



ENVIRONMENTAL PROTECTION AGENCY

AER / PRTR GUIDANCE DOCUMENT:

PRTR EMISSIONS AND WASTE TRANSFERS REPORTING GUIDANCE FOR URBAN WASTE WATER TREATMENT PLANTS

For use in reporting of:

- 1 Emissions and Waste Transfers information via the EPA
AER / PRTR Electronic Reporting Workbook**
- 2 The Emissions and Waste Transfers section of the Annual
Environmental Report**

Version 6.0 January 2013

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General Introduction

This document is addressed to the operators of EPA Waste Water Discharge Licensed (WWDL) facilities who are required to:

- Report their annual Releases (emissions) under S.I. 123 of 2007 and S.I. 649 of 2011, the **Pollutant Release and Transfer (PRTR) Regulations**, and
- Submit an **Annual Environmental Report** to the EPA under Condition 6 of their EPA Waste Water Discharge Licence (EPA-WWDL).

This AER/PRTR Guidance Document should be read in conjunction with the EPA's "**Guidance on the Preparation & Submission of the Annual Environmental Report (AER) for Waste Water Discharge Licences**", which sets out the overall requirements of the AER for WWDL facilities and provides assistance on meeting these requirements.

Chapter 1 Introduction to AER and PRTR Annual Reporting of Environmental Information

1.1 Annual environmental information reporting by EPA WWDL facilities

The requirements for reporting of Annual Environmental Information arise under the terms of both the PRTR Regulations¹ and individual EPA licences issued under the EPA Acts 1992 – 2008, the Waste Management Acts 1996 – 2008, the Waste Water Discharge (Authorisation) Regulations S.I. 684 of 2007 and other legislation.

The annual reporting² of environmental information is a legal requirement for the operators of all WWDL facilities and comprises of three separate tasks, each is a mandatory licence requirement. These are:

Task 1 AER / PRTR Emissions Data: Reporting of emissions and waste transfers information via the EPA's **AER/PRTR Emissions Reporting Workbook** available at the following link: <http://aer.epa.ie/reporting/pgLogon.aspx>

Note 1	<p>1 (European Communities (European Pollutant Release and Transfer Register) Regulation 2007, S.I. No. 123 of 2007 and S.I. 649 of 2011), which signed into Irish Law on 13 December 2011, the E-PRTR Regulation, (EC) No 166/2006, concerning the establishment of a European Pollutant Release and Transfer Register. These regulations are collectively referred to herein as the PRTR Regulations.</p> <p>2 This applies to Annual Reporting only; this does not supersede or render inapplicable the requirements in your licence for other regular reporting, e.g. returns of monitoring data, progress reports, waste records etc.</p> <p>3 Electronic, fully searchable/read-only, PDF Formatted Text and Graphics (also known as PDF Normal).</p>
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Task 2 Full AER: Submission of your Full Annual Environmental Report (AER). This is the “hardcopy” or “paper” AER specified under your licence. **1 original hard copy** of your **full AER** should be delivered to your local EPA Regional Inspectorate.

Note change from 3 paper copies in previous reporting year’s correspondence.

Task 3 Full PDF AER: This is the submission of an electronic PDF copy³ of your Full AER through the aer reporting website at the following link: <http://aer.epa.ie/reporting/pgLogon.aspx>.

The reporting obligation will not be satisfied until all three steps are completed and the EPA has confirmed that it has accepted the information.

Failure to complete any of the three tasks will constitute a breach of the PRTR Regulations, S.I. 123 of 2007 and the conditions in the EPA Waste Water Discharge Licence.

1.2 AER / PRTR Guidance

The EPA has provided a series of AER/PRTR Guidance Documents to assist operators in making their annual returns. All of the WWDL documentation is available on the EPA website at the following link:

<http://www.epa.ie/whatwedo/enforce/lic/aerprtrreporting/UWWTPguidance/>

Note: Additional General AER/PRTR guidance documents are also available on the EPA website which may be useful when making your AER and PRTR returns:

- The [*Step-by-Step Guide to reporting by EPA-licensed facilities of AER / PRTR Emissions Data and the Annual Environmental Report*](#) gives a concise procedure for completing your AER / PRTR Returns;
- The [*AER / PRTR Electronic Reporting Workbook and Website User Manual*](#) provides a detailed step-by-step procedure for using the AER/PRTR Electronic Reporting Workbook and for downloading from and uploading to the AER / PRTR Website.

1.4 Urban Waste Water Treatment Plants and the PRTR Regulations

The PRTR Regulations applies to Urban Waste Water Treatment Plants in respect of a specific reporting year where either:

- 1 There is a **Waste Water Discharge Licence** (WWDL) in place;
- 2 The facility has a nominal p.e. loading which exceeds the PRTR Regulation Capacity Threshold of **100,000 population equivalents**.
- 3 The facility’s nominal p.e. loading falls below the PRTR Regulation Capacity Threshold of **100,000 population equivalents** but the actual p.e. of the agglomeration exceeds this threshold.

All UWWTPs falling within any of these definitions are required to make annual returns to the EPA of their Releases (emissions) and Off-site waste transfers. UWWTPs that were licensed in the last quarter of the previous calendar year (1st October to 31st December) **are not required** to complete the PRTR Emissions Report for that year. They will be required to report for the following year and every subsequent year. The completion of the AER is required for all UWWTPs that were licensed in the previous calendar year regardless of license start date.

Chapter 2 First Steps: Registration and Facility Details

2.1 Registering as a PRTR Facility

All WWDL facilities are automatically registered for AER/PRTR Reporting as and from the date of issue of their licence. The EPA will communicate your site-specific login details to you in official correspondence. This Username and Password combination will be required for all interactions on the [aer reporting website](#), and will remain the same in future years. It should therefore be carefully retained.

To begin the reporting process, go to the [aer reporting website](#), enter your Username and Password, and download your facility-specific **AER/PRTR Emissions Reporting Workbook** for the **relevant reporting year** and save it to a folder on your computer. It is recommended that you create a special folder for this purpose, naming it “AER PRTR Reporting” and creating subfolders for each reporting year and for each UWWTP. Save the Workbook to this folder and along with a copy of the **UWW PRTR Electronic Toolset V5.0** for each UWWTP.

Note: The new version of the [UWW PRTR Electronic Toolset V5.0](#) was updated in November 2012 following an extensive waste water characterisation study on a range of wastewater treatment plants around the country. The toolset comprises a series of worksheets for estimating emissions to Air and Water from the UWWTP. While the worksheet relating to Air has remained unchanged from the previous version of the e-tool, the worksheets relating to Water have been upgraded. The study involving actual monitoring was carried out by Consultants with the Steering Group consisting of EPA and Local Authority senior staff.

The new **UWW PRTR Electronic Toolset V5.0 Quick Step Guide** is available on the EPA website at the following link: [Guidance Document for the UWW PRTR Electronic Toolset V5.0](#)

Chapter 3 Releases to Air and Water

3.1 General

You must report **annual mass loads** released from your facility of:

- All substances for which your licence requires emission monitoring.
- All substances which appear on the PRTR list of 91 specified pollutants as laid out in [Annex II](#) of the Regulation and which are used or are present in your facility, and which may therefore be present in emissions.
 - These may include any of 60 air pollutants or any of 71 water pollutants listed in Annex II of the PRTR Regulations. If any of these listed substances arise at a facility and are not prescribed in the licence, they have to be assessed by the facility. The use of the **UWW PRTR Electronic Toolset V5.0** is provided by the EPA to assist with this task.
 - All substances released directly to air and water under licensed emission limit values must be quantified as annual mass loads (kg/annum).

3.2 Releases to Air

- Record pollutant emissions to air in kg/annum
- Emissions can be calculated, measured or estimated [see guidance](#) (pg23-29)
- PRTR pollutants are reported in **Section A** of the PRTR Emissions Reporting Workbook (Other Sections are not generally relevant UWWTPs)
- You must report **Accidental** and **Fugitive** emissions, where applicable.

Where monitoring data in respect of emissions to air are available, these should be used to determine your annual Releases to Air of the relevant substances. Where no monitoring data are available, the current version of the **UWW PRTR Electronic Toolset V5.0** can be used. The toolset is provided as a means of estimating emissions of methane, carbon dioxide and nitrous oxides released both as fugitive emissions from the works i.e. open storage tanks, channels, lagoons, ditches and vessels on the facility, and as process emissions of uncombusted gases from anaerobic sludge digestion systems as may be present at some facilities. Other emissions to air may originate from the combustion of diesel fuel on site; the toolset is provided to estimate such emissions.

Air Emissions Estimation: Input Data for UWW PRTR Electronic Toolset V5.0

The Calculation Toolset requires the input of the following data in the orange input cells to the

Air Emissions Data Input Table:

Facility Name and Address and Reporting Year

1 Detail of Loadings and Works

A Facility Loadings Data for Reporting Year

- Total p.e. served (*Actual Population Equivalent of catchment*)
- Design p.e. (*Design Population Equivalent of facility*)
- Total measured influent BOD (*kg / annum*)
- Total Sludge removed offsite (*kg dry matter / annum*)

- Total Sludge digested on-site (*kg dry matter / annum*)

B Characteristics of the Works

B1 - Aerobic plant

- **Does the aerobic section of the plant contain dissolved oxygen?** (Default is 'Yes'). Methane Conversion factor for the aerobic plant will be determined by this answer. Methane emissions should be negligible for a well-managed aerobic plant.
- **All tanks covered and extracted to on-site flare?** (*Default is "No"*). Releases will be reported as "Fugitive" if included here.
- **If headspace cover and extraction has been installed on site:**
 - % of Headspace biogas utilised on site (0 - 100) - (*Calculate by % operation of engine. Default assumption is Zero utilisation*)
 - % of Headspace biogas flared (0 - 100) - (*Calculate by % operation of engine. Default assumption is Zero utilisation*)

B2 - On-site Anaerobic Digestion for sludge treatment

- Anaerobic digestion on site? (*default is "No"*)
- If Anaerobic Digestion on site:
 - % of Digester biogas utilised on site (0 - 100) - (*Calculate by % operation of engine. Default assumption is Zero utilisation*)
 - % of Digester biogas flared (0 - 100) - (*Calculate by % operation of flare. Default assumption is Zero flaring*)

2. Fuel use on the WWTP ²

- Total Diesel Use on site in the year - (*Tonne / annum*). *These will be fugitive releases.*

Air Emissions Data Output Table

The estimated emissions figures are presented in the "**Releases to Air Output Table**", in the correct format for compiling the annual AER/PRTR returns for reporting via the EPA's AER/PRTR Emissions Reporting Workbook. The latest version of the [UWW PRTR Electronic Toolset V5.0](#) permits the **automatic transfer** of all the data generated within the Toolset to the AER/PRTR Emissions Reporting Workbook. It is recommended that the Toolset is fully completed with the required data for the estimation of the releases to air and water before the transfer takes place. Please refer to the [Guidance Document for the UWW PRTR Electronic Toolset V5.0](#).

Note 2: Calculation tools for other fuels have not been included in the current version of the AER / PRTR UWWTP Emissions Calculation Toolset; the reader is requested to consider the appropriate CORINAIR Guidelines [<http://www.eea.europa.eu/publications/EMEPCORINAIR5>].

3.3 Releases to Water

- Emissions to water are reported in kg/annum.
 - Emissions can be calculated, measured or estimated [see guidance](#) (pg23-29)
 - PRTR pollutants are reported in **Section A** of the PRTR Emissions Reporting Workbook
 - Non-PRTR pollutants (Licensed pollutants and others) are reported in **Section C** of the PRTR Emissions Reporting Workbook eg. BOD, Suspended Solids, Ammonia, Total Oxidised N, Kjeldahl N, Ortho-P and so on.
 - You must report **Accidental** and **Fugitive** emissions, where applicable. Example of fugitive emissions would be releases via Storm Water Overflows.
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- The current version of the **UWW PRTR Electronic Toolset V5.0** contains a model for the quantification of releases to water of **PRTR substances/priority substances**, based on the total annual volumes discharged via the final effluent release point and in the form of uncontrolled storm water flows.
 - The toolset is intended to assist operators of UWWTPs to report estimates of emissions of PRTR-relevant substances from their facilities for which no monitoring data are available. It is recommended where monitored data is available (**measured data**) for certain parameters, that this data should be reported **within the toolset** for those specific parameters on the **Measured Values Worksheet**. Please refer to the [Guidance Document for the UWW PRTR Electronic Toolset V5.0](#).
 - Please note that operators are not obliged to use the estimations generated by the toolset. The legal responsibility to report releases falls to the operator of the facility; it is a matter for operators to decide how to meet this obligation, and to what extent the results of the Agency's releases should be used in relation to their facility. Operators should document such decisions in order to provide for subsequent verification and auditing of their AER/ PRTR submissions, and in particular, to be in a position to justify any non-use of the results of the e- tool.

Waste Water Treatment Data Sheet: Input Data for the UWW PRTR Electronic Toolset V5.0

The **UWW PRTR Electronic Toolset V5.0** requires the input of the following information and data by the operator:

- Facility Name, Plant location, Reg. No. and the reporting year in the orange rows.
- Select from the drop down menus (yellow rows) the applicable P.E. band, catchment characteristics and type of treatment most appropriate to the specific UWWTP/Discharge.

- The treated annual effluent flow via the main emission point and the fugitive emissions via storm bypasses (m³/annum) are entered in the orange rows.

The above data are entered in the appropriate colour coded cells of **Waste Water Treatment Data** sheet of the Toolset.

Measured Values Worksheet:

The operator is requested to prioritise the recording of **measured data** where it is available for the PRTR pollutants from monitoring programs such as the priority pollutants screening data required under Condition 4 of the Waste Water Discharge Licence (WWDL). Please refer to the [Guidance Document for the UWW PRTR Electronic Toolset V5.0](#).

Releases to Water Output Table:

- This sheet summarises the measured and estimated annual mass emissions of the PRTR pollutants for the selected UWWTP/Discharge based on the facility operator's inputs.
- It can be used by facility operators to view the generated data; the type of measurement (measured or estimated); the calculated data and for comparison with the reporting threshold for each parameter under the PRTR Regulations (Regulation (EC) No. 166/2006).

The data is ready for **automatic transfer** to the AER/PRTR Emissions Reporting Workbook for reporting via the [aer reporting section](#) of the EPA website. Please refer to the [Guidance Document for the UWW PRTR Electronic Toolset V5.0](#) on how to transfer the toolset data to the AER/PRTR Emissions Reporting Workbook.

3.4 Quantification Methods

The PRTR Regulations require that Releases must be established by one of the following three designated methods:

- ◆ **CODE M - EMISSION DATA BASED ON MEASUREMENTS**
- ◆ **CODE C - EMISSION DATA BASED ON CALCULATIONS**
- ◆ **CODE E - EMISSION DATA BASED ON NON-STANDARDISED ESTIMATION**

Measurement is the preferred method of quantification, and regular monitoring is carried out by all UWWTP facilities for a range of determinants. Where facilities have monitoring data, these data shall be used for AER/PRTR reporting purposes. Where the data is estimated using the **UWW PRTR Electronic Toolset V5.0** the Method of estimation will be **Code E** and Method Code **ESTIMATE**.

Method Identification Codes for the method of quantification

The PRTR Regulations require the entry of a **Method Codes** in conjunction with the **M/C/E Classification** discussed above, where (and only where) the operator does not use an internationally approved methodology, such as a CEN standard or ISO standard for the determination of the parameter. These codes are intended to provide a simple “at-a-glance” indication of the type of method used for the quantification of the particular parameter.

In such instances, the operator must define the type of methodology used by employing one of the codes in the **Method Code** table of the **AER / PRTR Emissions Reporting Workbook**. The **Method Code Table** is accessed by a “double-click” action from the Releases worksheets. Please note the appropriate Method Code and enter this into the appropriate cell. Except in the case of an internationally approved measurement method, you must also give a brief **description of method** you used in addition to the Method Code.

Example: BOD Analysis: Measurement Method: M Method Code OTH (not an ISO method) Method Description: 5 day BOD test Standard Methods for the Analysis of Water and Wastewater Edition 21.

The AER / PRTR Emissions Reporting Workbook also has links to the guidance on the selection of the appropriate Method Identification Code in respect of the method used to quantify Releases.

Further Guidance on the reporting of the appropriate Method Identification Codes is provided in Chapter 3 of the [AER / PRTR Guidance Document No 4: EPA Guidance Note Annex on AER / PRTR Reporting](#).

3.5 Releases to land

The activities falling under the definition of “Releases to Land” in the PRTR Regulation, i.e. Waste Disposal Activities D2 and D3 (as set out in schedule 3 of the Waste Management Act 1996-2007) **do not currently apply to Ireland**.

Recovery of sludge by landspreading is not classed as a Release to Land; instead, this should be reported as waste recovery operation **R10** using EWC Code **19 08 05** (see Chapter 4 below).

Chapter 4 Treatment & Transfers of Waste

WWTP operators are required to report any waste sent off-site for disposal or recovery. Both the type of waste and the type of disposal or recovery operation should be reported.

In the case of **non-hazardous waste** for disposal or recovery, operators must report the name, address and permit details of the next holder of the waste, typically the authorised waste collector. It is not necessary to specify the final disposal or recovery destination except for hazardous waste streams.

The facility's **Waste Transfer** records will contain all of the information required to complete this section. It is recommended that a running total of transfers through the year are maintained to facilitate this.

Facilities should classify their waste according to **European Waste Catalogue (EWC) codes**. The worksheet allows the generation of codes by double-clicking on the "European Waste Code" cell for each entry; this will collate the full EWC code.

A list of EWC codes considered to be the most likely to apply to UWWTPs is given in **Appendix 1** of this Guidance. A complete list of codes can be downloaded from the Agency's website.

All waste transfers must be reported to EPA under the PRTR Regulations. As with emissions to air, water and sewer, reporting to the European Commission's E-PRTR Website is only required where prescribed thresholds are exceeded by relevant operators. Hazardous waste transfers will only be published to the E-PRTR Website if more than 2 tonnes has been sent off site in any calendar year. For non-hazardous waste there is an annual reporting threshold of 2,000 tonnes.

Appendix 1 European Waste Catalogue and Hazardous Waste List - indicative list of relevant codes applicable to Urban Waste Water Treatment Plants

The table includes the relevant European Waste Catalogue (EWC) Codes for each waste type and provides additional information, which may be of assistance in making your information entries into the "Treatment & Transfers of Waste" worksheet of the AER / PRTR Electronic Reporting Workbook.

This is an indicative list only; you should add other categories of waste as required, depending on the specific situation on your facility.

Also, the Waste Treatment Operation (Recovery and Disposal) Codes are suggestions; please report the most accurate R and D code that reflects the actual treatment options undergone by the waste materials.

TABLE: The main waste streams expected to arise from UWWTPs

EWC Chapter	Sub-Chapter	EWC Code (* denotes Hazardous Code)	EWC Description	Waste Treatment Operation ¹	Hazardous? ²
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE				
	19 08	wastes from waste water treatment plants not otherwise specified			
		19 08 01	screenings	D5	No
		19 08 05	sludges from treatment of urban waste water	R10	No
		19 08 06*	saturated or spent ion exchange resins	D5 or D10	Yes
		19 08 07*	solutions and sludges from regeneration of ion exchangers	D5 or D10	Yes
		19 08 08*	membrane system waste containing heavy metals	D5 or D10	Yes
		19 08 09	grease and oil mixture from oil/water separation containing only edible oil and fats	D5 or R3	No
		19 08 10*	grease and oil mixture from oil/water separation other than those mentioned in 19 08 09	D5 or R3	Yes
		19 08 11*	sludges containing dangerous substances from biological treatment of industrial waste water	D5 or D10	Yes
		19 08 12	sludges from biological treatment of industrial waste water other than those mentioned in 19 08 11	D5 or R3	No
		19 08 13*	sludges containing dangerous substances from other treatment of industrial waste water	D5 or D10	Yes
		19 08 14	sludges from other treatment of industrial waste water other than those mentioned in 19 08 13	D5	No
		19 08 99	wastes not otherwise specified	D5	No

20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS				
	20 01	separately collected fractions (except 15 01)			
		20 01 01	paper and cardboard	R3	No
		20 01 02	glass	R5	No
		20 01 08	biodegradable kitchen and canteen waste	R3	No
		20 01 11	textiles	R3	No
		20 01 21	fluorescent tubes and other mercury-containing waste	R4	Yes
		20 01 39	plastics	R3	No
		20 01 40	metals	R4	No
	20 03	other municipal waste			
		20 03 01	mixed municipal waste	D5	No

¹ As defined in Article 4 of Waste Management Act 1996 – 2005 and set out in Schedules 3 (Disposal) and 4 (Recovery activities or operations);

² As defined in Article 4 of Waste Management Act 1996 – 2005 and set out in Schedule 2 (Hazardous Waste)