately 4.5km d/s of WWTP on River Ara
WFD status	Poor	Restore by 2021
WFD Risk Category	1a	At risk of not achieving good status

Note 1: Urban Wastewater Treatment Regulations, 2001as amended.

Note 2: European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended.

The Aherlow Water Management Action Plan (WMUAP) identifies the WWTP in Tipperary Town as a point pressure on the River Ara catchment.

The Office of Environmental Assessment (OEA) carried out upstream and downstream ambient monitoring for a number of years. The monitoring results indicate that the receiving water is not in compliance with the physicochemical limit set for Orthophosphate in the European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended.

Table 2: Mass Balance Calculations.

Parameter	Background Concentration (mg/l)	Proposed ELVs for discharge from SW001 (mg/l)	Contribution from primary discharge (mg/l)	Predicted downstream concentration (mg/l)	Relevant standard (mg/l)
BOD	1.74	2.5	0.49	2.23	2.6 <sup>Note 2</sup>
Orthophosphate	0.005 <sup>Note 1</sup>	0.1	0.061	0.066	0.075 <sup>Note 2</sup>
Total Ammonia	0.079	0.15	0.041	0.12	0.14 <sup>Note 2</sup>

Note 1: Notional clean river values for mass balance based on 1/5<sup>th</sup> of the mean "High Status" standard in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

Note 2: European Communities Environmental Objectives (Surface Waters) Regulations 2009, as amended.

Mass balance calculations were carried out using the monitoring information provided by OEA, i.e. Aquarius. The 95<sup>th</sup>ile flow in the River Ara at EPA monitoring station 16047 is 0.03m<sup>3</sup>/s. The mass balance calculations are based on the 95<sup>th</sup>ile flow in the receiving water, the mean background concentration of each parameter in the receiving water, the normal effluent discharge rate and the maximum permitted concentration of the parameter in the effluent (Table 2).

The upstream background concentration of orthophosphate exceeded the EQS set in the *European Communities Environmental Objectives (Surface Water) Regulations, 2009*, (as amended). The 'notional clean river' approach (formulated by the Office of Environmental Assessment) has been taken for orthophosphate, whereby other sources of upstream pollution will be dealt with separately. The purpose of the mass balance calculations is to show the impact of the discharge with respect to water quality standards. The sources which give rise to the background concentrations are outside the control of this licence. The South Eastern River Basin Management Plan provides details of recommendations and planned measures to reduce pollution in water courses. The WWTP discharge shall not cause deterioration in the water quality status.

The mass balance calculations indicate that the predicted downstream concentrations for BOD, orthophosphate and ammonia are within the physicochemical standards set in the European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended based on the proposed ELVs.

This discharge is between 2,000 and 10,000 p.e., which was required to have secondary treatment in place by 31<sup>st</sup> December 2005, under the Urban Wastewater Treatment Directive. The RL, as drafted, sets emission limit values of 25mg/l BOD, 35mg/l suspended solids and 125mg/l COD, in line with the requirements of the aforementioned Directive. These emission limit values shall apply immediately.

The WWTP at Tipperary Town consists of an activated sludge plant with phosphorous removal which can achieve standards of 15-25mg/l for BOD, 0.5-0.8mg/l for orthophosphate and 2-5mg/l for ammonia in the discharge. Based on the effluent monitoring results for 2012 & 2013 for the Tipperary Town WWTP, and the

requirements of *Schedule A.4 Interpretation of Discharge Monitoring Results*, these standards can be met comfortably.

*Schedule C: Specified Improvement Programme* of the RL requires appropriate improvements at the WWTP to ensure compliance with the proposed ELVs set in the licence by 31<sup>st</sup> December 2019, in accordance with requirement for the receiving water to reach Good Status by 31<sup>st</sup> December 2021. The proposed ELVs of 2.5mg/l for BOD, 0.1mg/l for orthophosphate and 0.15mg/l for ammonia shall apply from 31<sup>st</sup> December 2019.

#### **4. Ambient Monitoring**

*Schedule B: Receiving Water Monitoring* of the RL specifies the parameters, analysis method and frequency for which ambient monitoring of the primary discharge shall be carried out. The requirements for ambient monitoring in *Schedule B: Receiving Water Monitoring* are sufficient to ensure that there will be no deterioration in the status of the receiving water as a result of the discharge.

#### **5. Combined Approach**

The Wastewater Discharge (Authorisation) Regulations, 2007, as amended, specify that a 'combined approach' in relation to licensing of waste water works must be taken, whereby the emission limits for the discharge are established on the basis of the stricter of either or both, the limits and controls required under the Urban Waste Water Treatment Regulations, 2001, as amended, and the limits determined under statute or Directive for the purpose of achieving the environmental objectives established for surface waters, groundwater or protected areas for the water body into which the discharge is made. The RL as drafted gives effect to the principle of the Combined Approach as defined in Wastewater Discharge (Authorisation) Regulations, 2007, as amended.

#### **6. Programme of Improvements**

The WWTP in Tipperary Town provides tertiary treatment for wastewater from the Tipperary Town agglomeration. Condition 5.1 of the RL requires the licensee to prepare and submit to the Agency a programme of infrastructural improvements to maximise the effectiveness and efficiency of the waste water works. The conditions and emission limit values specified in the RL will ensure no deterioration in the quality of the receiving waters as a result of the discharge.

*Schedule C: Specified Improvement Programme* of the RL requires appropriate improvements at the WWTP to ensure compliance with the proposed ELVs set in the licence by 31<sup>st</sup> December 2019.

## **7. Compliance with EU Directives**

In considering the application, regard was had to the requirements of Regulation 6(2) of the Wastewater Discharge (Authorisation) Regulations, 2007, as amended, notably:

### Drinking Water Abstraction Regulations

There are no drinking water abstractions downstream of the discharge from the Tipperary Town WWTP.

### Sensitive Waters

The River Ara is not designated as a sensitive water under the Urban Wastewater Treatment Regulations.

### Water Framework Directive [2000/60/EC]

The RL, as drafted, transposes the requirements of the Water Framework Directive. In particular, *Condition 3: Discharges* provides conditions regulating discharges to waters. *Schedule A: Discharges & Discharge Monitoring* specifies limit values for those substances contained within the waste water discharge. Those limits specified in the RL are determined with the aim of achieving good water quality status by 2021.

### European Communities Environmental Objectives (Surface Water) Regulations 2009, (as amended)

The ambient monitoring data supplied by OEA demonstrates non-compliance in the receiving water with the physico chemical limit set for Orthophosphate in the European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended. The RL, as drafted, includes emission limit values to ensure that the treatment provided by the plant is sufficient to satisfy the European Communities Environmental Objectives (Surface Water) Regulations, 2009, as amended.

### Urban Waste Water Treatment Directive [91/271/EEC]

Tipperary Town WWTP complies with the requirements of the Urban Waste Water Treatment Directive. The RL, as drafted, has regard to the requirements of the Urban Waste Water Treatment Directive.

### Dangerous Substances Directive [2006/11/EC]

The applicant has provided once-off sampling results for 19 of the 19 dangerous substances in the primary discharge for the purposes of the licence application. Condition 4.21 of the RL, as drafted, requires the licensee to identify the priority substances for monitoring by undertaking a risk-based assessment in accordance with "*Guidance on the Screening for Priority Substances for Waste Water Discharge Licences*" issued by the Agency. Monitoring for any identified priority substance shall be carried out as required by the Agency.

### Birds Directive [79/409/EEC] & Habitats Directive [92/43/EEC]

The Tipperary Town WWTP discharges indirectly via a tributary, the River Ara, into the Lower River Suir SAC<sup>1</sup>. The site is protected for priority habitats listed under Annex 1 of the Habitats Directive. It is also selected for protection of species listed under Annex II of the same directive. Tipperary town WWTP discharges into the River Ara approximately 15km upstream of the Lower River Suir SAC. The River Ara flows into the Aherlow River which forms part of the Lower River Suir SAC. The latest EPA monitoring undertaken upstream and downstream of the River Aherlow confluence with the River Ara was considered in terms of the contribution of the discharge from Tipperary Town WWTP towards indirect and cumulative impacts on water quality in the Lower River Suir SAC. 'High Status' (Q4-5) was achieved in 2011 both upstream and downstream of the River Ara and River Aherlow confluence. EPA chemical monitoring results also show that the River Aherlow is in compliance with the physico-chemical standards set for good status in the European Communities Environmental Objectives (Surface Water) Regulations 2009, (as amended) both upstream and downstream of the confluence with the River Ara.

A screening for Appropriate Assessment was undertaken to assess, in view of best scientific knowledge and the conservation objectives of the site, if the activity, individually or in combination with other plans or projects is likely to have a significant effect on a European Site(s). In this context, particular attention was paid to the European sites at Lower River Suir SAC and the Agency considered, for the reasons set out below, that the activity is not directly connected with or necessary to the management of the site as a European Site and that it can be excluded on the basis of objective scientific information, that the activity, individually or in combination with other plans or projects, will have a significant effect on a European site, and accordingly the Agency determined that an Appropriate Assessment of the activity is not required. This determination is based on the proximity of the discharge to the European Site and on the water quality downstream of the discharge.

#### Environmental Impact Assessment Directive [85/337/EEC]

An EIS was not required and should one be required as part of any programme of improvements, it will be dealt with as per Condition 1.8 of the RL.

#### Environmental Liabilities Directive [2004/35/EC]

Condition 7.2 of the RL satisfies the requirements of the Environmental Liabilities Directive in particular those requirements outlined in Article 3(1) and Annex II of 2004/35/EC.

### **8. Cross Office Liaison**

Advice and guidance issued by the Technical Working Group (TWG) was followed in my assessment of this application. Advice and guidance issued by the TWG is prepared through a detailed cross-office co-operative process, with the concerns of all sides taken into account. The Board of the Agency has endorsed the advice and guidance issued by the TWG for use by licensing inspectors in the assessment of wastewater discharge licence applications.

### **9. Submissions**

No submissions were received in relation to this application.

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<sup>1</sup> SAC: Special Area of Conservation designated under the *Habitats Directive*, Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

## **10. Charges**

The RL sets an annual charge for the agglomeration at €7,113.78 and is reflective of the monitoring and enforcement regime being proposed for the agglomeration.

## **11. Recommendation**

I recommend that a Final Licence be issued subject to the conditions and for the reasons as set out in the attached Recommended Licence.

Signed



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Yvonne English

Environmental Licensing Programme

**Annex 1: Map showing location of Tipperary Town WWTP and associated primary discharge point.**

