

## **New County Council**

### **Environmental Liability Risk Assessment & Statement of Measures for Newtown & Environs**

**2010**

**Urban Waste Water Discharge  
Licence D0099-01**

#### **Revision History**

<b>Version</b>	<b>Status</b>	<b>Author</b>	<b>Reviewed By (Grade)</b>	<b>Description</b>	<b>Date</b>
1.0	Draft	D. Smith, Senior Engineer	Director of Service	Initial draft	5-Feb-2010
1.1	Final	D. Smith, Senior Engineer	Director of Service	Final	17-Feb-2010

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## 1 Introduction

This Environmental Liability Risk Assessment relates to the agglomeration of Newtown and Environs. This report has been prepared in compliance with Condition 7.2 of Licence No. D0099-01 which requires the submission of :

- An annual statement as to the measures taken or adopted in relation to the prevention of environmental damage,
- The financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accident/incidents, as may be associated with discharges or overflows from the waste water works
- Environmental Liabilities Risk Assessment (ELRA) to address the liabilities from present or planned discharges. within twelve months of the date of grant of this licence.

### 1.1 Background

The design capacity of the waste water treatment plant is 38,000 population equivalent (p.e.) and the current agglomeration is estimated to be c.33,500 p.e.

The waste water works comprises a network of sewers, pumping stations, associated rising mains and Newtown Waste Water Treatment Plant (WWTP), located to the south of Newtown. The catchment extends from the northern extent of Newtown and drains in a mainly southern direction to the WWTP.

Leachate is imported to the WWTP from Newtown Landfill (Reg. No. W00XX-01) to a designated underground storage tank with a capacity of circa 50m<sup>3</sup> on-site. It has a duty pump out facility discharging to the inlet works of the WWTP

The River from 'Downstream of Newtown sewage outfall to Oldtown Bridge ' is designated as a sensitive water under the *Urban Waste Water Treatment Regulations, 2001 (S.I. No. 254 of 2001)* and the WWTP is required to comply with total phosphorus (2mg/l) limit as the discharge is in to freshwater. The WWTP meets the Total N (15mg/l) limit specified in S.I. No. 254 of 2001. A review of historical monitoring data for the primary discharge indicates that total phosphorus complies with the requirements of S.I. No 254 of 2001 for sensitive waters.

## 2 Environmental Sensitivity and Risk Assessment

The main considerations in relation to the receiving waters for the primary discharge have been identified and given a designated score through the risk enforcement methodology developed by the EPA.

The Dynamic Risk Enforcement Assessment Methodology (DREAM) uses a decision making framework and toolset to assess the risk posed by the primary discharge from waste water agglomerations.

DREAM allocated an enforcement category to waste water agglomerations based on five environmental attributes:

- Level of treatment,
- Discharge compliance,
- Observed impact,
- Possible impact, and
- Enforcement record.

The DREAM map and pivot application may be accessed through the following link:

<https://www.edenireland.ie>

Each waste water agglomeration has been assigned an enforcement category. The DREAM enforcement categories have been assigned the following site specific risk categories:

<b>DREAM Risk Category</b>	<b>Site Specific Risk Categories</b>
A1	Category 3
A2	Category 2
B1	
C1	Category 1

**Table 2: Risk Assessment Form**

Risk ID	Process*	Potential Hazards	Environmental effect	Severity Rating	Basis of Severity	Occurrence Rating	Basis of Occurrence	Risk Score (Severity x Occurrence)
I	Receives 135 m3/day of Leachate during high rainfall. Plant has capacity for 50 m3/day	High BOD/COD shock loading. Possibel Haz substances not metabolised by plant.	Possibility of Eutrophication/toxic effects	4	Could have significant impact on local watercourse	5	No high level alarms on site. Previous poor handling of leachate.	20
II	Underground leachate storage tank 50 m3	Tank failure	Groundwater pollution - baseflow to river	4	Contamination could be ongoing for a period of time if leak not detected. Possible need to pump and treat groundwater	1	Regular inspection and maintenance of tanks	4
III	Above Ground Pipework transporting effluent between tanks	Failure of pipe	Spill on site, groundwater contamination, subsequent impact on watercourses	2	Would be noticed. Duration of event would be very short	2	Pipework inspected regularly. Performance management in place.	4
IV	Chemical dosing Ferric Sulphate	Spill during deliveries	Spill on site, groundwater contamination, subsequent impact on watercourses	3	Ferric Sulphate, high toxicity	3	Valves outside bunds, no high level alarms	9
V	Use of aerator with no redundancy	High BOD discharge	Fishkill potential	4	Previous fishkill	2	Poor maintenance/training	8
VI	Operation of palnt without adequate flood protection measures	Flooding overwhelms plant leading to discharge of all sludge	High BOD Fishkill	4	Potential for Fishkill due to low assimilative capacity	3	1 in 5 year storm could overwhelm plant as bypass system inadequate and plant has flooded in past 3 years	12

**Table 3: Risk Matrix**

<b>Occurrence</b>	<b>V. High</b>	<b>5</b>						
	<b>High</b>	<b>4</b>						
	<b>Medium</b>	<b>3</b>						
	<b>Low</b>	<b>2</b>						
	<b>V. Low</b>	<b>1</b>						
			<b>Trivial</b>	<b>Minor</b>	<b>Moderate</b>	<b>Major</b>	<b>Massive</b>	
			<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	

	These are considered to be high-level risks requiring priority attention. These risks have the potential to be catastrophic and as such should be addressed quickly.
	These are medium-level risks requiring action, but are not as critical as a red coded risk.
	Green (light and dark green) – These are lowest-level risks and indicate a need for continuing awareness and monitoring on a regular basis. Whilst they are currently low or minor risks, some have the potential to increase to medium or even high-level risks and must therefore be regularly monitored and if cost effective mitigation can be carried out to reduce the risk even further this should be pursued.

### 3 Risk Prevention / Mitigation

The risk matrix above indicates that there is one high level of risk classification for the site. Landfill leachate management has been identified as a high risk. Landfill leachate management plans are presently in place and will continue to operate. The management of the leachate is to be reviewed as a matter of urgency with a view to reducing the immediate risk associated with the management of leachate.

### 4 Statement of Measures

The measures to be taken by New County Council are outlined in Table 4 below. Measures are in place within Newtown Waste Water Plant are adequate to maintain the discharge at a quality that complies with the licence conditions and does not significantly impact on the conservation objectives of the Yellow River.

**Table 4: Statement of Measures**

<b>Risk I.D.</b>	<b>Risk Score</b>	<b>Mitigation measure to be taken</b>	<b>Outcome</b>	<b>Action</b>	<b>Date for completion</b>	<b>Owner/Contact Person</b>
I	20	Training of staff in leachate handling and improve infrastructure	Reduced risk from leachate handling and storage	High level alarms and Mech. and & Elec. contract out for Procurement. Tenders being assess August. Training course organised for July 2010	Work completed January 2011	John Murphy: Senior Service Engineer
II	4	Continue Regular maintenance. Ensure all staff training up to date	Reduced risk from leachate handling and storage	Training Course Organised for July 2010	July 2010	John Murphy: Senior Service Engineer Brid O' Connor Training Officer
III	4	Continue regular inspections	Reduced risk of effluent spills	Institute formal checklists and daily e-mailed report from site	May 2010	John Murphy: Senior Service Engineer
IV	9	Improve Bunding and containment and procedures	Reduced risk of spills	Changes flanges/valves so they are inside bund. Write Formal SOP for delivery of chemicals and oblige contractors to use	July 2010	John Murphy: Senior Service Engineer K. Foley H&S Officer:
V	8	Install redundant aerator and improve maintenance	Reliable Aeration of basin	New aerator contract in place. Schedule for servicing agreed with fitter	August 2010	John Murphy: Senior Service Engineer Liam Healy Fitter
VI	12	Reduce risk of flooding at plant	Reduce risk of washout	Undertake flood study and suggested engineering works. Raise tank walls by 0.5 m	February 2011	John Murphy: Senior Service Engineer Liam Healy Fitter

I confirm the above are the measures which will be taken by the Local Authority in 2010/2011

Signed:

Job Title:

Name:

Date

## 5 FINANCIAL PROVISIONS

### 5.1 Estimation of remediation costs

Table 5 below outlines the estimated costs of remediation for different categories of events and reflects the agglomeration's proximity to the SAC.

**Table 5: Risk Classification Table**

Rating	Severity		
	Category	Description	Cost of Remediation
1	Trivial	No damage or negligible change to the environment.	€1,000
2	Minor	Minor impact/localised or nuisance	€5,000
3	Moderate	Moderate damage to environment	€10,000
4	Major	Severe damage to local environment	€100,000
5	Massive	Massive damage to a large area, irreversible in medium term	€1,000,000

### 5.2 Details of Financial Provision / Insurance

In order to offset the risk to the environment the Council has taken out an Environmental Insurance Policy with AZA insurers, Policy No. 123456789/2010 to the value of €5,000,000. A copy of the policy document in its entirety is included in Appendix A.



## **Appendix A Documentary proof of Financial Provision/Insurance**