ATTACHMENT A.1 – NON-TECHNICAL SUMMARY

1. Description of the Wastewater Treatment Works and Activities carried out therein

The existing Brannockstown Septic Tank is situated in Brannockstown, a small village approximately 3km east of Kilcullen Town in County Kildare. It can be accessed from the M7-M9 Motorway via the R413 Regional Road from Kilcullen or from Naas Town via the R412 Regional Road.

Brannockstown septic tank was constructed in the 1970's to serve approximately 18 properties in an adjacent Kildare County Council housing development. It was designed to have a capacity of 60 PE (Population Equivalent). Brannockstown septic tank receives domestic sewage only. The septic tank at Brannockstown is fenced off to prevent unauthorised entry.

Septic tanks provide primary treatment to sewage by:

1. Removing suspended solids from the waste water by sedimentation.
2. Reducing the Biochemical Oxygen Demand (BOD) of the effluent by anaerobic digestion.
3. Further reduction of the BOD of the effluent in the percolation area by anaerobic digestion.

Brannockstown Septic Tank operates as follows:

1. Effluent enters the septic tank via a 150mm diameter gravity foul sewer.
2. Settlement of suspended solids occurs within Chamber 1 of the septic tank.
3. Scum (oils and greases) floats to the surface of the effluent within the septic tank.
4. Sewage sludge settles to the base of the septic tank within Chamber 1 and is removed by tanker periodically.
5. Liquid effluent enters Chamber 2 via a baffle wall between Chamber 1 and Chamber 2.
6. Further settlement of remaining suspended solids occurs in Chamber 2 of the septic tank.
7. Sewage sludge also settles to the base of the septic tank within Chamber 2 and is removed by tanker periodically.
8. Anaerobic digestion takes place within the septic tank which results in a reduction in the BOD.
9. Effluent is discharged from the septic tank to a percolation area via a network of pipes which distribute liquid effluent evenly to the ground via granular filter material.
10. Effluent is further broken down within the soil naturally by microbes which exist in the soil.

2. **Sources of emissions**

    1. Sewage sludge
    2. Final effluent discharged to ground
    3. Odours
    4. Noise associated with site activities (periodic desludging etc.)

3. **Nature and quantities of foreseeable emissions from the waste water works into the receiving aqueous environment as well as identification of significant effects of the emissions on the environment**

    The nature and quantities of foreseeable emissions from the waste water works are not expected to vary in nature i.e. domestic or volume for the foreseeable future.

4. **The proposed technology and other techniques for preventing or, where this is not possible, reducing emissions from the waste water works**

    There are no current proposals to reduce emissions from the waste water works through the use of technology or other techniques.

5. **Further measures planned to comply with the general principle of the basic obligations of the operator, i.e., that no significant pollution is caused**

    There are currently no further improvement measures proposed at the existing Brannockstown Septic Tank.

6. **Measures planned to monitor emissions into the environment**

    There are currently no measures/proposals in relation to monitoring emissions into the environment at Brannockstown Septic Tank.

ATTACHMENT G.1 – COMPLIANCE WITH DIRECTIVES

Compliance with the Council Directives

Dangerous Substances Directive 2006/11/EC

No information available as to whether the Brannockstown Septic Tank complies with the above directive.

Water Framework Directive 2000/60/EC

No information available as to whether the Brannockstown Septic Tank complies with the above directive.

Birds Directive 79/409/EEC

Further to an inspection of the schedule of sites listed as SPA's under the above directive and the European Communities (Conservation of Wild Birds) Regulations, 1985, as subsequently amended, is considered that this is not applicable to the Brannockstown agglomeration.

Groundwater Directives 80/68/EEC & 2006/118/EC

No information available as to whether the Brannockstown Septic Tank complies with the above directives.

Drinking Water Directive 80/778/EEC

Refer to Attachment F.1.

Urban Wastewater Treatment Directive 91/271/EEC

Sampling and testing has not been carried out at the Brannockstown Septic Tank to date to determine compliance with the Urban Wastewater Treatment Directive 91/271/EEC.

Habitats Directive 92/43/EEC & Environmental Liabilities Directive 204/35/EC

In accordance with EPA guidelines and the Circular L8/08 issued by DEHLG, a Screening Process is being carried out by the Council's Environment Section to determine the potential for a significant impact on the environment. This report will be submitted to the Agency for comment upon completion.

Bathing Water Directive 76/160/EEC

Following consultation with the Environmental Services Section of Kildare County Council, no bathing waters have been identified in County Kildare under Article 4 of the Bathing Water Quality Regulations 2008. The existing wastewater treatment system discharges directly to the ground. There is no discharge to bathing waters.

Shellfish Waters Directive 2006/113/EC

There are no shellfish waters listed in Schedule 3 of the European Communities (Quality of Shellfish Waters) Regulations, 2006 for County Kildare. There is no discharge to shellfish waters.

ABS_CD	AGG_SERVED	ABS_VOL	PT_CD	DIS_DS	EASTING	NORTHING	VERIFIED
See attachment F.1.							

ATTACHMENT F.1 – RECEIVING WATER BODY

There are no available results for the groundwater body into which the discharge takes place. The reasons for this is that there are no boreholes in place and that sampling points are not readily available. The groundwater profile has not been established in the vicinity of the percolation area.

A copy of the "Draft River Basin Management Plan for the South Eastern River Basin District", is publicly available on

http://www.serbd.com

Under the current Draft River Basin District River Basin Management Plan, a Strategic Environmental Assessment and Programmes of Measures have also been published. These are also publicly available for viewing and download at :-

http://www.serbd.com

It is intended that the River Basin Management Plan along with the associated programmes of measures will be formally adopted in December 2009.

Further to a preliminary investigation in October/November 2009, it is considered that there are no drinking water well sources at risk.

In accordance with EPA guidelines and the Circular L8/08 issued by DEHLG, a Screening Process is being carried out by the Council's Environment Section to determine the potential for a significant impact on the environment. This report will be submitted to the Agency for comment upon completion.

ATTACHMENT E.4

BRANNOCKSTOWN SEPTIC TANK

EPA DISCHARGE LICENCE APPLICATION

IN-HOUSE ANALYSIS

Discharge point: Brannockstown Inlet

Parameter	Unit	Date 05/08/2009	21/09/2009
pH		6.8	7.3
Suspended solids	mg/l	138	238
Ammonia(NH3-N)	mg/l N	59	53
BOD	mg/l	92	193
COD	mg/l	420	935
Nitrate(NO3-N)	mg/l N	<0.1	0.2
Nitrite(NO2-N)	mg/l N	<0.1	<0.1
Orthophosphate(PO4-P)	mg/l P	5	9.33
Total phosphorous	mg/l P	6.2	14.44
Temperature	ºC		

IN-HOUSE ANALYSIS

Discharge point: Brannockstown Outlet

Parameter	Unit	Date 05/08/2009	21/09/2009
pH		6.9	7.24
Suspended solids	mg/l	80	83
Ammonia(NH3-N)	mg/l N	57	52
BOD	mg/l	175	221
COD	mg/l	674	570
Nitrate(NO3-N)	mg/l N	<0.1	<0.1
Nitrite(NO2-N)	mg/l N	<0.1	<0.1
Orthophosphate(PO4-P)	mg/l P	7.59	9.38
Total phosphorous	mg/l P	12.19	11.81
Temperature	ºC		

EXTERNAL LABORATORY ANALYSIS

Discharge Point:	Brannockstown Inlet

Parameter	Unit	Results	Sampling method	Limit of Quantitation	Analysis Method
Electrical Conductivity	µS/cm	1335	Composite	<0.06	Electrometry
Hardness as CaCO3	mg/l CaCO3	76	Composite	<2.58	Colorimetry
Anions	Fluoride mg/l	1.52	Composite	<0.09	Ion Chromatography
	Sulphate mg/l	72.86	Composite	<2.11	Ion Chromatography
Phenols (sum)	mg/l	55.16	Composite	<0.1	GC/MS 2

EXTERNAL LABORATORY ANALYSIS

Discharge Point:	Brannockstown Outlet				
Parameter	**Unit**	**Results**	**Sampling method**	**Limit of Quantitation**	**Analysis Method**
Electrical Conductivity	µS/cm	1230	Composite	<0.06	Electrometry
Hardness as CaCO3	mg/l CaCO3	139	Composite	<2.58	Colorimetry
Anions	Fluoride mg/l	0.77	Composite	<0.09	Ion Chromatography
	Sulphate mg/l	39.54	Composite	<2.11	Ion Chromatography
Phenols (sum)	mg/l	3.97	Composite	<0.1	GC/MS 2

TOXIC SUBSTANCE ANALYSIS

Discharge Point: Brannockstown Inlet 21/09/09

Parameter	Unit	Results	Sampling method	Limit of Quantitation	Analysis Method
Arsenic	µg/l	<0.96	Composite	<0.01	HPLC
Atrazine	µg/l	<0.01	Composite	<1	GC-MS 1
Barium	µg/l	35.4	Composite	<0.1	HPLC
Boron	µg/l	321.8	Composite	<1	GC-MS 1
Cadmium	µg/l	0.1	Composite	<0.05	GC-MS 1
Chromium	µg/l	2.2	Composite	<1	GC-MS 1
Copper	µg/l	37.8	Composite	<10	ICPMS
Cyanide	µg/l	15	Composite	<10	ICPMS
Dichloromethane	µg/l	<1	Composite	<10	ICPMS
Fluoride	µg/l	1.52	Composite	<5	Colorimetry
Lead	mg/l	4.2	Composite	<0.09	Colorimetry
Mercury	µg/l	0.04	Composite	<10	ICPMS
Nickel	µg/l	3.8	Composite	<10	ICPMS
Selenium	µg/l	<0.74	Composite	<10	ICPMS
Simazine	µg/l	<0.01	Composite	<10	Electrometry
Toluene	µg/l	1.109	Composite	<10	ICPMS
Tributlyltin	µg/l	<0.06	Composite	<2.5	ICPMS
Xylene	µg/l	<1	Composite	<10	ICPMS
Zinc	µg/l	749.3	Composite	<10	HPLC

TOXIC SUBSTANCE ANALYSIS

Discharge Point: Brannockstwon Outlet 21/09/09

Parameter	Unit	Results	Sampling method	Limit of Quantitation	Analysis Method
Arsenic	µg/l	<0.96	Composite	<0.01	HPLC
Atrazine	µg/l	<0.01	Composite	<1	GC-MS 1
Barium	µg/l	14.5	Composite	<0.1	HPLC
Boron	µg/l	318	Composite	<1	GC-MS 1
Cadmium	µg/l	<0.09	Composite	<0.05	GC-MS 1
Chromium	µg/l	<0.93	Composite	<1	GC-MS 1
Copper	µg/l	14.2	Composite	<10	ICPMS
Cyanide	µg/l	<5	Composite	<10	ICPMS
Dichloromethane	µg/l	<1	Composite	<10	ICPMS
Fluoride	µg/l	0.77	Composite	<5	Colorimetry
Lead	mg/l	1.9	Composite	<0.09	Colorimetry
Mercury	µg/l	<0.03	Composite	<10	ICPMS
Nickel	µg/l	2.5	Composite	<10	ICPMS
Selenium	µg/l	<0.74	Composite	<10	ICPMS
Simazine	µg/l	<0.01	Composite	<10	Electrometry
Toluene	µg/l	36.077	Composite	<10	ICPMS
Tributlyltin	µg/l	<0.06	Composite	<2.5	ICPMS
Xylene	µg/l	<0.73	Composite	<10	ICPMS
Zinc	µg/l	80.8	Composite	<10	HPLC

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Customer	Des King Kildare Co Co Osberstown Treatment Plant Naas Kildare	*Lab Report Ref. No.*	1390/275/01
		Date of Receipt	10/08/2009
		Date Testing Commenced	10/08/2009
		Received or Collected	Collected by Euro
		Condition on Receipt	Acceptable
Customer PO	400242007	*Date of Report*	04/11/2009
Customer Ref	Brannockstown Inlet 05/08/09	*Sample Type*	Trade Effluent

CERTIFICATE OF ANALYSIS

Test Parameter	SOP	Analytical Technique	Result	Units	Acc.
Conductivity (Industrial Eff.)	112	Electrometry	704	uscm -1@25C	UKAS
Fluoride (Industrial Eff.)	115	Colorimetry	0.65	mg/L	UKAS
Hardness (Total)	111	Colorimetry	76	mg/L CaCO3	
Nitrogen (Total Kjeldahl)	104	Digestion/ Distillation/ Titrime	6.72	mg/L as N	
Nitrogen (Total Oxidised) (Industrial	151	Colorimetry	<0.27	mg/L as N	UKAS
Nitrogen (Total)	0	Calculation	6.72	mg/L as N	
Phenols (Total)	223	GCMS	10.365	ug/L	
Sulphate (Industrial Eff.)	119	Colorimetry	70.84	mg/L as SO4	UKAS

Web Certificate ***Date : 04/11/2009***

Donna Heslin - Laboratory Manager

Acc. : Accredited Parameters by ISO 17025:2005

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		Date Testing Commenced	10/08/2009
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		Condition on Receipt	Acceptable
Customer PO	400242007	*Date of Report*	04/11/2009
Customer Ref	Brannockstown Outlet 05/08/09	*Sample Type*	Water

CERTIFICATE OF ANALYSIS

Test Parameter	SOP	Analytical Technique	Result	Units	Acc.
Conductivity (Industrial Eff.)	112	Electrometry	1512	uscm -1@25C	UKAS
Fluoride (Industrial Eff.)	115	Colorimetry	0.85	mg/L	UKAS
Hardness (Total)	111	Colorimetry	297	mg/L CaCO3	
Nitrogen (Total Kjeldahl)	104	Digestion/ Distillation/ Titrime	72.80	mg/L as N	
Nitrogen (Total Oxidised) (Industrial	151	Colorimetry	<0.27	mg/L as N	UKAS
Nitrogen (Total)	0	Calculation	72.80	mg/L as N	
Phenols (Total)	223	GCMS	6.157	ug/L	
Sulphate (Industrial Eff.)	119	Colorimetry	73.37	mg/L as SO4	UKAS

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		Date of Receipt	07/08/2009
		Date Testing Commenced	07/08/2009
		Received or Collected	Collected by Euro
		Condition on Receipt	Acceptable
Customer PO	400242007	*Date of Report*	04/11/2009
Customer Ref	Bramockstown Inlet 05/08/09	*Sample Type*	Trade Effluent

CERTIFICATE OF ANALYSIS

Test Parameter	SOP	Analytical Technique	Result	Units	Acc.
Arsenic	177	ICPMS	<0.96	ug/L	
Atrazine	191	HPLC	<0.01	ug/L	
Barium	177	ICPMS	13.0	ug/L	
Boron	177	ICPMS	98.0	ug/L	
Cadmium	177	ICPMS	<0.09	ug/L	
Chromium	177	ICPMS	5.2	ug/L	
Copper	177	ICPMS	26.2	ug/L	
Cyanide	138	Colorimetry	0	ug/L	
Dichloromethane	154	GCMS	<1	ug/L	
Fluoride (Sewage Eff.)	115	Colorimetry	0.71	mg/L	UKAS
Lead	177	ICPMS	1.9	ug/L	
m-& p-Xylene (Industrial Eff.)	179	GCMS	<0.73	ug/L	
Mercury	178	ICPMS	<0.2	ug/L	
Nickel	177	ICPMS	2.4	ug/L	
o-Xylene (Industrial Eff.)	179	GCMS	<0.35	ug/L	
Selenium	177	ICPMS	<0.74	ug/L	
Simazine	191	HPLC	<0.01	ug/L	
Toluene (Industrial Eff.)	179	GCMS	<0.28	ug/L	UKAS
Tributyltin*	0	GCMS	<0.02	ug/L as Sn	
Xylene (Total)	179	GCMS	<1	ug/L	
Zinc	177	ICPMS	126.0	ug/L	

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		Condition on Receipt	Acceptable
Customer PO	400242007	*Date of Report*	04/11/2009
Customer Ref	Bramockstown Outlet 05/08/09	*Sample Type*	Trade Effluent

CERTIFICATE OF ANALYSIS

Test Parameter	SOP	Analytical Technique	Result	Units	Acc.
Arsenic	177	ICPMS	1.9	ug/L	
Atrazine	191	HPLC	<0.01	ug/L	
Barium	177	ICPMS	16.2	ug/L	
Boron	177	ICPMS	101.8	ug/L	
Cadmium	177	ICPMS	<0.09	ug/L	
Chromium	177	ICPMS	4.3	ug/L	
Copper	177	ICPMS	13.3	ug/L	
Cyanide	138	Colorimetry	<5	ug/L	
Dichloromethane	154	GCMS	<1	ug/L	
Fluoride (Industrial Eff.)	115	Colorimetry	0.91	mg/L	UKAS
Lead	177	ICPMS	1.3	ug/L	
m-& p-Xylene (Industrial Eff.)	179	GCMS	<0.73	ug/L	
Mercury	178	ICPMS	<0.2	ug/L	
Nickel	177	ICPMS	3.8	ug/L	
o-Xylene (Industrial Eff.)	179	GCMS	<0.35	ug/L	
Selenium	177	ICPMS	<0.74	ug/L	
Simazine	191	HPLC	<0.01	ug/L	
Toluene (Industrial Eff.)	179	GCMS	<0.28	ug/L	UKAS
Tributyltin*	0	GCMS	<0.50	ug/L as Sn	
Xylene (Total)	179	GCMS	<1	ug/L	
Zinc	177	ICPMS	49.2	ug/L	

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		Date of Receipt	23/09/2009
		Date Testing Commenced	23/09/2009
		Received or Collected	Collected by Euro
		Condition on Receipt	Acceptable
Customer PO	400245423	*Date of Report*	04/11/2009
Customer Ref	Brannockstown Inlet 21/09/09	*Sample Type*	Trade Effluent

CERTIFICATE OF ANALYSIS

Test Parameter	SOP	Analytical Technique	Result	Units	Acc.
Arsenic	177	ICPMS	<0.96	ug/L	
Atrazine	191	HPLC	<0.01	ug/L	
Barium	177	ICPMS	35.4	ug/L	
Boron	177	ICPMS	321.8	ug/L	
Cadmium	177	ICPMS	0.1	ug/L	
Chromium	177	ICPMS	2.2	ug/L	
Conductivity (Sewage Eff.)	112	Electrometry	1335	uscm -1@25C	UKAS
Copper	177	ICPMS	37.8	ug/L	
Cyanide	138	Colorimetry	15	ug/L	
Dichloromethane	154	GCMS	<1	ug/L	
Fluoride (Sewage Eff.)	115	Colorimetry	1.52	mg/L	
Hardness Total (Sewage Eff.)	111	Colorimetry	76	mg/L CaCO3	UKAS
Lead	177	ICPMS	4.2	ug/L	
m-& p-Xylene	179	GCMS	<0.73	ug/L	
Mercury	178	ICPMS	0.04	ug/L	
Nickel	177	ICPMS	3.8	ug/L	
Nitrogen (Total Kjeldahl)	104	Digestion/ Distillation/ Titrime	126.56	mg/L as N	
Nitrogen (Total Oxidised) (Sewage	151	Colorimetry	0.43	mg/L as N	UKAS
Nitrogen (Total)	0	Calculation	126.99	mg/L as N	
o-Xylene	179	GCMS	<0.35	ug/L	
Phenols (Total)	223	GCMS	55.16	ug/L	
Selenium	177	ICPMS	<0.74	ug/L	
Simazine	191	HPLC	<0.01	ug/L	
Sulphate (Sewage Eff.)	119	Colorimetry	72.86	mg/L as SO4	UKAS
Toluene	179	GCMS	1.109	ug/L	

Web Certificate ***Date : 04/11/2009***

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		Received or Collected	Collected by Euro
		Condition on Receipt	Acceptable
Customer PO	400245423	*Date of Report*	04/11/2009
Customer Ref	Brannockstown Inlet 21/09/09	*Sample Type*	Trade Effluent

CERTIFICATE OF ANALYSIS

Test Parameter	SOP	Analytical Technique	Result	Units	Acc.
Tributyltin*	0	GCMS	<0.06	ug/L as Sn	
Xylene (Total)	179	GCMS	<1	ug/L	
Zinc	177	ICPMS	749.3	ug/L	

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Customer PO	400245423	*Date of Report*	04/11/2009
Customer Ref	Brannockstown Outlet 21/09/09	*Sample Type*	Trade Effluent

CERTIFICATE OF ANALYSIS

Test Parameter	SOP	Analytical Technique	Result	Units	Acc.
Arsenic	177	ICPMS	<0.96	ug/L	
Atrazine	191	HPLC	<0.01	ug/L	
Barium	177	ICPMS	14.5	ug/L	
Boron	177	ICPMS	318.0	ug/L	
Cadmium	177	ICPMS	<0.09	ug/L	
Chromium	177	ICPMS	<0.93	ug/L	
Conductivity (Industrial Eff.)	112	Electrometry	1230	uscm -1@25C	UKAS
Copper	177	ICPMS	14.2	ug/L	
Cyanide	138	Colorimetry	<5	ug/L	
Dichloromethane	154	GCMS	<1	ug/L	
Fluoride (Industrial Eff.)	115	Colorimetry	0.77	mg/L	UKAS
Hardness Total (Industrial Eff.)	111	Colorimetry	139	mg/L CaCO3	UKAS
Lead	177	ICPMS	1.9	ug/L	
m-& p-Xylene (Industrial Eff.)	179	GCMS	<0.73	ug/L	
Mercury	178	ICPMS	<0.03	ug/L	
Nickel	177	ICPMS	2.5	ug/L	
Nitrogen (Total Kjeldahl)	104	Digestion/ Distillation/ Titrime	42.00	mg/L as N	
Nitrogen (Total Oxidised) (Industrial	151	Colorimetry	<0.27	mg/L as N	UKAS
Nitrogen (Total)	0	Calculation	42.16	mg/L as N	
o-Xylene (Industrial Eff.)	179	GCMS	<0.35	ug/L	
Phenols (Total)	223	GCMS	3.97	ug/L	
Selenium	177	ICPMS	<0.74	ug/L	
Simazine	191	HPLC	<0.01	ug/L	
Sulphate (Industrial Eff.)	119	Colorimetry	39.54	mg/L as SO4	UKAS
Toluene (Industrial Eff.)	179	GCMS	36.077	ug/L	UKAS

Web Certificate ***Date : 04/11/2009***

Donna Heslin - Laboratory Manager

Acc. : Accredited Parameters by ISO 17025:2005

All organic results are analysed as received and all results are corrected for dry weight at 104 C
Results shall not be reproduced, except in full, without the approval of EURO environmental services
Results contained in this report relate only to the samples tested

EURO environmental services

Environmental Science & Management
Water,Soil & Air Testing

Unit 35,
Boyne Business Park,
Drogheda,
Co. Louth
Ireland
Tel: +353 41 9845440
Fax: +353 41 9846171
Web: www.euroenv.ie
email: info@euroenv.ie

Customer	Des King Kildare Co Co Osberstown Treatment Plant Naas Kildare	*Lab Report Ref. No.*	1390/289/02
		Date of Receipt	23/09/2009
		Date Testing Commenced	23/09/2009
		Received or Collected	Collected by Euro
		Condition on Receipt	Acceptable
Customer PO	400245423	*Date of Report*	04/11/2009
Customer Ref	Brannockstown Outlet 21/09/09	*Sample Type*	Trade Effluent

CERTIFICATE OF ANALYSIS

Test Parameter	SOP	Analytical Technique	Result	Units	Acc.
Tributyltin*	0	GCMS	<0.06	ug/L as Sn	
Xylene (Total) Industrial Eff	179	GCMS	<0.73	ug/L	UKAS
Zinc	177	ICPMS	80.8	ug/L	

Web Certificate ***Date : 04/11/2009***

Donna Heslin - Laboratory Manager

Acc. : Accredited Parameters by ISO 17025:2005

All organic results are analysed as received and all results are corrected for dry weight at 104 C
Results shall not be reproduced, except in full, without the approval of EURO environmental services
Results contained in this report relate only to the samples tested

PT_CD	PT_TYPE	MON_TYPE	EASTING	NORTHING	VERIFIED
P-Inlet	Inlet	Sampling Point	287116	208622	Y
P0	Primary	Sampling Point	287108	208619	Y

ATTACHMENT E.2: MONITORING & SAMPLING POINTS

1. The programme for environmental monitoring is outlined in the attached document entitled '***Kildare County Sampling Plan 2009'.***

2. Kildare County Council RMCEI Inspection Plan 2009 is attached.

3. Accreditation for Euro Environmental Services is attached.

WATER SERVICES SECTION
KILDARE COUNTY COUNCIL

Kildare County Sampling Plan

2009

1. INTRODUCTION **2**

2. SAMPLING SCHEDULE **2**

2.1 River Water Sampling 3

3. SAMPLING PRECEDURE[1,2,3] **3**

3.1 Introduction 3

3.2 Sampling Procedure 4

4. ANALYSIS METHODS **4**

5. QUALITY CONTROL **5**

6. RESULT RECORDING/REPORTING PROCEDURES **5**

APPENDIX 1 ..... **6**

1. Introduction

The Sampling Plan for Kildare Co. Co. is intended to give an overview of how the Local Authority intends to comply with the Urban Waste Water Treatment Regulations, SI254 / 2001 in 2009. The Plan will indicate the minimum number of samples required to be taken for each waste water treatment plant, the parameters to be analysed for, the type of samplers used and how samples should be taken. The samples are followed from point of sampling through to reporting.

2. Sampling Schedule

- The Fifth Schedule to the Urban Waste Water Treatment Regulations, SI254 / 2001 prescribes a minimum frequency of sampling, at regular intervals, as set out in Table 1. The Regulations set out minimum sampling and analysis requirements; it is recommended that if at all possible, all waste water treatment plants should be monitored above the statutory minimum. There is no provision made in the regulations for the specific monitoring of treatment plants of < 2,000 p.e. but it is accepted best practice that all plants, regardless of size, should be monitored regularly, if practically possible. Consequently, Kildare County Council's policy is to monitor all plants > 500 p.e.[1] The waste water treatment plants in County Kildare with < 500 p.e. should be sampled as requested by the Area Engineers.

1. Urban Waste Water Discharges in Ireland – A Report for the years 2002/2003; Section 2.1.3, page 10.

Table 1

Sampling Schedule 2009

Plant Name	P.E.*	Discharge to	Sensitive**	Min. No. of Samples
Osberstown	96,317	R. Liffey	Yes	24
Leixlip	56,649	R. Liffey	No	24
Kildare Town	6,797	R. Tully	Yes	12
Monasterevin	2,943	R. Barrow	Yes	12
Castledermot	1,099	R. Lerr	Yes	6
Ballymore Eustace	1,509	R. Liffey	No	6
Nurney	500 Est	R. Tully	Yes	6
Robertstown	1,000	R. Slate	Yes	6
Coill Dubh	1,300	R. Slate	Yes	6
Kilmeague	1,500	Awillynish Stream	Yes	6
Derrinturn	1,300	R. Ballyshannon	Yes	6
Rathangan	2,000	R. Slate	Yes	12
Athy	13,500	R. Barrow	Yes	12

* P.E. as calculated for 2008 and submitted in the 2008 EPA returns
** The outflow discharges to a sensitive area or the catchment of a sensitive area

- Waste Water Treatment Plants are required to be sampled in accordance with the Fifth Schedule of the Urban Waste Water Treatment Regulations, SI254 / 2001 and must satisfy the performance requirements specified in Part 1 of the Second Schedule to the Regulations.

These performance requirements, i.e. concentration limits for key parameters in the effluents from secondary treatment plants, are as follows.[1]

BOD: 25 mg/l O_2; COD: 125 mg/l O_2; SS: 35 mg/l

- Part 2 of the Second Schedule gives a further requirement that Plants discharging to sensitive areas must meet one or both of the following.

Total Phosphorus: 2 mg/l P; Total Nitrogen: 15 mg/l N
(10,000 – 100,000 p.e.)

Therefore samples must be analysed for a minimum of BOD, COD and SS (and Total Phosphorus in sensitive areas). Samples, in general, are tested for the full set of parameters (See Appendix 1).

2.1 River Water Sampling

It is recommended that in 2009, all rivers receiving discharges from waste water treatment plants with > 500 p.e. be sampled according to the Regulations. The number of river samples taken (above and below discharge point) should equal the minimum number of effluent samples required for the plant (See Appendix 1).

The following sections refer to procedures and methods, etc. carried out at the Osberstown Laboratory. Different procedures are undertaken at the Athy and Leixlip Laboratories and reference should be made to the Environmental Technicians there for further information.

3. Sampling Precedure[1,2,3]

3.1 Introduction

The objective of sampling is to collect a portion of material small enough in volume to be transported conveniently and handled in the laboratory while still accurately representing the material being sampled. This implies that the relative proportions or concentrations of all pertinent components will be the same in the samples as in the material being sampled, and that the sample will be handled in such a way that no significant changes in composition occur before the tests are made.

3.2 Sampling Procedure

Consult the Osberstown WWTP Methods Manuals to determine whether any special precautions should be taken when sampling for specific parameters. Therefore each point made below is for general samples, the Methods Manuals may require you to ignore certain points i.e. glass bottles used instead of plastic containers.

- The use of some form of automatic sampler (flow-proportional or 24-hour composite) is essential.
- Portable 24-hour composite samplers may be used. Ideally ones with a sample refrigeration facility.
- When using portable 24-hour composite samplers with no refrigeration facility, minimise the effects of elevated temperature by protecting equipment from sunlight.
- Again for 24-hour composite samplers with no refrigeration facility, try to start 24-hour sampling period for example at 09:00 and finish at 09:00 the next day (Therefore the least amount of time in the sunlight). Sample should be brought straight to laboratory for testing, thus eliminating standing time.
- Samples are taken in plastic containers (1L or 2.5L).
- Containers are filled to the top to eliminate air/oxygen.
- When sampling, ensure that the material/sample is a homogenous mixture i.e. Sample from composite sampler may need mixing before sampling.
- Samples must be transported to the laboratory in a cooler box.
- All samples must be labelled, indicating name of collector, date and time of collection, place of collection.
- When sample is presented to the laboratory for analysis the sample is assigned a number and sample details are logged in the laboratory logbook.

1. The Environmental Protection Agency Act, 1992 [Urban Waste Water Treatment] Regulations, 1994
A Handbook on Implementation for Sanitary Authorities
2. Standard Methods for the examination of Water and Waste Water. 19th Edition 1995
3. Methods Manuals, Osberstown WWTP Environmental Laboratory, 2000 Version 3

4. Analysis Methods

The methods used by the Osberstown WWTP Laboratory when analysing samples are documented in the Laboratory Method Manuals (No. 1 & 2). These methods should be referenced for details of analysis and the methods followed whenever samples are being analysed.

5. Quality Control

Osberstown Laboratory

Reference should be made to the Osberstown Laboratory Quality Control Procedures Manual for all details pertaining to Quality Control protocol in the Osberstown WWTP Laboratory.

6. Result Recording/Reporting Procedures

Osberstown Laboratory

- All samples entering Osberstown WWTP Laboratory are logged in the Sample Logbook. This allocates a unique identifying number to the sample.
- Each parameter has an associated result logbook in which the sample details and results are recorded.
- Results for all the parameters are recorded on a result sheet, which is designated to a specific waste water treatment plant for a specific date.
- All results are inputted into a central database, from which a printout of results is obtained for each plant. These are signed and verified.
- The EPA Returns Co-ordinator will request returns data from individuals in January / February of every year for the previous period, for submission to the EPA.

Author

Fergal Humphreys (EPA Returns Co-ordinator)

Appendix 1

The full set of analytical parameters are tested in Osberstown WWTP Environmental Laboratory and include BOD, COD, SS, *ortho*-phosphate, Total Phosphorus, ammonia, nitrite, nitrate, Total Kjeldahl Nitrogen (TKN) (and/or Total Nitrogen, TN). For operational purposes some additional parameters such as pH, dissolved oxygen (DO), alkalinity, dry solids should be measured.

Included below are the recommended analyses as set out in the regulations.

The Environmental Protection Agency Act, 1992 (Urban Waste Water Treatment) Regulations, 1994: A Handbook on Implementation for Sanitary Authorities

Recommended Analyses: Non-sensitive Areas

Parameter	Influent	Effluent	RWUS	RWDS	Note(s)
BOD_5	Yes	Yes	Yes	Yes	-
COD	Yes	Yes	No	[Yes]	a
Total S Solids	[No]	Yes	Yes	[Yes]	b, c

Notes

a The COD test is not suited to very clean waters and is not usually carried out on such samples. However, a provision is made in the table for the carrying out of the test on down-stream receiving waters visibly affected by discharge(s).

b In view of the often unpleasant nature of influent samples it is considered that suspended solids measurement need not be mandatory on such samples.

c The measurement of suspended solids in waters of apparent clarity is of little practical value, and it is proposed that their determination be confined to those down-stream samples of receiving water on which it is considered the COD should be determined (see above).

d The measurement of nutrients is essential in sensitive areas. Although phosphorus is the key element concerning the eutrophication of fresh waters, nitrogen is very often determined routinely on such waters, hence its recommended inclusion in programmes.

e Total Oxidised Nitrogen comprises nitrate and nitrite. The Total Kjeldahl Nitrogen [TKN] determination includes the measurement of ammonia. The measurement of TKN is not particularly suited to unpolluted (or mildly polluted) receiving waters and, accordingly, it is considered that the determination of ammonia instead of TKN on such waters is more practicable.

Recommended Analyses: Sensitive Areas – Rivers

Parameter	Influent	Effluent	RWUS	RWDS	Note(s)
BOD_5	Yes	Yes	Yes	Yes	-
COD	Yes	Yes	No	[Yes]	a
Total S Solids	[No]	Yes	Yes	[Yes]	b, c
Total Phosphorus	Yes	Yes	Yes	Yes	d
Total Oxidised Nitrogen	No	Yes	Yes	Yes	d, e
Total Kjeldhal Nitrogen	Yes	Yes	No	No	d, e
Ammonia	No	No	Yes	Yes	e

UWWTP Regulations	**Water Services Section**		**Water & Environmental Services Directorate**							
Inspection Type:	**Monitoring/Compliance**									
Inspector(s):	**Mary Harney**	**Asst.Env. Scientist**								
	Des King	**Environmental Tech.**								
	Caroline Murphy	**Asst. Env. Scientist**								
	Peter Tiernan	**Environmental Tech.**								
	Fergal Humphreys	**Asst. Chemist**								
			Proposed	**Completed Inspections 2009**						
No. of Installations	**Installation Name**	**Risk Category**	**Inspections 2009**	**Q1**	**Q2**	**Q3**	**Q4**	**Total**	**Inspector**	**Comments**
1	Castledermot	A	12					0	FH	
2	Kildare Town	A	12					0	DK	
3	Rathangan	A	12					0	CM	
4	Athy	A	12					0	MH	
5	Leixlip	A	24					0	PT	
6	Osberstown	A	60					0	FH/DK	
7	Allenwood	B	6					0	CM	
8	Ballymore Eustace	B	6					0	DK	
9	Calverstown	B	6					0	FH	
10	Clogherinkoe	B	6					0	CM	
11	Coill Dubh	B	12					0	CM	
12	Derrinturn	B	6					0	CM	
13	Kildangan	B	6					0	FH	
14	Kilmeague	B	6					0	CM	
15	Monasterevin	B	12					0	DK	
16	Robertstown	B	6					0	CM	
17	Ardclough	C	2					0	CM	
18	Clonuff	C	2					0	CM	
19	Donore	C	2					0	CM	
20	Milltown	C	2					0	CM	
21	Newtown	C	2					0	CM	
22	Nurney	C	6					0	DK	
22			**220**	0	0	0	0	**0**		

Schedule of Accreditation

issued by

United Kingdom Accreditation Service

21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

2802

Accredited to ISO/IEC 17025:2005

EURO Environmental Services

Issue No: 011 **Issue date:** 26 March 2009

Unit 35
Boyne Business Park
Drogheda
Co Louth
Ireland

Contact: Mr G Fitzpatrick
Tel: +00 353 41 984 5440
Fax: +00 353 941198
E-Mail: info@euroenv.ie
Website: www.euroenv.ie

Testing performed by the Organisation at the locations specified below

Locations covered by the organisation and their relevant activities

Laboratory locations:

Location details		Activity	Location code
Address Unit 35 Boyne Business Park Drogheda Co Louth Ireland	**Local contact** Damien O'Reilly Tel: +00 353 41 984 5440 Fax: +00 353 41 984 6171	Environmental Analysis	A

Site activities performed away from the locations listed above:

Location details		Activity	Location code
Emission Stacks and Ducts	**Local contact** Geoff Fitzpatrick Tel: +00 353 41 984 5440 Fax: +00 353 41 984 6171	Sampling and Analysis	B

DETAIL OF ACCREDITATION

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
POLLUTANTS AND EFFLUENTS: STACK EMISSIONS	Physical Testing		
Filter papers and filter assemblies from stack sampling probes	Particulates	In accordance with BS EN 13284-1 using gravimetric analysis	A
ATMOSPHERIC POLLUTANTS	Sampling of source emissions to atmosphere		
	Water vapour	US EPA Method 4	B
ATMOSPHERIC POLLUTANTS	Sampling of source emissions to atmosphere	National and International Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Manual Stack Emission Monitoring	
Gaseous and Particulate Samples from Emission Stacks/Ducts	Isokinetic sampling for particulate matter	BS EN 13284-1:2002 BS ISO 9096:2003	B
	Gaseous Compounds - sampling and analysis		
	Velocity, temperature and pressure	BS EN 13284-1:2002	B
	Total Organic Carbon	BS EN 12619:1999	B
	Total Organic Carbon	BS EN 13526:2002	B
	Carbon Monoxide	BS EN 15058:2006	B
	Oxygen	BS EN 14789:2005	B
	Oxides of nitrogen	BS EN 14792:2005	B
	Water Vapour	BS EN 14790:2005	B

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
ATMOSPHERIC POLLUTANTS	Sampling from emission stacks and ducts for subsequent chemical analysis by a UKAS accredited laboratory for:		
	Hydrogen Chloride	BE EN 1911	B
	Hydrogen Fluoride	BS EN 15713:2006	B
	Sulphur Dioxide	BS EN 14791:2005	B
	Metals	BS EN 14385:2004	B
	Mercury	BS EN 13211:2001	B
SOILS	Chemical Testing		
	Elements: Arsenic Barium Beryllium Cadmium Cobalt Chromium Lead Manganese Nickel Selenium Silver Strontium Vanadium Zinc	SOP 202 using Inductively Coupled Plasma Mass Spectrometry (ICP-MS)	A
		Documented In-House Methods to meet the requirements of the Environment Agency MCERTS Performance Standard - Chemical Testing of Soil	
	pH	SOP 300 using meter	A

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS	Chemical Tests		
Potable Water	Elements: Lithium Beryllium Boron Aluminium Vanadium Chromium Iron Manganese Cobalt Nickel Copper Zinc Gallium Arsenic Rubidium Strontium Silver Tin Antimony Caesium Barium Thallium Lead Uranium	SOP 177 by ICP-MS	A
	Ammonia	SOP 114 by automated discrete analyser	A
Industrial Effluent	Total oxidised Nitrogen (TON)	SOP 151 by automated discrete analyser	A
Industrial and sewage effluent	Orthophosphate	SOP 117 by automated discrete analyser	A
Potable waters, industrial and sewage effluents	Alkalinity	SOP 102 by automated discrete analyser	A
	Chloride	SOP 100 by automated discrete analyser	A
	Fluoride	SOP 115 by automated discrete analyser	A
	Sulphate	SOP 119 by automated colorimetry	

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Schedule of Accreditation
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21 - 47 High Street, Feltham, Middlesex, TW13 4UN, UK

EURO Environmental Services
Issue No: 011 **Issue date:** 26 March 2009

Testing performed by the Organisation at the locations specified

Materials/Products tested	Type of test/Properties measured/Range of measurement	Standard specifications/ Equipment/Techniques used	Location Code
WATERS (cont'd)	Chemical Tests (cont'd)		
Potable waters, industrial and sewage effluents (cont'd)	Total phosphate	SOP 166 by automated discrete analyser	A
	Elements: Calcium Magnesium Sodium Potassium	SOP 184 by ICP-MS	A
Industrial effluent, surface and groundwater	Chemical Oxygen Demand	SOP 107	A
Potable waters, industrial and sewage effluents, surface and groundwater	pH	SOP 110	A
	Conductivity	SOP 112	A
	Turbidity	SOP 109	A
	Biochemical Oxygen Demand	SOP 113	A
	Colour	SOP 108 by automated discrete analyser	A
	Total Hardness	SOP 111 by automated discrete analyser	A

END

PT_CD	PT_TYPE	LA_NAME	RWB_TYPE	RWB_NAME	DESIGNATION	EASTING	NORTHING	VERIFIED
GW1-P	Primary	Kildare County Council	Groundwater	None	None	287108	208619	Y

ATTACHMENT C.1 – OPERATIONAL INFORMATION REQUIREMENTS

The existing Brannockstown septic tank was constructed in the 1970's to serve properties in an adjacent Kildare County Council housing development.

It was designed to have a capacity of 60 PE (Population Equivalent). At present, the Brannockstown Septic Tank is serving approximately 20 properties. Brannockstown Septic Tank receives domestic sewage only. The septic tank at Brannockstown is fenced off and secured against unauthorised entry.

This septic tank provides primary treatment to sewage by:

1. Removing suspended solids from the waste water by sedimentation.
2. Reducing the Biochemical Oxygen Demand (BOD) of the effluent by anaerobic digestion.
3. Further reduction of the BOD of the effluent in the percolation area by anaerobic digestion.

Brannockstown Septic Tank operates as follows:

1. Effluent enters the septic tank via a 150mm diameter gravity foul sewer.
2. Settlement of suspended solids occurs within Chamber 1 of the septic tank.
3. Scum (oils and greases) floats to the surface of the effluent within the septic tank.
4. Sewage sludge settles to the base of the septic tank within Chamber 1 and is removed by tanker periodically.
5. Liquid effluent enters Chamber 2 via a baffle wall between Chamber 1 and Chamber 2.
6. Further settlement of remaining suspended solids occurs in Chamber 2 of the septic tank.
7. Sewage sludge also settles to the base of the septic tank within Chamber 2 and is removed by tanker periodically.
8. Anaerobic digestion takes place within the septic tank which results in a reduction in the BOD.
9. Effluent is discharged from the septic tank to a percolation area via a network of pipes which distribute liquid effluent evenly to the ground via granular filter material.
10. Effluent is further broken down within the soil naturally by microbes which exist in the soil.

ATTACHMENT B.8 – PAYMENT OF FEE

Attached herewith is copy of letter dated 11 November 2009 from Kildare County Council to the Environmental Protection Agency regarding advance payment of application fee for Certificate of Authorisation applications due in December 2009 (24 No. agglomerations @ €3,000 per agglomeration) including this agglomeration.

Comhairle Contae
Chill Dara
Kildare
County Council

Water Services Section

Date 11th November 2009

Ana Bolger,
Programme Officer,
Environmental Licensing Programme,
Environmental Protection Agency,
Headquarters,
P.O. Box 3000,
Johnstown Castle Estate,
Co. Wexford.

RE:- Applications by Kildare County Council for Wastewater Discharge Certificates of Authorisation (<500PE) PAYMENT OF AAPLICATION FEES

Dear Ms. Bolger,

Further to the Council's letter to the Agency dated 21/10/09, stating the list of applications for Wastewater Treatment Plants having a population equivalent < 500 PE, and my conversation with your colleague Marie today, we now enclose our advance payment of application fees in respect of the following agglomerations (<500PE).

1. **Arclough WWTP**
2. **Athgarvan Septic Tank**
3. **Ballitore WWTP**
4. **Ballyroe Septic Tank 01**
5. **Ballyroe Septic Tank 02**
6. **Brannockstown Septic Tank**
7. **Calverstown WWTP**
8. **Castlemitchell Septic Tank**
9. **Castleroe West WWTP**
10. **Clogherinkoe WWTP**
11. **Clonuff Septic Tank**
12. **Donore WWTP**
13. **Kilberry Septic Tank**
14. **Kildangan WWTP 01**
15. **Kildangan WWTP 02**
16. **Kilkea WWTP**
17. **Kilmead**
18. **Milltown Septic Tank**
19. **Milltown WWTP**
20. **Newtown WWTP**
21. **Nurney WWTP**
22. **Rathcoffey WWTP**
23. **Timolin Septic Tank**
24. **Ticknevin Septic Tank**

The enclosed cheque in the amount €72,000 is our payment of fees for the above 24 applications required to be submitted between 22/06/09 and 22/12/09. We would be grateful to receive a receipt by return for this payment.

We trust this is in order. However, should you have any queries please contact the undersigned on 045 980550.

Yours sincerely,

Gerry Halton
G. Halton,
Senior Executive Officer.

ORIG. GIVEN TO A.C. "HIGH PRIORITY" IN WINDOW EAW 11/11/09 C. 5:45 IN CANTEEN.
GH ALSO IN ATT.

Comhairle Contae Chill Dara, Áras Chill Dara, Páirc Devoy, An Nás, Co. Chill Dara.
Kildare County Council, Áras Chill Dara, Devoy Park, Naas, Co. Kildare.
T 045 980200 • F 045 980240 • E secretar@kildarecoco.ie • www.kildare.ie/countycouncil

ATTACHMENT B.8(ii) – PENDING DEVELOPMENT

Commercial granted but unbuilt	-	0 PE
Total future additional PE	-	0 PE

% contributed by future commercial development - 0 %

The current loading on the plant has been determined to be 30 PE following a house count, of which 0 % is contributed by commercial/industrial sector.

The future PE figures are based on granted but not yet built planning permissions from November 2004 to November 2009.

Assuming that the life of a planning permission is 5 years, the projected PE outlined in this Attachment should be met by November 2014 assuming that the planning permissions are built and no extension of time is granted on these permissions.

KILDARE COUNTY COUNCIL

Implementation Report 2008
for the
Barrow, Boyne & Liffey Catchments

Prepared by Kildare County Council in accordance with the Water Quality (Dangerous Substances) Regulations, 2001 (S.I. No. 12 of 2001)

Mr. J Boland
Director of Services
Environment & Water Services

July 2008

TABLE OF CONTENTS

- **SECTION 1** **CURRENT WATER QUALITY STATUS AND TARGETS**

  Table 1.1 Summary of Current Status of River Water Quality in Functional Area and Standards to be achieved

- **SECTION 2** **IDENTIFICATION OF POTENTIAL PRESSURES**

- **SECTION 3** **PROGRAMME FOR IMPLEMENTATION**

  Table 2.1 County Implementation Programme

  Table 2.2 Implementation Programme Summary Table for each River

- **SECTION 4** **PROGRESS TO DATE**

- **ANNEX A** Guide to Potential Sources of Dangerous Substances listed in the Dangerous Substances Regulations, 2001

SECTION 1 CURRENT WATER QUALITY STATUS AND TARGETS

Table 1.1 Summary of Current Status of River Water Quality in Functional Area and Standards to be achieved

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**Baseline Condition ug/l**	**Water Hardness (mg/l CaCo3) (where applicable)**	**Is Baseline Quality Satisfactory? Yes/No**	**Current Condition ug/l**
Liffey	09L01	0400	Ballymore Eustace Br	N 927 097	Atrazine	<0.01	<100	Yes	<0.01
					Dichloromethane	<1	<100	Yes	<1
					Simazine	<0.01	<100	Yes	<0.01
					Toluene	<1	<100	Yes	<1
					Xelenes	<1	<100	Yes	<1
					Arsenic	1	<100	Yes	1
					Chromium	2	<100	Yes	2.5
					Copper	**31**	<100	**No**	4.25
					Cyanide	10	<100	Yes	5.25
					Fluoride	70	<100	Yes	95
					Lead	<0.38	<100	Yes	1.5
					Nickel	3	<100	Yes	1.75
					Zinc	17.3	<100	Yes	11.38
Liffey	09L01	0700	Kilcullen Br	N 832 097	Atrazine	<0.01	>100	Yes	<0.01
					Dichloromethane	<1	>100	Yes	<1
					Simazine	<0.01	>100	Yes	<0.01
					Toluene	<1	>100	Yes	<1
					Xelenes	<1	>100	Yes	<1
					Arsenic	1	>100	Yes	1.25
					Chromium	2	>100	Yes	1.25
					Copper	<2	>100	Yes	4.75
					Cyanide	<5	>100	Yes	<5
					Fluoride	290	>100	Yes	120
					Lead	<0.38	>100	Yes	1.6
					Nickel	1	>100	Yes	2
					Zinc	<1.8	>100	Yes	8.53
Liffey	09L01	0850	Connell Ford	N 813 137	Atrazine	<0.01	>100	Yes	<0.01
					Dichloromethane	<1	>100	Yes	<1
					Simazine	<0.01	>100	Yes	<0.01
					Toluene	< 1	>100	Yes	<1
					Xelenes	< 1	>100	Yes	<1
					Arsenic	1	>100	Yes	1
					Chromium	2	>100	Yes	1.25
					Copper	<0.2	>100	Yes	4.5
					Cyanide	<5	>100	Yes	7
					Fluoride	<3	>100	Yes	117.5
					Lead	<0.38	>100	Yes	1.25
					Nickel	1	>100	Yes	1.75
					Zinc	35.6	>100	Yes	7.95

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**Baseline Condition ug/l**	**Water Hardness (mg/l CaCo3) (where applicable)**	**Is Baseline Quality Satisfactory? Yes/No**	**Current Condition ug/l**
Liffey	09L01	1000	2.5 km d/s Newbridge	N 817 179	Atrazine	<0.01	>100	Yes	<0.01
					Dichloromethane	4.7	>100	Yes	<1
					Simazine	<0.01	>100	Yes	<0.01
					Toluene	<1	>100	Yes	<1
					Xelenes	<1	>100	Yes	<1
					Arsenic	2	>100	Yes	1
					Chromium	1	>100	Yes	0.98
					Copper	<0.2	>100	Yes	4.25
					Cyanide	<5	>100	Yes	<10
					Fluoride	50	>100	Yes	120
					Lead	<0.38	>100	Yes	12
					Nickel	<0.85	>100	Yes	0.85
					Zinc	<1.8	>100	Yes	8.25
Liffey	09L01	1050	Victoria Br	N 842 0194	Atrazine	<0.1	>100	Yes	<0.01
					Dichloromethane	<1	>100	Yes	<1
					Simazine	<0.1	>100	Yes	<0.01
					Toluene	<1	>100	Yes	<1
					Xelenes	<1	>100	Yes	<1
					Arsenic	1	>100	Yes	1.5
					Chromium	2	>100	Yes	0.98
					Copper	1	>100	Yes	3
					Cyanide	<5	>100	Yes	<5
					Fluoride	50	>100	Yes	120
					Lead	<0.38	>100	Yes	0.85
					Nickel	1	>100	Yes	1.5
					Zinc	37	>100	Yes	4.76
Liffey	09L01	1200	Castlekeely Ford	N 869 216	Atrazine	<0.1	>100	Yes	<0.01
					Dichloromethane	**20**	>100	**No**	<1
					Simazine	<0.1	>100	Yes	<0.01
					Toluene	<1	>100	Yes	<1
					Xelenes	<1	>100	Yes	<1
					Arsenic	1.7	>100	Yes	1
					Chromium	3.7	>100	Yes	3.72
					Copper	8.2	>100	Yes	4.25
					Cyanide	26	>100	Yes	6.5
					Fluoride	<70	>100	Yes	122.5
					Lead	<0.6	>100	Yes	1.1
					Nickel	<9.9	>100	Yes	3.5
					Zinc	**197**	>100	**No**	7.6

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**Baseline Condition ug/l**	**Water Hardness (mg/l CaCo3) (where applicable)**	**Is Baseline Quality Satisfactory? Yes/No**	**Current Condition ug/l**
Liffey	09L01	1500	Alexandra Br	N 880 270	Atrazine	<0.01	>100	Yes	<0.01
					Dichloromethane	<1	>100	Yes	<1
					Simazine	<0.01	>100	Yes	<0.01
					Toluene	<1	>100	Yes	<1
					Xelenes	<1	>100	Yes	<1
					Arsenic	1	>100	Yes	1
					Chromium	2	>100	Yes	4.5
					Copper	6	>100	Yes	5.5
					Cyanide	6	>100	Yes	6.5
					Fluoride	70	>100	Yes	130
					Lead	4	>100	Yes	1.25
					Nickel	5	>100	Yes	4.25
					Zinc	23	>100	Yes	9.5
Liffey	09L01	1700	Br. In Celbridge	N 974 329	Atrazine	<0.01	>100	Yes	<0.01
					Dichloromethane	1.8	>100	Yes	<1
					Simazine	<0.01	>100	Yes	<0.01
					Toluene	<1	>100	Yes	<1
					Xelenes	<1	>100	Yes	<1
					Arsenic	<0.96	>100	Yes	1
					Chromium	2	>100	Yes	0.965
					Copper	1	>100	Yes	2.5
					Cyanide	<5	>100	Yes	8
					Fluoride	70	>100	Yes	120
					Lead	<0.38	>100	Yes	1.19
					Nickel	**116**	>100	**No**	3
					Zinc	<1.8	>100	Yes	13.35
Liffey	09L01	1900	Leixlip Br.	O 008 358	Atrazine	<0.1	>100	Yes	<0.01
					Dichloromethane	<1	>100	Yes	<1
					Simazine	<0.1	>100	Yes	<0.01
					Toluene	<1	>100	Yes	<1
					Xelenes	<1	>100	Yes	<1
					Arsenic	1	>100	Yes	1
					Chromium	<4.6	>100	Yes	1
					Copper	7	>100	Yes	5
					Cyanide	**12**	>100	**No**	<5
					Fluoride	80	>100	Yes	145
					Lead	4	>100	Yes	1.25
					Nickel	5	>100	Yes	2.5
					Zinc	48	>100	Yes	6.45

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**Baseline Condition ug/l**	**Water Hardness (mg/l CaCo3) (where applicable)**	**Is Baseline Quality Satisfactory? Yes/No**	**Current Condition ug/l**
Painestown	09P01	0400	Painestown Bridge	N 940 243	Atrazine	<0.01	>100	Yes	<0.01
					Dichloromethane	<1	>100	Yes	<1
					Simazine	<0.01	>100	Yes	<0.01
					Toluene	<1	>100	Yes	<1
					Xelenes	<1	>100	Yes	<1
					Arsenic	1	>100	Yes	2
					Chromium	1	>100	Yes	1.75
					Copper	4	>100	Yes	3.5
					Cyanide	<5	>100	Yes	6
					Fluoride	140	>100	Yes	152.5
					Lead	1	>100	Yes	0.85
					Nickel	2	>100	Yes	2.75
					Zinc	25.5	>100	Yes	7.48

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**Water Hardness (mg/l CaCo3) (where applicable)**	**Standard to be Achieved by 2010 (ug/l)**	**Has Standard Been Achieved?**	**Is an Article 9(1) Extension Proposed?**
Liffey	09L01	0400	Ballymore Eustace Br	N 927 097	Atrazine	<100	1	Yes	No
					Dichloromethane	<100	10	Yes	No
					Simazine	<100	1	Yes	No
					Toluene	<100	10	Yes	No
					Xelenes	<100	10	Yes	No
					Arsenic	<100	25	Yes	No
					Chromium	<100	5 30	Yes	No
					Copper	<100	5 30	Yes	No
					Cyanide	<100	10	Yes	No
					Fluoride	<100	500	Yes	No
					Lead	<100	5 10	Yes	No
					Nickel	<100	8 50	Yes	No
					Zinc	<100	see regs or 100	Yes	No
Liffey	09L01	0700	Kilcullen Br	N 832 097	Atrazine	>100	1	Yes	No
					Dichloromethane	>100	10	Yes	No
					Simazine	>100	1	Yes	No
					Toluene	>100	10	Yes	No
					Xelenes	>100	10	Yes	No
					Arsenic	>100	25	Yes	No
					Chromium	>100	5 30	Yes	No
					Copper	>100	5 30	Yes	No
					Cyanide	>100	10	Yes	No
					Fluoride	>100	500	Yes	No
					Lead	>100	5 10	Yes	No
					Nickel	>100	8 50	Yes	No
					Zinc	>100	see regs or 100	Yes	No
Liffey	09L01	0850	Connell Ford	N 813 137	Atrazine	>100	1	Yes	No
					Dichloromethane	>100	10	Yes	No
					Simazine	>100	1	Yes	No
					Toluene	>100	10	Yes	No
					Xelenes	>100	10	Yes	No
					Arsenic	>100	25	Yes	No
					Chromium	>100	5 30	Yes	No
					Copper	>100	5 30	Yes	No
					Cyanide	>100	10	Yes	No
					Fluoride	>100	500	Yes	No
					Lead	>100	5 10	Yes	No
					Nickel	>100	8 50	Yes	No
					Zinc	>100	see regs or 100	Yes	No

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**Water Hardness (mg/l CaCo3) (where applicable)**	**Standard to be Achieved by 2010 (ug/l)**	**Has Standard Been Achieved?**	**Is an Article 9(1) Extension Proposed?**
Liffey	09L01	1000	2.5 km d/s Newbridge	N 817 179	Atrazine	>100	1	Yes	No
					Dichloromethane	>100	10	Yes	No
					Simazine	>100	1	Yes	No
					Toluene	>100	10	Yes	No
					Xelenes	>100	10	Yes	No
					Arsenic	>100	25	Yes	No
					Chromium	>100	5 30	Yes	No
					Copper	>100	5 30	Yes	No
					Cyanide	>100	10	Yes	No
					Fluoride	>100	500	Yes	No
					Lead	>100	5 10	Yes	No
					Nickel	>100	8 50	Yes	No
					Zinc	>100	see regs or 100	Yes	No
Liffey	09L01	1050	Victoria Br	N 842 0194	Atrazine	>100	1	Yes	No
					Dichloromethane	>100	10	Yes	No
					Simazine	>100	1	Yes	No
					Toluene	>100	10	Yes	No
					Xelenes	>100	10	Yes	No
					Arsenic	>100	25	Yes	No
					Chromium	>100	5 30	Yes	No
					Copper	>100	5 30	Yes	No
					Cyanide	>100	10	Yes	No
					Fluoride	>100	500	Yes	No
					Lead	>100	5 10	Yes	No
					Nickel	>100	8 50	Yes	No
					Zinc	>100	see regs or 100	Yes	No
Liffey	09L01	1200	Castlekeely Ford	N 869 216	Atrazine	>100	1	Yes	No
					Dichloromethane	>100	10	Yes	No
					Simazine	>100	1	Yes	No
					Toluene	>100	10	Yes	No
					Xelenes	>100	10	Yes	No
					Arsenic	>100	25	Yes	No
					Chromium	>100	5 30	Yes	No
					Copper	>100	5 30	Yes	No
					Cyanide	>100	10	Yes	No
					Fluoride	>100	500	Yes	No
					Lead	>100	5 10	Yes	No
					Nickel	>100	8 50	Yes	No
					Zinc	>100	see regs or 100	Yes	No

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**Water Hardness (mg/l CaCo3) (where applicable)**	**Standard to be Achieved by 2010 (ug/l)**	**Has Standard Been Achieved?**	**Is an Article 9(1) Extension Proposed?**
Liffey	09L01	1500	Alexandra Br	N 880 270	Atrazine	>100	1	Yes	No
					Dichloromethane	>100	10	Yes	No
					Simazine	>100	1	Yes	No
					Toluene	>100	10	Yes	No
					Xelenes	>100	10	Yes	No
					Arsenic	>100	25	Yes	No
					Chromium	>100	5 30	Yes	No
					Copper	>100	5 30	Yes	No
					Cyanide	>100	10	Yes	No
					Fluoride	>100	500	Yes	No
					Lead	>100	5 10	Yes	No
					Nickel	>100	8 50	Yes	No
					Zinc	>100	see regs or 100	Yes	No
Liffey	09L01	1700	Br. In Celbridge	N 974 329	Atrazine	>100	1	Yes	No
					Dichloromethane	>100	10	Yes	No
					Simazine	>100	1	Yes	No
					Toluene	>100	10	Yes	No
					Xelenes	>100	10	Yes	No
					Arsenic	>100	25	Yes	No
					Chromium	>100	5 30	Yes	No
					Copper	>100	5 30	Yes	No
					Cyanide	>100	10	Yes	No
					Fluoride	>100	500	Yes	No
					Lead	>100	5 10	Yes	No
					Nickel	>100	8 50	Yes	No
					Zinc	>100	see regs or 100	Yes	No
Liffey	09L01	1900	Leixlip Br.	O 008 358	Atrazine	>100	1	Yes	No
					Dichloromethane	>100	10	Yes	No
					Simazine	>100	1	Yes	No
					Toluene	>100	10	Yes	No
					Xelenes	>100	10	Yes	No
					Arsenic	>100	25	Yes	No
					Chromium	>100	5 30	Yes	No
					Copper	>100	5 30	Yes	No
					Cyanide	>100	10	Yes	No
					Fluoride	>100	500	Yes	No
					Lead	>100	5 10	Yes	No
					Nickel	>100	8 50	Yes	No
					Zinc	>100	see regs or 100	Yes	No

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**Water Hardness (mg/l CaCo3) (where applicable)**	**Standard to be Achieved by 2010 (ug/l)**	**Has Standard Been Achieved?**	**Is an Article 9(1) Extension Proposed?**
Painestown	09P01	0400	Painestown Bridge	N 940 243	Atrazine	>100	1	Yes	No
					Dichloromethane	>100	10	Yes	No
					Simazine	>100	1	Yes	No
					Toluene	>100	10	Yes	No
					Xelenes	>100	10	Yes	No
					Arsenic	>100	25	Yes	No
					Chromium	>100	5 30	Yes	No
					Copper	>100	5 30	Yes	No
					Cyanide	>100	10	Yes	No
					Fluoride	>100	500	Yes	No
					Lead	>100	5 10	Yes	No
					Nickel	>100	8 50	Yes	No
					Zinc	>100	see regs or 100	Yes	No

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**If Yes, What is the proposed compliance date**	**Is an Article 9(2) Exemption Proposed?**	**Where Quality is Unsatisfactory What is the Principal Source of Pollution**	**If there is an identifiable source, please enter details**
Liffey	09L01	0400	Ballymore Eustace Br	N 927 097	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		
Liffey	09L01	0700	Kilcullen Br	N 832 097	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		
Liffey	09L01	0850	Connell Ford	N 813 137	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**If Yes, What is the proposed compliance date**	**Is an Article 9(2) Exemption Proposed?**	**Where Quality is Unsatisfactory What is the Principal Source of Pollution**	**If there is an identifiable source, please enter details**
Liffey	09L01	1000	2.5 km d/s Newbridge	N 817 179	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		
Liffey	09L01	1050	Victoria Br	N 842 0194	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		
Liffey	09L01	1200	Castlekeely Ford	N 869 216	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008						
River Name	**River Code**	**Monitoring Station Code**	**Station Location Name**	**Grid Reference**	**Dangerous substance**	**If Yes, What is the proposed compliance date**	**Is an Article 9(2) Exemption Proposed?**	**Where Quality is Unsatisfactory What is the Principal Source of Pollution**	**If there is an identifiable source, please enter details**
Liffey	09L01	1500	Alexandra Br	N 880 270	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		
Liffey	09L01	1700	Br. In Celbridge	N 974 329	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		
Liffey	09L01	1900	Leixlip Br.	O 008 358	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		

TABLE 1.1: SUMMARY OF CURRENT STATUS OF RIVER IN FUNCTIONAL AREA AND STANDARDS TO BE ACHIEVED

Local Authority Name	Kildare County Council	Report Year	2008

River Name	River Code	Monitoring Station Code	Station Location Name	Grid Reference	Dangerous substance	If Yes, What is the proposed compliance date	Is an Article 9(2) Exemption Proposed?	Where Quality is Unsatisfactory What is the Principal Source of Pollution	If there is an identifiable source, please enter details
Painestown	09P01	0400	Painestown Bridge	N 940 243	Atrazine	NA	No		
					Dichloromethane	NA	No		
					Simazine	NA	No		
					Toluene	NA	No		
					Xelenes	NA	No		
					Arsenic	NA	No		
					Chromium	NA	No		
					Copper	NA	No		
					Cyanide	NA	No		
					Fluoride	NA	No		
					Lead	NA	No		
					Nickel	NA	No		
					Zinc	NA	No		

SECTION 2 IDENTIFICATION OF POTENTIAL PRESSURES

SECTION 2 - IDENTIFICATION OF POTENTIAL PRESSURES

The Dangerous Substances Regulations, 2001, prescribe water quality standards in respect of 14 dangerous substances in surface waters (rivers, lakes and tidal waters) as presented below. These substances include pesticides, solvents, metals and other substances. The Regulations give further effect to the EU Council Dangerous Substance Directive (76/464/EC) and give effect to certain provisions of the EU Water Framework Directive (2000/60/EC).

Standards for Dangerous Substances in Surface Freshwaters (S.I. No. 12 of 2001)

Substance	Dangerous Substance EQS (µg/l)	
	Hardness 100mg/l CaCO3	Hardness >100mg/l CaCO3
Arsenic	25	25
Chromium	5	30
Copper	5	30
Cyanide	10	10
Fluoride	500	500
Lead	5	10
Nickel	8	50
Zinc	(see notes**)	100
	Applicable for all Hardness Values	
Atrazine	1	
Dichloromethane	10	
Simazine	1	
Toluene	10	
Tributyltin*	0.001	
Xylene	10	

Notes: * The proposed standard for Tributyltin shall apply in relation to tidal waters only
**Values for metals are for total metal concentration (dissolved and colloidal/s.s.)
In the case of Zinc, the standard shall be –
8 µg/l for water hardness less than or equal to 10 mg/l CaCO3
50 µg/l for water hardness greater than 10 mg/l CaCO3 and less than or equal to 100mg/lCaCO3

These substances can enter the aquatic environment from point and diffuse sources.

IDENTIFICATION OF POTENTIAL PRESSURES

POTENTIAL POINT SOURCES

- **Industrial Discharges**

A preliminary study of all activities in County Kildare that are licenced to discharge trade or sewage effluent to surface waters, groundwaters and sewerage systems was carried out prior to the Dangerous Substances Measures Report 2002 to identify potential point sources of dangerous substances. This study included activities licenced under the Local Government (Water Pollution) Act 1977-1990 and the Environmental Protection Agency Act 1992. The list of activities has been updated as previously identified activities have had their licences revoked and are no longer operating. The companies in question are Champion Spark Plugs and Magna Donnelly Electronics Naas Limited (Donnelly Mirrors). The revised assessment is detailed in Table A1 and Table B1.

Table A1: Assessment of all licenced activities in County Kildare

Substance	Uses	Potential Catchment Source	Have emission limit values for these dangerous substances been identified in licenced discharges?
Arsenic	In metallurgy for hardening copper, lead, alloys. In the manufacture of certain types of glass, wood preservative	Direct loss from timber yards, wastewater treatment plants, industrial outfalls	Yes
Chromium	Manufacture of stainless steel, Plating, Tanning	Wastewater treatment plants, industrial outfalls	Yes
Copper	Manufacture of copper alloys, electrical conductors & ammunition	Wastewater treatment plants, industrial outfalls	Yes
Cyanide	Manufacture of stainless steel, mining	Wastewater treatment plants, industrial outfalls	Yes
Fluoride	Water Treatment	Wastewater Treatment Plants	Yes
Lead	Construction material for tank linings, piping, x-ray protection	Wastewater treatment plants, industrial outfalls, landfills	Yes
Nickel	Plating, batteries, electrical contacts, manufacture of stainless steel	Wastewater treatment plants, industrial outfalls, landfills	Yes
Zinc	Alloys, galvanizing steel iron, household utensils, castings, protective coating for other metals to prevent corrosion	Wastewater treatment plants, industrial outfalls, landfills	Yes
Atrazine	Selective herbicide	Agricultural run-off, urban run-off	No
Dichloromethane	Solvent, degreasing & cleaning fluids	Wastewater treatment plants, industrial outfalls	Yes
Simazine	Herbicide for control of broadleaf and grassy weeds	Agricultural run-off, urban run-off	No
Toluene	Manufacture of organic compounds (e.g. dyes, explosives) & Solvent	Wastewater treatment plants, industrial outfalls	No**
Tributylin*			No
Xylene	Raw material for production of benzoic acid and used in the manufacture of dyes and polyester fibres; solvent	Wastewater treatment plants, industrial outfalls	Yes

***The proposed standard for Tributylin shall apply in relation to tidal waters only.
**Nitrotoluene monitoring required for process effluent and groundwater monitoring at Irish Industrial explosives (IPPC)

Table B1: Licenced activities with potential to contribute Dangerous Substances to freshwaters or wastewater treatment plants

Activity	Selection Criteria	Licence	Relevant dangerous substance	Receiving water/sewer	Catchment
MSR Ltd.	Rinsing of metal products	Section 16	Copper, Nickel, Zinc	Osberstown WWTP	Liffey
Newbridge Cutlery	Manufacture of cutlery, gift items, jewellery (electroplating)	Section 16	Copper, Cyanide, Nickel, Zinc	Osberstown WWTP	Liffey
Tegral Building Products	Manufacture of building products, use of high speed metal cutting tools	Section 4	Chromium	River Barrow	Barrow
Schloetter (Ireland) Ltd.	Manufacture of inorganic chemicals	IPPC	Chromium, Copper, Cyanide, Lead, Nickel, Zinc	Osberstown WWTP	Liffey
Hewlett Packard (Manufacturing) Ltd.	Manufacture of computer components, use of organic solvents	IPPC	Arsenic, Chromium, Cyanide, Nickel	Leixlip WWTP	Liffey
Intel Ireland Ltd.	Manufacture of integrated circuits and printed circuit boards	IPPC	Arsenic, Chromium, Copper, Cyanide, Fluoride, Lead, Nickel, solvents	Leixlip WWTP	Liffey
P.D.M. Limited	Manufacture of timber products, use of wood preservatives	IPPC	Arsenic, Chromium	Tributary of the Kill River (Tributary of Painestown River - 09P01)	Liffey
Wyeth Medica Ireland	Pharmaceutical, use of organic solvents	IPPC	Dichloromethane	Osberstown WWTP	Liffey
Irish Industrial Explosives	Manufacture by way of chemical process of organic or organo-metallic chemical products other than those specified in 5.2	IPPC	Nitrotoluene (Nitration of toluene) Company have advised Kildare County Council that nitrotoluene has never been used at this site.	Not applicable	Boyne

- **Wastewater Treatment Plants**

There are two large Regional Wastewater Treatment Plants situated at Osberstown and Leixlip both of which discharge treated effluent to the main channel of the River Liffey. The current design population equivalent for both plants is 80,000 with Osberstown set to increase to 130,000 and Leixlip to 150,00 when upgrade work is complete.

The Regional Wastewater Treatment Plant at Osberstown receives effluent from the agglomerations of Clane, Johnstown, Kill, Naas, Newbridge, Prosperous and Sallins. The total number of licences issued under Section 16 of the Local Government (Water Pollution) Acts 1977-1990 numbers 59 in these areas. Similarly, there are 11 activities licensed through the Environmental Protection Agency Integrated Pollution Prevention Control process.

The Regional Wastewater Treatment Plant at Leixlip receives effluent from the agglomerations of Celbridge, Kilcock, Leixlip, Maynooth and Straffan. There are a total of 21 Section 16 licences and 3 Integrated Pollution Prevention Control licences issued in the catchment area of Leixlip Wastewater Treatment Plant.

All new licence applications and licence reviews have been determined on the basis of the specified standards in the Water Quality (Dangerous Substances) Regulations, 2001 applying.

As part of the Three Rivers Project, a limited sampling programme for dangerous substances was devised with the aim of identifying if dangerous substances are likely to be present in rivers downstream of potential point sources of pollution. The point source selected was the Osberstown WWTP and its possible impact on the River Liffey. The findings of this exercise and a similar exercise carried out by the Kildare County Council Environment Section proved somewhat inconclusive and it was recommended to further investigate the extent to which the final effluent produced at a large wastewater treatment plant treating a raw effluent containing sewage effluent and trade effluents from a variety of sources may be impacting on the receiving water.

Grab samples of the final effluent have been taken in conjunction with sampling of the River Liffey and a total of 19 final effluent samples have been analysed for the relevant Dangerous Substances since September 2003.

The findings show that during the sampling period only 6 of the Dangerous Substances have been detected in the final effluent at levels greater that the standard set for “freshwaters”. The monitoring results are checked against the standards for freshwaters where the hardness of the water is >100 mg/l CaCO3, applicable to this stretch of river.

The substances and their percentage occurrence are Fluoride (58%), Cyanide (37%), Nickel (26%), Zinc (21%), Copper (10.5%) and Dichloromethane (5.3%).

This information supports the findings of the study into potential sources of Dangerous Substances from licensed activities as 1 or more of the 5 substances identified are produced at each of the 4 licensed activities in the Osberstown WWTP catchment. The occurrence of fluoride should not be surprising as it arises from the fluoridation of public drinking water supplies.

The monitoring data relating to the Osberstown Regional Wastewater Treatment Plant final effluent for the period 09/09/03 – 26/05/08 is set out in Table F1 below.

Table F1: Osberstown Regional Wastewater Treatment Plant – Dangerous Substances Monitoring of the Final Effluent

	Sample Date																		
Substance	**09/09/03**	**09/11/04**	**23/11/04**	**08/12/04**	**21/12/04**	**13/04/05**	**21/06/05**	**21/07/05**	**14/09/05**	**13/10/05**	**17/11/05**	**01/03/06**	**24/04/06**	**17/07/06**	**13/03/07**	**31/05/07**	**22/08/07**	**31/03/08**	**26/05/08**
Atrazine	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichloromethane	20	4	2	<1	<1	4.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Simazine	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Toluene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tributylin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylene	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Arsenic	1.9	1	<1	1	<0.96	1	1	<0.96	1	1	<0.96	1	3	<0.96	<0.96	1	1	<0.96	1
Chromium	<2.0	<4.6	<4.6	<4.6	2	4	7	2	1	1	4	5	31	7	7	5	1	1	1
Copper	9.7	3	2	2	2	16	48	3	2	9	4	9	102	7	7	2	5	3	4
Cyanide	32	12	<5	8	34	<5	22	<5	32	16	12	10	48	<5	<5	8	<5	5	<5
Fluoride	450	570	460	540	450	520	510	680	600	540	480	190	850	570	520	400	<90	330	460
Lead	1.7	<1	<1	<1	<0.38	8	7	1	2	3	3	1	9	2	1	<0.38	3	1	1
Nickel	19.2	62	35	10	18	103	57	29	39	47	21	9	90	29	313	15	16	15	14
Zinc	72	133	123	61	75	<1.8	119.8	60.5	89.3	50.3	26.3	8.2	212.9	22.2	42.8	14.5	40.7	7.6	12.7
Hardness*	161	152	157	153	133	174	173	135	224	183	180	148	184	140	239	165	145	171	188

Note*: Hardness of water measured in mg/l CaCO3

Concentrations above standards for “freshwaters” set out in Water Quality (Dangerous Substances) Regulations, 2001 (S.I. No. 12 of 200

- **Discharges from Farmyards and Agricultural Run-off**

The agricultural sector continues to be a major contributor to poor water quality in rivers throughout County Kildare. In addition, a small number of very serious pollution incidents have occurred which are attributable to farming practices.

Therefore a significant effort is being put into the area of farm surveys and the identification of point and non-point discharges relating to farming activities.

Farm surveys have commenced in each of the 24 river sub-catchments in the County. Areas where water quality is unsatisfactory are given priority although all catchments will be targeted with a view to achieving or maintaining satisfactory water quality conditions.

Farm surveys are carried out for the purpose of the European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006 and also as a measure to address water quality issues under the Local Government (Water Pollution) Act 1977, (Water Quality Standards for Phosphorus) Regulations 1998 (S.I. 258 of 1998). Since the introduction of the Phosphorus Regulations a total of 621 farm surveys have been completed. There is now a legal requirement for farmers to follow Good Agricultural Practice giving the Local Authorities additional powers of enforcement.

The possible input of dangerous substances to the aquatic environment from the agricultural sector is being addressed during farm survey work.

Water quality monitoring has so far not suggested that the agricultural sector is contributing Dangerous Substances, in particular Atrazine and Simazine, in sufficient quantities to be harmful to the aquatic environment.

- **Water Treatment Plants**

Fluoride mainly arises from the fluoridation of public water supplies and from industrial discharges and also occurs naturally in rare instances. Regional Water Treatment Plants at Ballymore Eustace and Leixlip as well as Group Water Schemes and private wells supply drinking water to County Kildare. There is no evidence to suggest any problem with fluoride discharges to freshwater from any of these sources.

POTENTIAL DIFFUSE SOURCES

- **Agricultural Run-Off**

The possible input of dangerous substances from the agricultural sector is being addressed during farm survey work throughout the county and particularly the extensive tillage areas of south Kildare where the use of herbicides to control broadleaf and grassy weeds is utilised.

- **Other Potential Sources**

Other potential point or diffuse sources of dangerous substances may exist at activities licenced by the Environmental Protection Agency. In order to be aware of these, a list of all activities with an Integrated Pollution Control Licence or Waste Licence is illustrated in Table H1 below.

Table H1: Activities licenced by the E.P.A. in County Kildare (Active)

Organisation/Facility Name	Location	Licence Type
Schloetter Ireland Ltd.	Newbridge	IPPC
Crown Packaging Ireland Limited	Athy	IPPC
Boran Plastic Packaging Limited	Johnstown	IPPC
Wyeth Medica Ireland	Newbridge	IPPC
Kildare Chilling Company	Kildare	IPPC
M. J. Bergin & Sons Limited	Broadford	IPPC
Hewlett Packard (Manufacturing) Ltd.	Leixlip	IPPC
Oral B Laboratories Irl.	Newbridge	IPPC
Intel Ireland Ltd.	Leixlip	IPPC
General Paints Ltd	Celbridge	IPPC
Curragh Tintawn Carpets Ltd.	Newbridge	IPPC
Trimite Truecoat Limited	Naas	IPPC
HDS Energy Ltd.	Celbridge	IPPC
Kelly Coachbuilders Limited	Castledermot	IPPC
Braun Oral – B Ireland Limited	Newbridge	IPPC
P.D.M. Limited	Kill	IPPC
Future Pigs Limited	Nurney	IPPC
Messrs P Field and P O Flaherty	Killyguire, Rathangan	IPPC
Glanbia Foods Limited	Ballytore	IPPC
Irish Industrial Explosives	Clonagh, Enfield	IPPC
Arrow Group	Naas	IPPC
Green Isle Foods Limited	Naas	IPPC
South Dublin County Council - Arthurstown Landfill	Kill	Waste
Kildare County Council - Silliot Hill Landfill	Kilcullen	Waste
Nephin Trading Limited	Kerdiffstown, Naas	Waste
KTK Landfill Limited	Brownstown, Carnalway	Waste
Yellow Bins (Waste Disposal) Limited	Donore	Waste
Carbury Compost Limited	Drummond	Waste
KTK Sand & Gravel Ltd	Ballymore Eustace, Coughlanstown	Waste
Brivin Enterprises - Westside Waste	Maynooth	Waste
Kildare County Council – Athy Civiv Amenity Site	Athy	Waste
Bord Na Mona	Kilberry	Waste
Bord Na Mona PLC	Parsonstown, Coolcarrigan, Carbury, Loughnacush, Killinagh Lower & Upper, Kilkeaskin, Drummond, Timahoe West	Waste

Note that there are a number of applications currently with the Environmental Protection Agency

CATCHMENT BASED ANALYSIS OF THREATS TO WATER QUALITY

River Barrow Catchment

A preliminary assessment of all activities licensed under the Local Government (Water Pollution) Acts 1977 - 1990, as amended, and the Environmental Protection Agency Act 1992, identified one company in the River Barrow catchment having the potential to discharge a Dangerous Substance to surface water, namely, Tegral Building Products. Sampling of this discharge is ongoing in accordance with the Kildare County Council Environmental Inspection Plan (RMCEI). Monitoring of the receiving water upstream and downstream of the discharge is carried out.

The Athy Wastewater Treatment Plant is located in the River Barrow catchment and treats industrial and sewage effluent generated in Athy Town. None of the Section 16 licenced activities discharging to this treatment plant appear to have the potential to discharge Dangerous Substances. A number of smaller Local Authority wastewater treatment plants within the catchment are treating domestic sewage with some input from businesses involved in the catering business.

Agricultural land in the River Barrow catchment is used predominantly for tillage and livestock with areas of land around Athy used for horticulture. The extent of the use of the herbicides, Atrazine and Simazine, in this catchment is unknown but the potential input of these dangerous substances from the agricultural sector is being addressed during the farm surveys and will be further investigated through the Dangerous Substances monitoring programme.

River Boyne Catchment

A study of all activities licensed under the Local Government (Water Pollution) Acts 1977 - 1990, as amended, and the Environmental Protection Agency Act 1992, has identified an activity with a potential to discharge nitrotoluene to surface water or groundwater.

Irish Industrial Explosives Ltd., Clonagh, Enfield is categorised by *The Class of Activity: (5.3) The manufacture by way of chemical reaction processes of organic or organo-metallic chemical products other than those specified at 5.2 and not included in paragraphs 5.12 to 5.17.* The company has advised Kildare County Council that nitrotoluene is not in use and has never been used at the site. The company ceased using dinitrotoluene in 2003.

Agricultural land in the section of the River Boyne catchment in County Kildare is devoted mainly to dry cattle production, dairying and some tillage.

River Liffey Catchment

The study of all activities licensed under the Local Government (Water Pollution) Acts 1977 - 1990, as amended, and the Environmental Protection Agency Act 1992, identified 7 premises having the potential to discharge Dangerous Substances to surface water (1) or to wastewater treatment plants (6) in the River Liffey catchment.

P.D.M. Limited, Oldmilltowm, Kill is categorised by *The Class of Activity: (8.3) The treatment or protection of wood involving the use of preservatives with a capacity exceeding 10 tonnes per day*. Process effluent is treated on-site prior to discharge to the Painestown River. Dangerous Substance monitoring at a downstream location, Painestown Bridge (Code: 09P010400) shows full compliance with the prescribed standards for freshwaters.

The Regional Wastewater Treatment Plants at Osberstown and Leixlip are also located in the River Liffey catchment. Monitoring of Dangerous Substances concentrations in the final effluent from the Osberstown WWTP is being carried out as part of the Dangerous Substances monitoring programme.

In the River Liffey catchment, agricultural land is used for mixed farming and bloodstock production.

SECTION 3 PROGRAMME FOR IMPLEMENTATION

Table 2.1 County Implementation Programme

Table 2.2 Implementation Programme Summary Table for each River

Table 2.1 County Implementation Programme

TABLE 2.1 IMPLEMENTATION PROGRAMME SUMMARY TABLE FOR LOCAL AUTHORITY AREA						
Local Authority Name	**Kildare County Council**	**Reporting Year**	**2008**			
Standard to be achieved	**Measures**	**Targets**	**Actions**	**Timeframe**	**Responsible for Implementation**	**Progress to Date**
Achieve full compliance with the prescribed standards for freshwater as specified in the Dangerous Substances Regulations.	Assess applications for Section 4 & 16 licences with regard to Dangerous Substances Regulations.	Reduce Dangerous Substances inputs to freshwaters.	Assess Dangerous Substance loads, where relevant, for all new licence applications, establish assimilative capacity of the receiving water, potential impact on sewerage systems, and apply appropriate emmission limit values.	Ongoing	S.E. Environment	41 Section 4 licences and 93 Section 16 licences are currently active in County Kildare.
	Review Section 4 & 16 licenses having regard for the Dangerous Substances Regulations	Reduce Dangerous Substances inputs to freshwaters.	Assess Dangerous Substance loads, where relevant, for all new licence applications, establish assimilative capacity of the receiving water, potential impact on sewerage systems, and apply appropriate emmission limit values.	Ongoing	S.E. Environment	All Section 4 & 16 licences have been reviewed having regard for the Dangerous Substances Regulations.
	Assess impact of Wastewater Treatment Plants, Pumping Stations and CSO's on freshwaters.	Reduce Dangerous Substances inputs to freshwaters.	Establish if a large regional WWTP is having a deleterious impact on a receiving water.	Ongoing	S.E. Environment & S.E. Sanitary Services	The Osberstown Regional WWTP does not impact on the River Liffey in a deleterious manner from the point of view of the Dangerous Substances.
	Enforcement of Local Government (Water Pollution) Acts 1977 - 1990	Reduce Dangerous Substances inputs to freshwaters.	Enforcement powers under the Water Pollution Acts to be fully utilised.	Ongoing	S.E. Environment	21 Section 12 Notices issued in this reporting period.
	Carry out farm inspections having regard for the Dangerous Substances Regulations.	Reduce Dangerous Substances inputs to freshwaters.	Prioritise farm inspections in areas of unsatisfactory water quality.	Ongoing	S.E. Environment	621 farm inspections completed.

TABLE 2.1 IMPLEMENTATION PROGRAMME SUMMARY TABLE FOR LOCAL AUTHORITY AREA						
Local Authority Name	**Kildare County Council**	**Reporting Year**	**2008**			
Standard to be achieved	**Measures**	**Targets**	**Actions**	**Corrective Actions**	**Action Completed Within Timeframe Yes/No**	**If Not, State Revised Timeframe**
Achieve full compliance with the prescribed standards for freshwater as specified in the Dangerous Substances Regulations.	Assess applications for Section 4 & 16 licences with regard to Dangerous Substances Regulations	Reduce dangerous substances inputs to freshwaters.	Assess Dangerous Substance loads, where relevant, for all new licence applications, establish assimilative capacity of the receiving water, potential impact on sewerage systems, and apply appropriate emmission limit values.		Ongoing	Ongoing
	Review Section 4 & 16 licenses having regard for the Dangerous Substances Regulations	Reduce dangerous substances inputs to freshwaters.	Assess Dangerous Substance loads, where relevant, for all new licence applications, establish assimilative capacity of the receiving water, potential impact on sewerage systems, and apply appropriate emmission limit values.		Ongoing	Ongoing
	Assess impact of Wastewater Treatment Plants, Pumping Stations and CSO's on freshwaters.	Reduce dangerous substances inputs to freshwaters.	Establish if a large regional WWTP is having a deleterious impact on a receiving water.		Ongoing	Ongoing
	Enforcement of Local Government (Water Pollution) Acts 1977 - 1990	Reduce Dangerous Substances inputs to freshwaters.	Enforcement powers under the Water Pollution Acts to be fully utilised.		Ongoing	Ongoing
	Carry out farm inspections having regard for the Dangerous Substances Regulations.	Reduce Dangerous Substances inputs to freshwaters.	Prioritise farm inspections in areas of unsatisfactory water quality.		Ongoing	Ongoing

Table 2.2 Implementation Programme Summary Table for each River

TABLE 2.2 IMPLEMENTATION PROGRAMME SUMMARY TABLE FOR RIVERS IN LOCAL AUTHORITY AREA

Local Authority Name	Kildare County Council	Reporting Year	2008				
River	**Reach of River**	**Standard to be achieved**	**Measures**	**Targets**	**Actions**	**Timeframe**	**Responsible for Implementation**
Liffey - 09L01	Ballymore Eustace Br. (0400) - Leixlip Br. (RHS)(1900)	Achieve full compliance with the prescribed standards for freshwater as specified in the Dangerous Substances Regulations.	Assess applications for Section 4 & 16 licences with regard to Dangerous Substances Regulations.	Reduce Dangerous Substances inputs to freshwaters.	Assess Dangerous Substance loads, where relevant, for all new licence applications, establish assimilative capacity of the receiving water, potential impact on sewerage systems, and apply appropriate emmission limit values.	Ongoing	S.E. Environment
			Review Section 4 & 16 licenses having regard for the Dangerous Substances Regulations	Reduce Dangerous Substances inputs to freshwaters.	Assess Dangerous Substance loads, where relevant, for all new licence applications, establish assimilative capacity of the receiving water, potential impact on sewerage systems, and apply appropriate emmission limit values.	Ongoing	S.E. Environment
			Assess impact of Wastewater Treatment Plants, Pumping Stations and CSO's on freshwaters.	Reduce Dangerous Substances inputs to freshwaters.	Carry out monitoring to establish if a large regional WWTP is having a deleterious impact on a receiving water.	Ongoing	S.E. Environment S.E. Water Services
			Enforcement of Local Government (Water Pollution) Acts 1977 - 1990	Reduce Dangerous Substances inputs to freshwaters.	Enforcement powers under the Water Pollution Acts to be fully utilised.	Ongoing	S.E. Environment
			Carry out farm inspections having regard for the Dangerous Substances Regulations.	Reduce Dangerous Substances inputs to freshwaters.	Prioritise farm inspections in areas of unsatisfactory water quality.	Ongoing	S.E. Environment
Painetsown - 09P01	Painestown Br. (0400)	Achieve full compliance with the prescribed standards for freshwater as specified in the Dangerous Substances Regulations.	Assess applications for Section 4 & 16 licences with regard to Dangerous Substances Regulations.	Reduce Dangerous Substances inputs to freshwaters.	Assess Dangerous Substance loads, where relevant, for all new licence applications, establish assimilative capacity of the receiving water, potential impact on sewerage systems, and apply appropriate emmission limit values.	Ongoing	S.E. Environment
			Review Section 4 & 16 licenses having regard for the Dangerous Substances Regulations	Reduce Dangerous Substances inputs to freshwaters.	Assess Dangerous Substance loads, where relevant, for all new licence applications, establish assimilative capacity of the receiving water, potential impact on sewerage systems, and apply appropriate emmission limit values.	Ongoing	S.E. Environment
			Assess impact of IPPC licensed activity on Painestown River.	Reduce Dangerous Substances inputs to freshwaters.	Carry out monitoring at downstream monitoring station.	Ongoing	S.E. Environment
			Enforcement of Local Government (Water Pollution) Acts 1977 - 1990	Reduce Dangerous Substances inputs to freshwaters.	Enforcement powers under the Water Pollution Acts to be fully utilised.	Ongoing	S.E. Environment
			Carry out farm inspections having regard for the Dangerous Substances Regulations.	Reduce Dangerous Substances inputs to freshwaters.	Prioritise farm inspections in areas of unsatisfactory water quality.	Ongoing	S.E. Environment

TABLE 2.2 IMPLEMENTATION PROGRAMME SUMMARY TABLE FOR RIVERS IN LOCAL AUTHORITY AREA							
Local Authority Name	**Kildare County Council**	**Reporting Year**	**2008**				
River	**Reach of River**	**Standard to be achieved**	**Measures**	**Progress to Date**	**Corrective Actions**	**Action Completed Within Timeframe Yes/No**	**If Not, State Revised Timeframe**
Liffey - 09L01	Ballymore Eustace Br. (0400) - Leixlip Br. (RHS)(1900)	Achieve full compliance with the prescribed standards for freshwater as specified in the Dangerous Substances Regulations.	Assess applications for Section 4 & 16 licences with regard to Dangerous Substances Regulations.	16 Section 4 and 74 Section 16 licences active in the Liffey catchment		Ongoing	Ongoing
			Review Section 4 & 16 licenses having regard for the Dangerous Substances Regulations	All licences reviewed for purpose of the Regulations.		Ongoing	Ongoing
			Assess impact of Wastewater Treatment Plants, Pumping Stations and CSO's on freshwaters.	Monitoring indicates that the Osberstown Regional WWTP does not impact on the River Liffey from a Dangerous Substances persepctive.		Ongoing	Ongoing
			Enforcement of Local Government (Water Pollution) Acts 1977 - 1990	8 Section 12 Notices issued during this reporting period.	Review status of all Section 12 Notices issued to date.	Ongoing	Ongoing
			Carry out farm inspections having regard for the Dangerous Substances Regulations.	A total of 147 farm inspections have been carried out in the River Liffey catchment.	Review status of all farms inspected.	Ongoing	Ongoing
		Achieve full compliance with the prescribed standards for freshwater as specified in the Dangerous Substances Regulations.	Assess applications for Section 4 & 16 licences with regard to Dangerous Substances Regulations.	2 Section 4 licences have been granted in the Painestown catchment.			
			Review Section 4 & 16 licenses having regard for the Dangerous Substances Regulations	All licences have been granted/reviewed having regard for the Dangerous Substances.			
			Assess impact of IPPC licensed activity on Painestown River.	P.D.M. Ltd. Does not appear to be having a deleterious impact on the Painestown River.	Investigate status of Dangerous Substances use/production at the P.D.M. Ltd. Site.		
			Enforcement of Local Government (Water Pollution) Acts 1977 - 1990	No enforcement notices issued in the Painestown catchment in this reporting period.			
			Carry out farm inspections having regard for the Dangerous Substances Regulations.	A total of 28 farm inspections have been carried out in the Painestown River catchment.			

SECTION 4 – PROGRESS TO DATE

4.1 PLANNING CONTROL AND ENFORCEMENT MEASURES

a) Progress During Reporting Period

1) Licensing

Applications for licences under Section 4 and 16 of the Local Government (Water Pollution) Acts 1977 - 1990 are assessed having regard for the presence of Dangerous Substances in the treated effluent or trade effluent discharges. There are presently 41 Section 4 licences and 93 Section 16 licences issued in County Kildare. All existing licences have been reviewed and, where necessary revised on the basis of meeting the prescribed standards.

A number of premises have been identified as having the potential to discharge Dangerous Substances, either to surface waters or to sewerage systems. The discharge of Dangerous Substances from these activities is regulated and controlled through the licensing process having regard to the relevant prescribed standards.

Further investigation is required to establish if stricter emission limit values are warranted in any of the cases listed in Table B1.

2) Wastewater Treatment Plants

Ongoing monitoring of the final effluent from the Osberstown Regional Wastewater Treatment Plant indicates that as a point source, it does not present a serious threat of pollution to the River Liffey with regard to the Dangerous Substances.

b) Problems Encountered

No problems encountered.

c) Future Plans /New Directions

A further study of all the activities with a potential to discharge Dangerous Substances to surface waters, groundwater or sewerage systems is required to take account of process changes at some of these activities.

4.2 CONSULTATIVE AND CO-OPERATIVE MEASURES

a) Progress During Reporting Period

1) Environmental Enforcement Network

The Environmental Enforcement Network (EEN) was set up in 2004 to allow public bodies involved in environmental protection and regulation to work together to achieve more consistent and effective enforcement of environmental legislation.

The main bodies of the EEN are:

- EPA Office of Environmental Enforcement
- Local Authorities
- Government Departments
- Gardai and some specific Garda units including Criminal Assets Bureau.

The network is overseen by a Steering Committee made up of members of the above organisations and considers the ongoing work of the network and sets the priorities for the network on a continual basis. Working groups have been created to develop guidance and procedures to deal with a number of environmental priority areas such as Enforcement Management, Water, Waste, Producer Responsibility (Waste) and Kildare County Council is represented on these working groups.

2) Water Framework Directive

The Water Framework Directive was transposed into Irish law by the European Communities (Water Policy) Regulations, 2003 (S.I. No. 722). These regulations required the establishment of River Basin Districts. County Kildare is located in the Eastern River Basin District (ERBD) and the South Eastern River Basin District (SERBD).

The Regulations established the River Basin District Advisory Councils. This provided a forum for systematic involvement of interested parties. Kildare is represented by two Elected Members on each of the respective RBD Advisory Councils in addition to sectoral representatives.

Written consultation, Internet, media, and the River Basin District Advisory Councils facilitate the key requirement of engaging and consulting with relevant stakeholders and the public.

The publication of the Overview of Significant Water Management Issues (SWMI) reports in June 2007 each River Basin District was followed by a period of 6 months public consultation. The ERBD Project had a 'Water Matters' road show at locations throughout the district. The road show came to Naas (Lawlor's Hotel) on 31/10/2007 and was attended by staff from Kildare County Council. Similarly, the SERBD Project held public meetings and workshops e.g. in Portlaoise on 20/11/2007. Notices were also placed in local press.

Kildare continue to be represented on the SERBD Management Group, the ERBD Technical Council and the ERBD Steering Committee. This has facilitated communication and data exchange from the SERBD and ERBD Projects and the local authority staff. In addition, representatives from Kildare County Council form part of the National Programme of Measures (POMs) Steering Group on Abstraction Pressures, which is lead by ERBD Project.

Kildare is represented on the Steering Group for Hydrological Aspects of the Water Framework Directive.

The publication in June 2008 by the Department of the Environment, Heritage and Local Government of the document *River Basin Management Planning – A Practical Guide for Public Authorities* is being made available on the Intranet. This will further increase awareness of the process to staff within the Local Authority, in particular those dealing within the areas of water and planning policy.

b) Problems Encountered

No problems encountered.

c) Future Plans and New Directions

1) Water Framework Directive

Various deadlines in the implementation of the Regulations have recently been amended by the European Communities (Water Policy) (Amendment) Regulations, 2008 (S.I. No. 219).

A requirement of the Water Framework Directive is that local authorities must act together to make river basin management plans and establish a programme of measures for each river basin district. The draft river basin management plans and programmes of measures must be published by 22 December 2008. This is followed by a period of not less than 6 months for public consultation. In the ERBD, the River Basin Management System created by the ERBD Project will be used for the Updated Risk Assessment and for the making of the river basin management plan and programme of measures. The adoption of the river basin management plan is a reserved function and must be carried out by 16 October 2009. A river basin management plan and programme of measures will come into effect 22 December 2009. Established programme of measures must become operational by 22 December 2012.

It is proposed that a link from the Kildare County Council website www.kildare.ie to the established Water Framework Directive websites containing information on Kildare such as www.erbd.ie www.serbd.com and www.wfdireland.ie will be facilitated.

4.3 MONITORING MEASURES

a) Progress During Reporting Period

A Dangerous Substances monitoring programme for the purpose of the Regulations has been established and to date 164 samples have been analysed for the relevant substances. Monitoring stations have been selected in areas where pressures from Dangerous Substances are more likely to occur.

Monitoring of the final effluent from the Osberstown Regional Wastewater Treatment Plant has been included in the monitoring programme.

The current water quality data in relation to the Dangerous Substances is set out in **Table 1: Summary of current status of rivers in functional area and standards to be achieved**. Annual mean concentration is calculated using two or more samples for each station reported on.

b) Problems Encountered

The prescribed standards for freshwaters have been achieved at all monitoring stations reported on.

c) Future Plans/New Directions

The Environment Section will review the Dangerous Substances monitoring programme and new sites in the monitoring programme will replace existing sites that are consistently meeting the prescribed standards. Dangerous substances inputs from urban wastewater treatment plants will continue to be monitored at the selected location(s).

Analysis records for discharges from activities issued with Section 4 & 16 licences and Integrated Pollution Prevention Control licences will be assessed to determine the level of risk these premises may pose to the aquatic environment.

4.4 PUBLIC EDUCATION AND ADVISORY MEASURES

a) Progress During Reporting Period

Kildare County Council continues to manage environmental awareness through general environmental education, the schools education programme, environmental notices and newsletters, Internet Websites, community and voluntary groups and the river basin districts.

b) Problems Encountered

No problems encountered.

c) Future Plans/New Directions

Kildare County Council will continue promoting public education and advisory measures.

4.5 OTHER NATIONAL AND MISCELLANEOUS MEASURES RELEVANT TO DANGEROUS SUBSTANCES

a) Progress During Reporting Period

1) Water Framework Directive

In 2003 and 2004 Ireland's National Dangerous Substances Expert Group developed lists of priority action, relevant pollutant and candidate general component substances for surface waters in Ireland and designed a substances screening programme as part of the implementation of the Water Framework Directive.

A discussion documented (May 2004) seeking public input to the lists and programme was presented at the DEHLG Water Framework Directive Information/Consultation Seminar in June 2004.

Following consultation, a national substances screening monitoring programme contract was procured by Carlow County Council via the European Journal, analysing to detect the presence of over 200 substances in water, sediment and biota. A commercial laboratory was awarded the contract and the South Eastern River Basin District Monitoring Team at over 30 sites spread across Ireland undertook sample collection. Sampling and analysis started in May 2005 with the final phase of samples collected in October 2006.

The purpose of the screening monitoring programme was to help inform the design of the WFD Dangerous Substances monitoring programme, which covered priority substances and relevant pollutants. The Dangerous Substances Expert Group considered the results available from the screening programme to refine the candidate list and to identify the WFD Monitoring Programme for the River Basin Management Plan (2007 – 2009)

b) Problems Encountered

No problems encountered.

c) Future Plans/New Directions

1) Water Framework Directive

Kildare County Council will continue to support the implementation of the Water Framework Directive.

4.6 SUMMARY AND CONCLUSIONS

a) Progress During Reporting Period

- A study of all potential pressures has been carried out and reviewed during the reporting period for the Dangerous Substances Regulations.
- Monitoring of the final effluent from the Osberstown Regional Wastewater Treatment Plant indicates that as a point source, it does not present a serious threat of pollution to the River Liffey with regard to the Dangerous Substances.
- 41 Section 4 licences and 93 Section 16 licences have been issued in County Kildare. The licences granted reflect the prescribed standards where applicable.
- All existing licences have been reviewed and, where necessary revised on the basis of meeting the prescribed standards.
- A Dangerous Substances Monitoring Programme is developed and 164 samples have been analysed to date.
- Consultative and Co-operative measures are progressed through the Environment Enforcement Network and the Water Framework Directive.
- Kildare County Council continues to manage environmental awareness through general environmental education, the schools education programme, environmental notices and newsletters, Internet Websites, community and voluntary groups and the river basin districts.

b) Problems Encountered

No problems encountered.

c) Future Plans/New Directions

- A further study of all the activities with a potential to discharge Dangerous Substances to surface waters, groundwater or sewerage systems is required to take account of process changes at some of these activities.
- Analysis records for discharges from activities issued with Section 4 and 16 licences and Integrated Pollution Prevention Control licences will be assessed to determine the level of risk these premises may pose to the aquatic environment.
- Kildare County Council will continue to promote public education and advisory measures.
- Kildare County Council will continue to support the Implementation of the Water Framework Directive.

ANNEX A: Guide to Potential Sources of Dangerous Substances listed in the Dangerous Substances Regulations, 2001.

Dangerous substance	Background Information	Potential Sources
Atrazine	Atrazine belongs to the triazine class of herbicides.	• It is used for control of broadleaf and grassy weeds in corn, orchards, turf grass sod, forestry, grasslands, grass crops and roses.
Simazine	Simazine belongs to the triazine class of herbicides.	• It is used for control of broadleaf and grassy weeds in corn, orchards, turf grass sod, forestry, grasslands, grass crops and roses. It may also be used as an algaecide in ponds.
Tributyltin	Tributlytin (TBT) is an organotin. TBT by itself is unstable and will break down in the environment unless it is combined with an element such as oxygen. One of the most common TBT compounds is bis(tributyltin) oxide, or TBTO.	• It is used as a fungicide and molluscicide. • Antifouling agent for boats to discourage growth of marine organisms. • Used for manufacture of other pesticides. • Used to combat freshwater snails. • Preservative in industrial applications e.g. as a wood and textile preservative and disinfectant. • Used for prevention of slimes in industrial recirculating water systems. • Stabilizer in PVC resin – plastic manufacturing. • Paper and pulp mills. • Cooling towers. • Breweries. • Leather processing facilities.
Dichloro-methane	Dichloromethane is a volatile organic carbon.	• Used as a process chemical in the pharmaceutical sector, in the production of paints and adhesives and as a solvent for paint removers. • Used as a cleaning fluid and as a degreasing agent.
Toluene	Toluene is a volatile organic carbon. It is a petroleum component.	• Automobile exhaust. • Consumer product paints. • Paint thinners. • Fingernail polish. • Lacquers. • Adhesives. • Solvent in fine chemicals industry.
Xylenes	Xylene is a volatile organic carbon and it is a petroleum component. It is a colourless, flammable liquid with a sweet odour. There are three forms of xylene in which the methyl groups vary on the benzene ring: meta-xylene, ortho-xylene, and para-xylene (m-, o-, and p-xylene). These different forms are referred to as isomers. The term total xylenes refers to all three isomers of xylene. Mixed xylene is a mixture of the three isomers and usually also contains 6-15 percent ethylbenzene. Xylene is also known as xylol or dimethylbenzene. Xylene is primarily a synthetic chemical. Chemical industries produce xylene from petroleum. Xylene also occurs naturally in petroleum and coal tar and is formed during forest fires.	• Xylene is a constituent of gasoline and this results in a wide distribution of very large amounts. • The isomer mixture is used as a solvent for alkyl resins, coatings and lacquers. • o-xylene is mainly (95% globally) used for synthesis of phthalic acid anyhdride. • p-xylene is consumed (66% globally) for synthesis of dimethylterephthalate and 33% globally for terephthalic acid. • m-xylene is used for the synthesis of isophthalic acid and m-toluic acid. • All three isomers are intermediates for vitamins, dyes, pharmaceuticals, pesticides, flavouring agents and other fine chemicals. • Many industrial uses, most notably as a fuel additive and as a solvent for numerous materials, e.g., in the printing, rubber, and leather industries. Used in photographic industry • Along with other solvents, xylene is also used as a cleaning agent, paint thinner, and in varnishes. • Xylene is used as a material in the chemical, plastics, and synthetic fibre industries and as an ingredient in the coating of fabrics and papers. • Aromatic hydrocarbons used by rubber and insecticide industries, chemical, pharmaceutical and explosive manufacturers.

Arsenic	Metal	• Widely used in wood preservation. • Glass and semi-conductor industries. • Fungicide in timber processing. • Natural dissolution of minerals and ores. • Base metal (tin, bauxite) extraction. • Smelting/refining of lead, lead-scrape, zinc, copper. • Steel manufacture dusts/sludges from off-gas purification. • Tanning and depilation of hides. • Dusts from flues. • Paint manufacture (arsenic may be used as a pigment). • Biocide manufacture, formulation, marketing or use. • Adhesive manufacturing (particularly for metals). • Manufacture/maintenance of zerographic machines. • Textile industry, oil cloths, calico printing and dyeing.
Chromium	Metal	• Electroplating industry. • Tanning and textile plants. • Paint and dyeing plants. • Natural dissolution of minerals and ores. • Metallic products. • Refractories. • To form alloys with iron, nickel, or cobalt. • Final composition of stainless steels. • Used for high-speed metal-cutting tools. • Widely used as body trim on automobiles and other vehicles.
Copper	Metal	• Mining waste. • Electroplating waste. • Algicide. • Natural dissolution of minerals and ores. • Photographic processes. • Treatment and finishing of metals. • Paint, ink manufacturing. • Timber and hide preservation. • Production/use of pigments, ceramics manufacture, textile dyeing and printing. • Copper wire used in electronic transmission.
Lead	Metal	• Mining waste. • Electroplating waste. • Discarded batteries. • Cable coverings. • Ammunition. • Trace components in copper and zinc concentrates, coal, oil. • Stabilisers. • Semi-finished products. • Solders. • Glass and ceramics. • Others including fishing industry. • Natural dissolution of ores.
Nickel	Metal	• Electroplating waste • Natural dissolution of minerals • Nickel is used chiefly in making alloys. • A protective and ornamental coating for metals • Nickel steel is used in automobile parts such as axles, crankshafts, gears, valves, and rods; in machine parts; and in armor plate. • Some of the most important nickel-containing alloys are German silver, Invar, Monel metal, Nichrome, and Permalloy. • Also a key component of nickel-cadmium batteries.

Zinc	Metal	• Mining waste • Natural dissolution of minerals • Principally used as a protective coating, or galvanizer, for iron and steel, as an ingredient of various alloys. • As plates for dry electric cells and for die-castings. • Zinc oxide is used as a paint pigment, a filler in rubber tyres and is employed in medicine as an antiseptic ointment. • Zinc chloride is used as a wood preservative and as a soldering fluid. • Zinc sulfide is useful in applications involving electroluminescence, photoconductivity, and semiconductivity and has other electronic uses. It is employed as a phosphor for the screens of television tubes and in fluorescent coatings.
Cyanide	Cyanide is a carbon-nitrogen chemical unit that combines with many organic and inorganic compounds.	• Industrial effluents principally from electroplating processes and electric components manufacture • Heat-treatment of metals and finishing operations. • Cyanide pesticides used as fumigants. • Coal-gas purification, steel industries where ferri/cyanide containing wastes are produced. • Chemical synthesis, photography and pigment manufacture are other areas in which ionic cyanides and ferri/ferrocyanides are used. • Organic cyanides may take the form of chemical intermediaries in the synthesis of antioxidants, pharmaceuticals, dyes and surface-active agents. • The plastics, surface coatings and adhesive industries may all involve the use of organic cyanides.
Fluoride	Halogen	• Arises from fluoridation of public water supplies and industrial discharges. • Municipal sewage. • Occurs naturally in quite rare instances. • The chlorofluorocarbons were used as dispersing agents in aerosol sprays and as refrigerants but have been largely replaced due to the restrictions of the Montreal Protocol. • Teflon, a fluorine plastic is used to make such products as motor gaskets and dashboard accessories in the automobile industry. It is also used as a coating on the inner surface of frying pans and other kitchen utensils. • Perfluorocarbons and sulfur hexafluoride used in semi-conductor industry. • Hydrogen fluoride is used as an etchant in glass industry and semi-conductor industries. • Liquid fluorinated hydrocarbons derived from petroleum are useful as highly stable lubricating oils. • Fluoride wastes are by-products of phosphate fertilizer production.