European Commission

Guidance Document for the implementation of the European PRTR

31 May 2006

Table of Content

Abbreviations

CEN	Comité Européen de Normalisation (European Committee for Standardisation)
CORINAIR	Core Inventory of Air Emissions
DIN	Deutsches Institut für Normung e.V. (German Institute for Standardisation, registered association)
EEA	European Environment Agency
EMAS	Eco-Management and Audit Scheme
EMEP	Co-operative programme for monitoring and evaluation of the long range transmission of air pollutants in Europe
EPER	European Pollutant Emission Register
E-PRTR	European Pollutant Release and Transfer Register
FAQ	Frequently Asked Question
GD	Guidance Document
IMPEL	European Network for the Implementation and Enforcement of Environmental Law
IPCC	Intergovernmental Panel on Climate Change
IPPC	Integrated Pollution Prevention and Control
ISO 14001	The International Standard for Environmental management systems – Requirements with guidance for use, 2004
MS	Member State
NACE-code	Code according to Commission Regulation 29/2002/EC of 19 December 2001 amending Council Regulation (EEC) No 3037/90 on the statistical classification of economic activities in the European Community

UN-ECE	United Nations Economic Commission for Europe
US EPA	Environmental Protection Agency (U.S.A.)
VDI	Verein Deutscher Ingenieure (Association of German Engineers)
VOC	Volatile Organic Compounds

Introduction

Regulation (EC) No 166/2006 of the European Parliament and of the Council concerning the establishment of a European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC"[1] (the 'E-PRTR Regulation') was adopted on 18th January 2006.

This document provides guidance on the various reporting processes as set out in the E-PRTR Regulation.

The European PRTR (E-PRTR) will implement at EU level the UNECE PRTR Protocol, which was signed by the European Community and 23 Member States in May 2003 in Kiev and which is a Protocol to the Aarhus Convention[2]. The E-PRTR will succeed the European Pollutant Emission Register (EPER[3]) under which data were reported for the years 2001[4] and 2004.

The E-PRTR Regulation aims to enhance public access to environmental information through the establishment of a coherent and integrated E-PRTR, thereby finally also contributing to the prevention and reduction of pollution, delivering data for policy makers and facilitating public participation in environmental decision making.

The Regulation establishes an integrated pollutant release and transfer register at Community level in the form of a publicly accessible electronic database and lays down rules for its functioning, in order to implement the UN-ECE Protocol on Pollutant Release and Transfer Registers and facilitate public participation in environmental decision making, as well as contributing to the prevention and reduction of pollution of the environment.

This guidance document does not address issues related to the establishment or implementation of obligations regarding national PRTRs under the UN-ECE Protocol.

Article 1
Subject Matter

"This Regulation establishes an integrated pollutant release and transfer register at Community level (hereinafter "the European PRTR") in the form of a publicly accessible electronic database and lays down rules for its functioning, in order to implement the UNECE Protocol on Pollutant Release and Transfer Registers (hereinafter "the Protocol") and facilitate public participation in environmental decision making, as well as contributing to the prevention and reduction of pollution of the environment."

Box 1: E-PRTR Regulation, Article 1 (subject matter)

According to recital 4 of the E-PRTR Regulation, an integrated and coherent PRTR gives the

[1] For the full text of the Regulation see Appendix 1 to this Guidance Document.
[2] Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, Aarhus 1998.
[3] OJ L 192, 28.7.2000, p. 36; EPER website: www.eper.ec.europa.eu.

public, industry, scientists, insurance companies, local authorities, non-governmental organisations and other decision-makers a solid database for comparisons and future decisions in environmental matters.

The E-PRTR Regulation includes specific information on releases of pollutants to air, water and land and off-site transfers of waste and of pollutants in waste water. Those data have to be reported by operators of facilities carrying out specific activities. In addition the E-PRTR includes data on releases from diffuse sources, e.g. road traffic and domestic heating, where such data is available.

[4] Data could, alternatively, be reported for 2000 or 2002 under EPER rather than for 2001.

How to use/read the guidance?

Article 14 of the E-PRTR Regulation provides that the European Commission shall draw up a guidance document supporting the implementation of the E-PRTR as soon as possible but no later than four months before the beginning of the first reporting year in 2007 (i.e. 1st September 2006). This Guidance Document is designed to support the implementation of the E-PRTR by addressing in particular:

- reporting procedures;
- the data to be reported;
- quality assurance and assessment;
- confidentiality;
- release determination, analytical methods and sampling methodologies;
- indication of parent companies; and
- coding of activities.

(see Box 2)

Article 14
Guidance Document

(1) The Commission shall draw up a guidance document supporting the implementation of the European PRTR as soon as possible but no later than four months before the beginning of the first reporting year and in consultation with the Committee referred to in Article 19(1).

(2) The guidance document for implementation of the European PRTR shall address in particular details on the following:

(a) reporting procedures;
(b) the data to be reported;
(c) quality assurance and assessment;
(d indication of type of withheld data and reasons why they were withheld in the case of confidential data;
(e) reference to internationally approved release determination and analytical methods, sampling methodologies;
(f) indication of parent companies;
(g) coding of activities according to Annex I to this Regulation and to Directive 96/61/EC.

Box 2: E-PRTR Regulation, Article 14 (Guidance Document)

In accordance with the provisions of the Regulation, facility operators to whom the Regulation applies have to report specific data to the competent authority in the Member State in which they are based. The competent authorities then transmit that data to the European Commission, which in turn, assisted by the European Environment Agency (EEA), has the obligation to make the data publicly accessible in an electronic database.

This document provides guidance on the various reporting processes as set out in the E-PRTR Regulation. Parts 1.1 (Facilities), 1.2 (Member States) and 1.3 (European Commission) point out the specific obligations and information needs of the stakeholders involved in the reporting process[5]. Supporting information is provided in the Appendices. The primary focus of the guidance document is the bottom of the information chain, where information is generated by facility operators and the quality of this information is assessed by the competent authorities.

Figure 1 illustrates the correlation between the data flow and the structure of the present Guidance Document and shows the related articles in the E-PRTR Regulation.

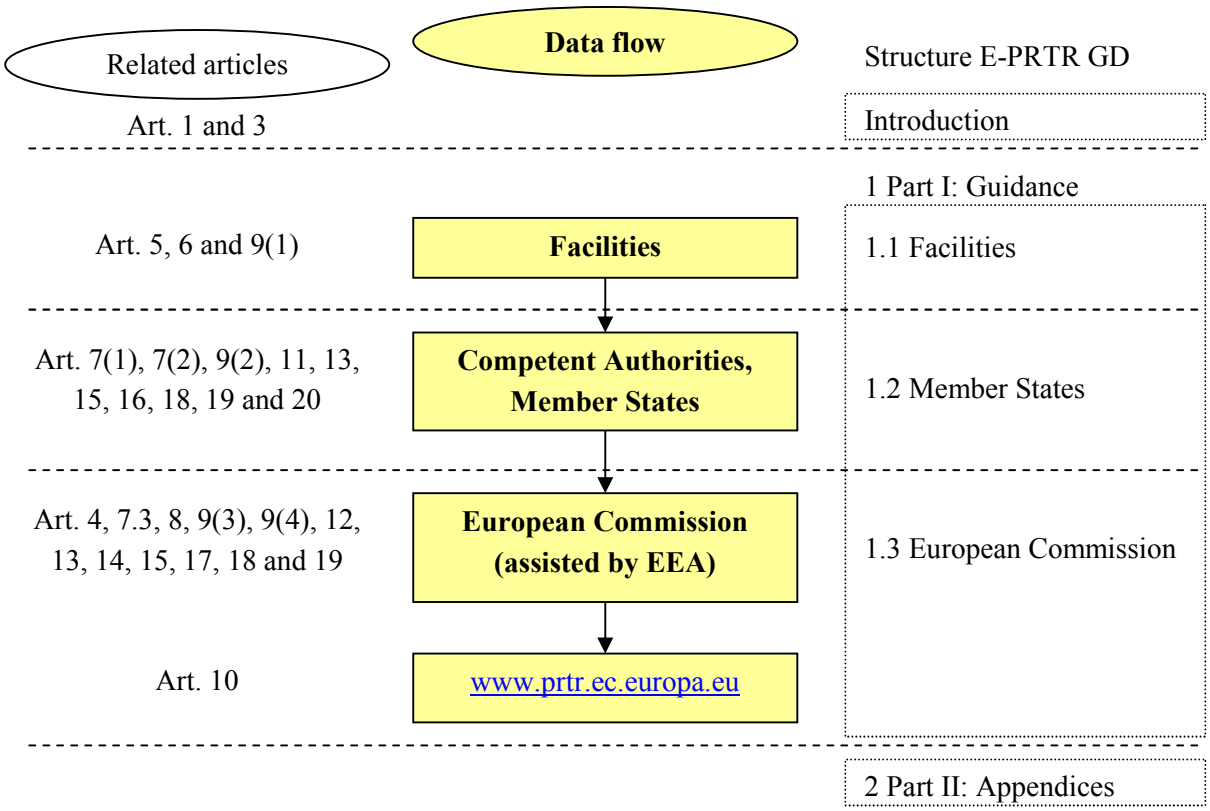


Figure 1: **Data flow under the European PRTR; structure of the E-PRTR Guidance Document and related articles in the E-PRTR Regulation**

[5] These are in particular the operators of facilities to whom the Regulation applies; the competent authorities of the Member States; the European Commission; and the EEA.

This Guidance Document will be available in 10 languages[6] on the E-PRTR website (www.prtr.ec.europa.eu) together with other relevant information such as frequently asked questions; information on the PRTR review process; and links to relevant international organisations and national PRTR web-sites.

In consultation with the Committee referred to in Article 19 (1) of the E-PRTR Regulation, the Commission will review, and where necessary amend this guidance document.

[6] It is planned to make the document available in the following languages: Czech, German, Greek, Hungarian, English, French, Italian, Polish, Portuguese, Spanish.

Part 1: Guidance

1.1 Facilities

According to Article 2(4) of the E-PRTR regulation, "facility" means *"one or more installations on the same site that are operated by the same natural or legal person"*.[7] The 'same site' means the same location and is a question of judgement for each facility. A site does not become two sites merely because two parcels of land are separated by a physical barrier such as a road, a railway or a river.

Who has to report?

1.1.1 Facilities, activities and capacity thresholds to which the E-PRTR Regulation applies

According to Article 5 of the E-PRTR Regulation (see Box 3), operators of facilities that undertake one or more of the activities set out in Annex I to the E-PRTR Regulation are obliged to report specific information if the applicable capacity threshold(s), Annex I to the E-PRTR Regulation, and release threshold(s), Columns 1a, b, and c of the table set out in Annex II to the E-PRTR Regulation, and/or the applicable capacity threshold(s) and off-site transfer threshold(s) for pollutants in waste water, Column 1b of the table set out in Annex II to the E-PRTR Regulation, or for waste, 2 tons for hazardous waste or 2,000 tons for non-hazardous waste, are exceeded.

[7] The definitions for the terms "the public", "competent authority", "installation", "facility", "site", "operator", "reporting year", "substance", "pollutant", "release", "off-site transfer", "diffuse sources", "waste", "hazardous waste", "waste water", "disposal" and "recovery" are listed in Appendix 1 (see Article 2 of the E-PRTR-Regulation).

Article 5: Reporting by Operators

1. The operator of each facility that undertakes one or more of the activities specified in Annex I above the applicable capacity thresholds specified therein shall report the amounts annually to its competent authority, along with an indication of whether the information is based on measurement, calculation or estimation, of the following:

(a) releases to air, water and land of any pollutant specified in Annex II for which the applicable threshold value specified in Annex II is exceeded;

(b) off-site transfers of hazardous waste exceeding 2 tonnes per year or of non hazardous waste exceeding 2,000 tonnes per year, for any operations of recovery or disposal with the exception of the disposal operations of land treatment and deep injection referred to in Article 6, indicating with "R" or "D" respectively whether the waste is destined for recovery or disposal and, for transboundary movements of hazardous waste, the name and address of the recoverer or the disposer of the waste and the actual recovery or disposal site;

(c) off-site transfers of any pollutant specified in Annex II in waste water destined for waste-water treatment for which the threshold value specified in Annex II, column 1b is exceeded.

...

The releases referred to in Annex II reported under paragraph 1(a) shall include all releases from all sources included in Annex I at the site of the facility.

2. The information referred to in paragraph 1 shall include information on releases and transfers resulting as totals of all deliberate, accidental, routine and non-routine activities.

In providing this information operators shall specify, where available, any data that relate to accidental releases.

...

Box 3: E-PRTR Regulation, Article 5 (excerpt: facilities concerned)

1.1.2 Annex I activities

Annex I of the E-PRTR Regulation lists 65 activities. Annex I enables operators to identify whether they are affected by the associated reporting obligations.

The activities are grouped in 9 activity sectors:

1. energy;

2. production and processing of metals;

3. mineral industry;

4. chemical industry;

5. waste and waste water management;

6. paper and wood production and processing;

7. intensive livestock production and aquaculture;

8. animal and vegetable products from the food and beverage sector; and

9. other activities.

Annex I to the E-PRTR Regulation contains a table which:

- specifies a code number for each activity (1st column);
- provides a brief description of specific activities (2nd column); and
- sets out the capacity threshold value for a number of these "Annex I activities" (3rd column).

Reporting is required if the capacity threshold and release thresholds or off-site transfer thresholds for pollutants in waste water or for waste are exceeded. If the thresholds are only equalled but not exceeded, reporting is not required. If no capacity threshold is specified all facilities of the relevant activity are subject to reporting if a release threshold is exceeded. If only the capacity thresholds are exceeded but the release or off-site transfer thresholds are not exceeded, reporting is not required.

If one operator carries out several activities falling under the same Annex I activity of the same facility at the same site, the capacities of such activities (e.g. the treatment volume of vats) are added together. The production capacities of the individual activities should be aggregated at the Annex I activities level. The sum of the capacities is then compared with the capacity threshold for the specific Annex I activity as listed in Annex I of the E-PRTR Regulation.

If an operator has any doubts whether or not his activities are subject to Annex I, he should contact the relevant competent authority in the Member State.

1.1.3 The relation to the IPPC Directive

The E-PRTR Regulation provides for the implementation at Community level of the UN-ECE PRTR Protocol. Generally speaking, the Protocol includes the activities set out in Annex I of the IPPC Directive (which is identical to Annex A3 of the EPER Decision). However, the Protocol and Annex I of the E-PRTR Regulation contain several changes and additional activities compared to Annex I of the IPPC Directive.

The changes are as follows:

- some activities not covered by the IPPC Directive are covered by the E-PRTR Regulation ("new activities"), namely:
  - 1(e) Coal rolling mills with a capacity of 1 tonne per hour;
  - 1(f) Installations for the manufacture of coal products and solid smokeless fuel;
  - 3(a) Underground mining and related operations;
  - 3(b) Opencast mining and quarrying where the surface of the area effectively under extractive operation equals 25 hectares;
  - 5(f) Urban waste-water treatment plants with a capacity of 100,000 population equivalents;
  - 5(g) Independently operated industrial waste-water treatment plants which serve one or more activities of Annex I of the E-PRTR Regulation with a capacity of 10,000 m^3 per day;
  - 6(b) Industrial plants for the production …and **other primary wood products** (such as chipboard, fibreboard and plywood) with a production capacity of 20 tonnes per day;
  - 6(c) Industrial plants for the preservation of wood and wood products with chemicals with a production capacity of 50 m^3 per day;
  - 7(b) Intensive aquaculture with a production capacity of 1,000 tonnes of fish or shellfish per year;
  - 9(e) Installations for the building of, and painting or removal of paint from ships with a capacity for ships 100 m long.

  As many operators of facilities are already familiar with the provisions of the IPPC Directive, a comparison of the differences between the IPPC Directive and the E-PRTR Regulation is helpful to facilitate the identification of relevant additional facilities. Table 21 in Appendix 2 demonstrates in detail the changes with respect to the relevant industrial activities under both provisions;

- the allocation of new codes to the activities[8]; and
- adjustments and/or clarifications to the wording for several activities.

Appendix 6 of the Guidance Document gives examples which demonstrate how facilities can be identified.

Several FAQs under the IPPC Directive will be available on the IPPC website[9].

1.1.4 Pollutants, release and off-site transfer thresholds

If an activity specified in Annex I to the E-PRTR Regulation is carried out and the capacity threshold specified therein is exceeded, there is an obligation to report releases and off-site transfers; with the additional condition that certain release threshold values or threshold values for off-site transfer of pollutants in waste waster destined for waste-water treatment or threshold values for waste must also be exceeded. For releases of pollutants to air, water and land and for off-site transfers of pollutants in waste water the corresponding threshold values are specified for each pollutant in Annex II of the E-PRTR Regulation (see Appendix 1).[10]

For off-site transfers of waste the threshold values are 2 tonnes per year for hazardous waste[11] and 2,000 tonnes per year for non-hazardous waste (see Box 3).[12]

Annex II of the E-PRTR Regulation lists the 91 pollutants that are relevant for reporting under the E-PRTR. The pollutants are specified by a consecutive number, the CAS number, where available, and the name of the pollutant.

[8] The IPPC code consists of two digits. The E-PRTR code consists of one digit and one letter. For example, the IPPC activity code 1.3 ("Coke ovens" in "energy industries") corresponds to the new E-PRTR code 1(d) ("Coke ovens" in the "energy sector"). For further details, see Appendix 2 to this guide.

[9] http://www.europa.eu.int/comm/environment/ippc

[10] For details on reporting of releases to air, water and land see chapter 1.1.8. For details on reporting of off-site transfers of pollutants in waste water see chapter 1.1.9.

[11] The relevant weight is the (normal) wet weight of the waste.

[12] For details on reporting of off-site transfers of waste see chapter 1.1.10.

Annex II to the E-PRTR Regulation includes all 50 pollutants which were relevant for reporting under the EPER Decision. The **threshold value for pollutant No 47 (PCDD and PCDF) has, however,** been **lowered by a factor of 10** and to ensure consistency with reporting obligations for other releases, the pollutant polycyclic aromatic hydrocarbons (PAH) has been divided into three separate pollutants:

- 72 (polycyclic aromatic hydrocarbons comprising benzo(a)pyrene), benzo(b)fluoranthene, benzo(k)fluoranthene and indeno(1,2,3-cd)pyrene);
- 88 (fluoranthene); and
- 91 (benzo(g,h,i)perylene).

Footnotes in Annex II to the E-PRTR Regulation provide further specifications for individual pollutants. For example it is specified that pollutant number 4 (hydro-fluorocarbons or HFCs) has to be reported as total mass of the sum of HFC23, HFC32, HFC41, HFC4310mee, HFC125, HFC134, HFC134a, HFC152a, HFC143, HFC143a, HFC227ea, HFC236fa, HFC245ca, HFC365mfc. Another example is pollutant No 47 (PCDD and PCDF) which has to be expressed as I-Teq. The E-PRTR website[13] will provide substance descriptions for all relevant pollutants.

Annex II to the E-PRTR Regulation also specifies for each pollutant an annual threshold value for releases to each relevant medium (air, water, land). The threshold values for releases to water also apply in respect of the off-site transfer of pollutants in waste water destined for treatment. Where no threshold value is given, the parameter and medium in question do not trigger a reporting requirement.

Releases of pollutants falling into several categories (of pollutants) shall be reported for each of these categories if the relevant thresholds are exceeded. Since, for example 1,2-dichloroethane is a NMVOC, releases of pollutant number 34 (1,2-dichloroethane) are also included under pollutant number 7 (NMVOC). In the case of tributyltin and triphenyltin (organotin compounds), the releases of pollutant number 74 (tributyltin and its compounds) and 75 (triphenyltin and its compounds) are also included under pollutant number 69 (Organotin compounds as total Sn).

[13] www.prtr.ec.europa.eu

What and how to report?

Reported releases and off-site transfers are totals of releases and off-site transfers from all **deliberate, accidental, routine and non-routine** activities at the site of the facility.

- **Accidental** releases are all releases which are not deliberate, routine or non-routine, and result from uncontrolled developments in the course of the operation of Annex I activities on the site of the facility.

- **Non-routine** activities are extraordinary activities that are carried out under controlled operation of Annex I activities and that may lead to increased releases of pollutants; for example shut-down and start-up processes before and after maintenance operations.

The releases to air, water and land shall include all releases from all sources included in Annex I to the E-PRTR Regulation at the site of the facility, although there are special considerations for land releases, as described in Section 1.1.8.3. This includes also the **fugitive and diffuse releases of facilities** as addressed in the IPPC monitoring BREF[14].

If the sum of releases to one medium (air, water or land) of a pollutant from all Annex I activities at a facility exceeds the corresponding release threshold values for that medium, the release has to be reported.

Consideration should be given to all Annex II pollutants that are relevant to the processes operated at that facility and that might therefore occur in the facility's releases and off-site transfers of waste water. This consideration is not limited to those pollutants that are listed in the facility's permit.

An activity is usually related to a typical pollutant release spectrum. Appendices 4 and 5 **(indicative sector specific sub-list of pollutants)** of this guidance document contain two tables which give operators and competent authorities an example of the pollutants which may be released in the performance of a specified E-PRTR-relevant activity.

Both tables are indicative only and should not be interpreted as a standard list of parameters for specific sub-sectors. To decide which parameters are relevant to each specific installation, Appendices 4 and 5 should be referred to together with information contained in Environmental Impact Assessments (EIAs), permit applications, site inspection reports, process flow sheets, material balances, read-across of similar operations elsewhere, engineering judgements, published and peer-reviewed literature and the results of previous measurement exercises. As a result, it might be that for a certain activity fewer or possibly more pollutants than indicated have to be considered.

[14] http://eippcb.jrc.es/pages/FAbout.htm see in particular chapter 3 of the document entitled

Where a facility that performs an E-PRTR-relevant activity releases additional pollutants (exceeding the relevant threshold value) not specified for that activity in the tables, but contained in Annex II to the E-PRTR Regulation, the pollutants have to be reported. The tables do not exempt the operator from the responsibility to report on releases of these pollutants in accordance with Article 5 of the E-PRTR Regulation.

Reporting by the operator of a facility will in most cases contain less pollutants than listed in the tables of Appendix 4 or 5. In practice, the Annex II pollutants that are relevant for reporting purposes will be decided for each facility on a case-by-case basis. Extensive release monitoring campaigns should be avoided. In most cases plausibility checks will be sufficient to determine whether a certain pollutant is released above the threshold value; in case of doubt, a representative measurement might result in more certainty on complete reporting.

The **background load** of a certain pollutant in water may be taken into account. For example, if water is collected at the site of the facility from a neighbouring river, lake or sea for use as process or cooling water which is afterwards released from the site of the facility into the same river, lake or sea, the “release” caused by the background load of that pollutant can be subtracted from the total release of the facility. The measurements of pollutants in collected inlet water and in released outlet water must be carried out in a way that ensures that they are representative of the conditions occurring over the reporting period. If the additional load results from the use of extracted groundwater or drinking-water, it should not be subtracted since it increases the load of the pollutant in the river, lake or sea.

If concentrations in releases are **below determination (quantification) limits** this does not always permit the conclusion that threshold values are not exceeded. For example in large waste water or exhaust air volumes generated by facilities, the pollutants might be “diluted” below the determination limit, although the annual load threshold value is exceeded. Possible procedures to determine releases in such cases include measurement closer to the source (e.g. measurement in part streams before entering a central treatment plant) and/or estimation of releases e.g. on the basis of pollutant elimination rates in the central treatment plant.

If a facility carries out both, Annex I and **non-Annex I activities**, it is consistent with the Regulation to exclude the releases and off-site transfers from non-Annex I activities from the reported data. When it is not possible to separate and quantify the contributions of the non-Annex I activities, e.g. where no sampling point for the non-Annex I activity exists (in the case of highly interlaced sewer systems), it might be practical and cost effective to report the releases from non-Annex I activities together with those from Annex I activities.

“Monitoring System” (BREF 07.03.)

Releases and off-site transfers originating from remediation measures (for example decontamination of polluted soil or groundwater) on the site of the facility shall be reported if the original contamination is related to an ongoing Annex I activity.

Releases and off-site transfers of waste water have to be reported in terms of the quantity of pollutants released in kg/year. Off-site transfers of waste have to be reported in terms of waste quantities transferred off-site in tonnes/year. In addition, information on the method used to derive the information in the case of reporting of pollutants, the type of waste (hazardous, non-hazardous) and the intended waste treatment (recovery, disposal) have to be reported. For transboundary transfer of hazardous waste, the waste destination (name and address of recoverer/disposer and the address of the actual site of recovery/disposal) are required.

Operators are obliged to specify any data that relate to accidental releases where such information is available if the total of all (deliberate, accidental, routine and non-routine) releases exceeds the respective threshold values. Estimation is particularly relevant when reporting on accidental releases, as data on such releasesare not necessarily immediately available to the operator.

The quantity of accidental releases has to be included in the total quantity of releases (example: accidental release = 1 kg/y; deliberate, routine and non-routine release = 10 kg/y; → total release = 11 kg/y).

Usually it is possible to quantify accidental releases. Quantification might, for example, be possible on the basis of determination of residual quantities in tubes or tanks or by considering the duration of an accidental release and relating this to assumed flow rates. In particular cases it might, however, be impossible to derive data based on estimations for all relevant pollutants particularly when accidental releases to air are involved.

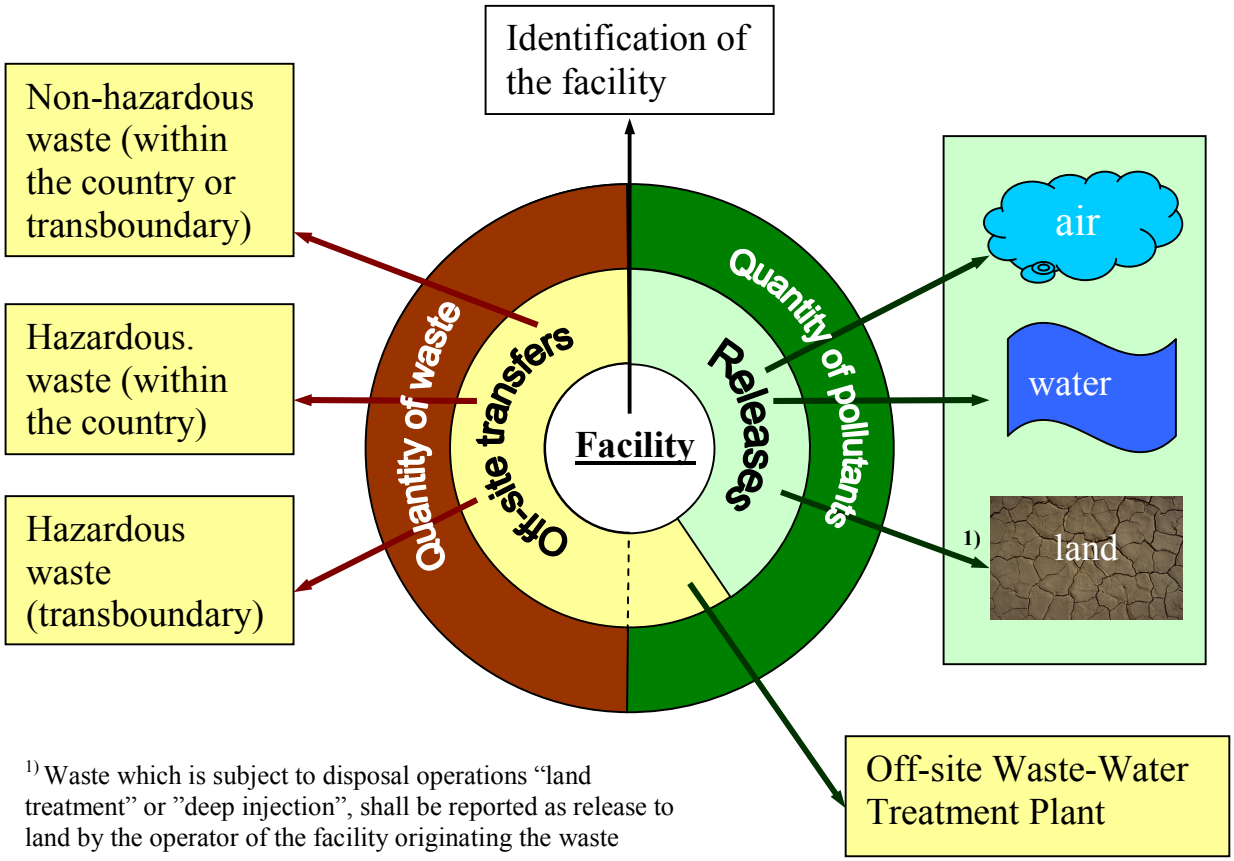
Figure 2 gives an overview on the reporting requirements for facilities in accordance with the E-PRTR Regulation.

In accordance with the principle of subsidiarity, Member States may introduce additional provisions and integrate reporting with other reporting mechanisms. Facility operators therefore also have to consider any additional national provisions that may be in place.

E-PRTR Regulation, Recital 21:

To reduce duplicate reporting, pollutant release and transfer register systems may, under the Protocol, be integrated to the degree practicable with existing information sources such as reporting mechanisms under licences or operating permits. In accordance with the Protocol, the provisions of this Regulation should not affect the right of the Member States to maintain or introduce a more extensive or more publicly accessible pollutant release and transfer register than required under the Protocol.

Box 4: E-PRTR Regulation, Recital 21



[1] Waste which is subject to disposal operations "land treatment" or "deep injection", shall be reported as release to land by the operator of the facility originating the waste

Figure 2: Overview on the reporting requirements for facilities under the E-PRTR

Releases		**Quantity** [1]	**M/C/E** [3]	**Method used** [4]		
	to air	**kg/year** [2]	**X**	**X**		
	to water	**kg/year** [2]	**X**	**X**		
	to land	**kg/year** [2]	**X**	**X**		
Off site transfers of:		**Quantity** [1]	**M/C/E** [3]	**Method used** [4]	**Name and address of recoverer/ disposer**	**Address of actual reco-very/disposal site receiving the transfer**
Pollutants in wastewater [5]		**kg/year** [2]	**X**	**x**		
Non-hazardous waste	for disposal (D)	**t/year**	**x**	**x**		
	for recovery (R)	**t/year**	**x**	**x**		
Hazardous waste within the country	for disposal (D)	**t/year**	**x**	**x**		
	for recovery (R)	**t/year**	**x**	**x**		
Hazardous waste transboundary	for recovery (R)	**t/year**	**x**	**x**	**x**	**x**
	for disposal (D	**t/year**	**x**	**x**	**x**	**x**

[1] Quantities are totals of releases from all deliberate, accidental, routine and non-routine activities at the site of the facility or of off-site transfers.

[2] The total quantity of each pollutant that exceeds the threshold value specified in Annex II; **in addition, any data that relate to accidental releases have to be reported separately whenever available.**

[3] It has to be indicated whether the reported information is based on measurement (M), calculation (C) or estimation (E). See chapter 1.1.11 of this guide.

[4] Where data are measured or calculated, the method of measurement and/or the method for calculation shall be indicated. For further sub-division of this column see chapter 1.1.11.5 of this guide.

[5] Off-site transfer of each pollutant destined for waste-water treatment that exceeds the threshold value specified in Annex II.

Table 1: Specification of the reporting requirements for releases and off site transfers

1.1.5 Data management

Operators of facilities have to report all required information to the competent authorities in the Member States.

Before submitting the data to the relevant competent authority, the operator should ensure an appropriate quality of the data by ensuring that the information is complete, consistent and credible.[15]

If an operator of a facility has justifiable reasons that specific information concerning releases or off-site transfers should be kept confidential, he has to inform the competent authorities. Member States may decide to keep data confidential. In such cases, the Member State must, in providing information to the Commission and the EEA, indicate separately for each facility claiming confidentiality the type of information that has been withheld and the reason for which it has been withheld.[16]

The E-PRTR Regulation does not stipulate deadlines for the reporting from facilities to the competent authorities in the Member States. In accordance with the principle of subsidiarity, it is the responsibility of Member States to adopt such timelines at national level. These timelines must enable timely reporting to the Commission.[17]

Operators are obliged to **keep records** of the data from which the reported information was derived and a description of the methodology used for data gathering for a period of five years.

Article 5
Reporting by Operators

5. The operator of each facility concerned shall keep available for the competent authorities of the Member State the records of the data from which the reported information was derived for a period of five years, starting from the end of the reporting year concerned. These records shall also describe the methodology used for data gathering.

Box 5: E-PRTR Regulation, Article 5(5) (record keeping by operators)

[15] See chapter 1.1.12 on quality assurance.
[16] For details related to confidentiality of information see chapter 1.2.4.
[17] The timelines for reporting from National to Community level as specified in Article 7 of the E-PRTR Regulation are set out in chapter 1.2.7.

1.1.6 Identification of the facility

Annex III to the E-PRTR Regulation sets out, inter alia, the information that is relevant for the identification of each facility to which the Regulation applies. In accordance with Article 5(1), this information has to be communicated by the operator to the relevant competent authority unless the information is already available to the authority.

Article 5
Reporting by Operators

1. ...
The operator of each facility that undertakes one or more of the activities specified in Annex I above the applicable capacity thresholds specified therein shall communicate to its competent authority the information identifying the facility in accordance with Annex III unless that information is already available to the competent authority.
...

Box 6: E-PRTR Regulation, Article 5(1) (excerpt related to information on the identification of the facility)

The exemption from the obligation to report to the competent authority is strictly related to the information identifying the facility in accordance with article 5(1). If this information is already available to the authority it may be reasonable for the operator to consider whether all required information is already available to the authority including, for example, any other relevant textual information (see below). The following table gives an overview of information that is obligatory for the identification of the facility. The table gives additional information on what to report by means of explanations and examples that are designed to facilitate the provision of this information.

Information required	What to report?
Name of the parent company	A parent company is a company that owns or controls the company operating the facility (for example by holding more than 50% of the company's share capital or a majority of voting rights of the shareholders or associates)[18].
Name of the facility	Name of the facility (operator or owner) *Example 1: "Planet AG, plant Nuremberg"* *Example 2: "Earth Waste Disposal Ltd.""* *Example 3: "Rubish AG, landfill Bin-park"*
Identification number of facility	The identification number of a facility has to be reported by Member States according to Annex III of the PRTR Regulation; It would be helpful if details of any change to the identification number of a facility could be included in the "Text field for textual information…" (see below).
Street address of facility	*Example 1: Planet street 5* *Example 2: 12 Flower street, Meadow Park* *Example 3: Disposal street*
Town/village	*Example 1: Nuremberg*

[18] See also Council Directive 83/349/EEC of 13 June 1983 (OJ L 193, 18.07.1983, p. 1-17)

Information required	What to report?
	Example 2: London *Example 3: Zaragoza*
Postal code	*Example 1: D-91034* *Example 2: T12 3XY* *Example 3: E-50123*
Country	*Example 1: Germany* *Example 2: United Kingdom* *Example 3: Spain*
Coordinates of the location	The co-ordinates of the location should be expressed in longitude and latitude co-ordinates[19] giving a precision of the order of at least ± 500 meters and referring to the geographical centre of the site of the facility *Example 1:* 8.489870, 49.774467 *Example 2:* -2.355611, 53.663908 *Example 3:* 11.498672, 51.882291
River basin district	Indication of the river basin district according to Article 3(1) of Directive 2000/60/EC ("Water Framework Directive")[20]. The river basin district where the facility releases into water is relevant for reporting purposes. If the river basin district is not known it may be requested from the competent authority appointed under the Water Framework Directive. *Example 1: River Pegnitz* *Example 2: River Thames* *Example 3: River Ebro*
NACE-code (4 digits)	Indication of the NACE-code in 4 digits according to Commission Regulation 29/2002/EC of 19 December 2001 amending Council Regulation (EEC) No 3037/90 on the statistical classification of economic activities in the European Community. A revision of the NACE codes is currently being discussed and is likely to come into effect in 2008. . *Example 1: 24.10* *Example 2: 90.02* *Example 3: 90.00*
Main economic activity	Designation of the main economic activity in words according to the NACE-code *Example 1: Manufacture of basic chemicals* *Example 2: Collection and treatment of other waste* *Example 3: Sewage and refuse disposal, sanitation and similar activities*

Table 2: Explanations related to information required for the identification of the facility

[19] See ISO 6709:1983 (Standard representation of latitude, longitude and altitude for geographic point locations).

[20] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1). Directive as amended by Decision No 2455/2001/EC (OJ L 331, 15.12.2001, p.1).

Facility operators may provide optional information on the facility. There is no obligation to report it but the information may be of interest to the public and may also be useful for the competent authority for assessing the quality of the data. Table 3 gives an overview of this optional information:

Optional information
Production volume
Number of installations
Number of operating hours in year
Number of employees
Text field for textual information[21] or website address delivered by facility or parent company

Table 3: Optional information according to Annex III to the E-PRTR Regulation

In particular the "Text field for textual information …" enables individual operators and the competent authorities of the Member State to provide specific information on a facility they would like to made known to the public. Such information could, for example, include:

- a link to a website which shows the environmental report or the EMAS statement of the facility or the parent company;
- information on changes in the history of the facility (closure, relocation, severance or merger of facilities) for the last 10 years which might have also resulted in a change of the identification number of the facility[22] in order to enable reasonable comparisons between different reporting years unless the information is already available to the competent authority;
- explanations for changes in reported releases and transfers;
- information on the type which fuel is used in the case of Large Combustion Plants;
- an e-mail address for public enquiries directly to the facility;
- information on non-Annex I activities that have been included in reporting;
- permit conditions.

Links to the websites of facilities or their parent companies should not be misused for advertisement purposes but rather should only be used to provide a direct link to environmental information.

[21] Textual information should be provided in mother tongue and optionally in English language
[22] See also chapter 1.2.1 of this guide.

1.1.7 Coding of activities and identification of the main Annex I activity

Coding of activities

In addition to the information required for the identification of the facility, all Annex I activities carried out at a facility have to be listed according to the coding system given in Annex I and, (if available), the IPPC code[23]. In accordance with Annex I to the E-PRTR Regulation, the E-PRTR code consists of a number from 1 and 9 and a letter from a to g. For some activities, there is a further sub-division from (i) to (xi). This sub-division has not to be reported.

Example: The main economic activity carried out at a certain facility is surface treatment of plastic materials using a chemical process. The volume of the treatment vats is 200 m^3. At the same facility certain products are painted using organic solvents. For this additional activity the consumption capacity of organic solvents is 250 tonnes per year.

Information on Annex I activities should be reported in accordance with Annex III of the E-PRTR Regulation, e.g. in the following form:

Annex I activity*	E-PRTR code	IPPC code[24]	Activity name according to Annex I of E-PRTR Regulation (declaration not obligatory)
1**	2.(f)	2.6	Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process where the volume of the treatment vats equals 30 m^3
2	9.(c)	6.7.	Installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating with a consumption capacity of 150 kg per hour or 200 tonnes per year
N	…	…	…

Table 4: Structure for reporting of all Annex I activities of a facility (with examples)
*** Consecutive no. of Annex I activities**
**** Activity 1 shall be the main Annex I activity**

Non-Annex I activities need not be reported.[25]

[23] Table 21 in Appendix II to this guide contains a comparison of IPPC Annex I activities with E-PRTR Annex I activities and sets out the available IPPC codes.
[24] The IPPC-code consists of a two digit code in accordance with Annex I of the IPPC-Directive
[25] See chapter “What and how to report?”

Identification of the main activity:

All releases and off-site transfers of the facility are attributed to the main Annex I activity.

Often the main Annex I activity is similar to the main economic activity of the facility. When the main economic activity is not representative of the processes undertaken at the facility, the main Annex I activity could be associated with the most polluting activity of the facility. All releases and off-site transfers of the facility are attributed in further aggregations of the data to the main Annex I activity given by the operator.

1.1.8 Releases to air, water and land

Operators shall report releases to air, water and land of any pollutant specified in Annex II to the E-PRTR Regulation for which the applicable threshold value specified in Annex II is exceeded (see Box 3).[26]

All release data have to be expressed in kg/year and with three significant digits. The rounding to three significant digits does not refer to the statistical or scientific uncertainty, but reflects only the accuracy of the reported data as is shown in the following examples.

Original result of the release determination	Result to be reported (in three significant digits)
0.0123456 kg/year	0.0123 kg/year
1.54789 kg/year	1.55 kg/year
7,071.567 kg/year	7,070 kg/year
123.45 kg/year	123 kg/year
10,009 kg/year	10,000 kg/year

Table 5: Examples demonstrating the rounding to three significant digits

For reporting, the original measured, calculated or estimated value of a release is relevant. The pollutant still has to be reported, even if the value of the pollutant is equal to the threshold value after rounding to three significant digits.

Example: The threshold value for halons is 1 kg/ year for releases to air. The determined value is 1.003 kg/year rounded in three significant digits to 1.00 kg. Even if the rounded value does not exceed the threshold value, the pollutant has to be reported because the original value exceeds the threshold value.

The reported release data must include a reference (M, C, E) to the determination methodology used for the reported release data. Where data are measured or calculated ("M" or "C"), the method of measurement and/or the method for calculation shall be indicated (see Box 8).[27]

[26] For further information see explanations given in chapter 1.1.4.
[27] For details on how to report on the method of measurement/calculation see chapter 1.1.11.5.

1.1.8.1 Releases to air

According to column 1a of the table in Annex II to the E-PRTR Regulation, a total of 60 pollutants are specified as relevant air pollutants. Releases from a facility of air pollutants in excess of the threshold values in column 1a must be reported. This is the case in respect of all 60 air pollutants.

Appendix 4 to this guide contains an indicative sector specific sub-list of air pollutants. The list shows for all Annex I activities those air pollutants that are likely to be emitted and aids the identification of relevant pollutants at a given facility.

Appendix 3 lists standardised internationally approved measurement methodologies for air and water pollutants.[28] In the case of data indicated as being based on measurement or calculation, the analytical method and / or the method of calculation shall be reported.[29]

Operators are obliged to specify any data that relate to accidental releases whenever such data is available

Reporting should be done in accordance with Annex III of the E-PRTR Regulation, for example as shown in Table 6.

Releases to air					
Pollutant		Method		Quantity	
no. A II[30]	Name[31]	M/C/E[32]	Method used[33]	T (total)[34] (kg/year)	A (accidental)[35] kg/year
1	Methane (CH_4)	C	IPCC	521,000	-
3	Carbon dioxide (CO_2)	M	ISO 12039:2001	413,000,000	-
21	Mercury	M	EN 13211:2001	17.0	2.00

Table 6: Reporting of releases to air (exemplary data)

[28] Further specifications on measurement, calculation and estimation of releases are given in chapter 1.1.11 of this guide.
[29] See chapter 1.1.11.5
[30] pollutant number according to Annex II of the E-PRTR Regulation
[31] pollutant name according to Annex II of the E-PRTR Regulation
[32] indication if data information is based on measurement, calculation or estimation
[33] indication of the method used when data are measured or calculated; see also chapter 1.1.11.5
[34] indication of the total quantity of the pollutant released to air from all sources of the activity (including accidental releases and releases from diffuse sources); all quantities have to be expressed in kg/year and with three significant digits
[35] indication of the quantity of the pollutant accidentally released

Table 6 contains examples of reporting data of a mineral gas and oil refinery. The facility releases amongst other substances carbon dioxide (CO_2), methane (CH_4) and mercury and compounds. The threshold values for releases to air are exceeded for all three pollutants, being 100 million kg/year for CO_2, 100,000 kg/year for CH_4 and 10 kg for mercury and compounds. The CO_2 release was generated under normal operating conditions and measured with the indicated internationally approved method. The release of CH_4 is calculated according to the IPCC Guidelines[36]. The total release of mercury and compounds occurs under normal operating conditions (15.0 kg/year) and to an accidental event (2.00 kg/year). The latter has to be reported as accidental release and also has to be included in the total release (15.0+2.00=17.0 kg/year). The information is based on measurement for the routine releases and on estimation for the accidental event. Since the information of the major share of the release of mercury and compounds (=15kg) is based on measurement by applying EN 13211:2001 the determination method for mercury and compounds has to be indicated as “M” and the measuring method used (EN 13211:2001) has to be indicated.

1.1.8.2 Releases to water

According to column 1b of the table in Annex II to the E-PRTR Regulation, a total of 71 pollutants are specified as relevant water pollutants. Releases of water pollutants which exceed the threshold values in column 1b must be reported by the facility. This is the case in respect of all 71 water pollutants.

Appendix 5 to this guide contains an indicative sector specific sub-list of water pollutants. The list shows for all Annex I activities those water pollutants which might be emitted and aids the identification of relevant pollutants at a specific facility.

In order to enable the determination of releases to water, Appendix 3 lists standardised measuring methods for air and water pollutants. In the case of data indicated as being based on measurement or calculation the analytical method and / or the method of calculation shall be reported.[37] Operators are obliged to specify any data that relate to accidental releases whenever such data is available.

[36] For calculation methods, see chapter 1.1.11.2 of this guide.
[37] See chapter 1.1.11.5.

Reporting should be done in accordance with Annex III to the E-PRTR Regulation, in other words, in an analogous way to that described above in respect of releases to air.

Releases to water					
Pollutant		Method		Quantity	
no. A II	Name	M/C/E	Method used	T (total) kg/year	A (accidental) kg/year
63	Brominated diphenylethers (PBDE)	E		25.5	20.0
76	Total organic carbon (TOC)	M	EN 1484:1997	304,000	-
N					

Table 7: Reporting of releases to water (exemplary data)

Table 7 contains examples of reporting data of a plant for the pre-treatment of fibres and textiles. The facility releases Total Organic Carbon (TOC) and brominated diphenylethers (PBDE) above the threshold values for releases to water for both pollutants, being 50,000 kg/year for TOC and 1 kg/year for PBDE. TOC was released under normal operation conditions and measured with the indicated method. PBDE was released as a result of routine activities (5.50 kg/year) and an accident (20.0 kg/year). The latter has to be reported as accidental release and also has to be included in the total release (5.50+20.0=25.5 kg/year). The information is based on calculation for the routine releases and on estimation for the accidental event. Since the information on the major share of the total release of PBDE is based on estimation (20.0 kg), as release determination method "E" has to be indicated. In the case of "E" the method used does not have to be indicated.

1.1.8.3 Releases to land

The reporting on "releases to land" applies only to pollutants in waste which is subject to the disposal operations "land treatment" or "deep injection"[38]. If waste is treated in such a way this shall only be reported by the operator of the facility originating the waste[39].

Sludge and manure spreading are recovery operations and therefore not reported as releases to land[40]. Accidental releases of pollutants onto the soil on the site of a facility (for example spillages) do not have to be reported. Accidental releases to land are theoretically possible (for example due to the leakage of a pipeline at the location of deep injection) but it is expected that they will only occur in very rare cases.

The relevant disposal operations according to Article 6 (see Box 7) are mainly land treatment of oily sludges and deep injection of saline solutions underground. The off-site transfer (e.g. via pipeline) which often precedes the release to land for those cases need not be reported (see Box 3, Article 5 (1) (b)).

Article 6
Releases to Land

Waste which is subject to 'land treatment' or 'deep injection' disposal operations, as specified in Annex II A to Directive 75/442/EEC, shall be reported as a release to land only by the operator of the facility originating the waste.

Box 7: E-PRTR Regulation, Article 6 (Releases to Land)

[38] Land treatment (e.g. biodegradation of liquid or sludge discards in soils, etc.) and Deep injection (e.g. injection of pumpable discards into wells, salt domes or naturally occurring repositories, etc.) are Disposal operations "D2" and "D3" according to the Council Directive 75/442/EEC of 15 July 1975.
[39] See Box 7, Article 6 of the E-PRTR Regulation.
[40] See recital 9 of the E-PRTR Regulation.

According to column 1c of the table in Annex II to the E-PRTR Regulation, a total of 61 pollutants are specified as relevant pollutants for releases to land. Releases of pollutants to land which exceed the threshold values in column 1c must be reported by the operator of the facility originating the waste. This is the case in respect of all 61 pollutants that are relevant for releases to land.

In the case of data indicated as being based on measurement or calculation the analytical method and / or the method of calculation should be reported.[41]

Reporting should be carried out in accordance with Annex III to the E-PRTR Regulation, in an analogous way to that described above in respect of releases to air and water.

Releases to land					
Pollutant		Method		Quantity	
no. A II	Name	M/C/E	Method used	T (total) kg/year	A (accidental) kg/year
24	Zinc and compounds (as Zn)	M	EN ISO 11885:1997	125	-
79	Chloride (as total Cl)	M	EN ISO 10304-1	2,850,000	-
n					

Table 8: Reporting of releases to land (exemplary data)

Table 8 contains exemplary data for reporting of a release to land via deep injection (disposal operation D3). The liquid waste is disposed via deep injection and contains the pollutants zinc and chloride above the corresponding threshold values for releases to land being 100 kg/year for zinc and 2 million kg/year for chloride. Both pollutants were measured using the indicated internationally approved methods.

[41] See chapter 1.1.11.5.

1.1.9 Off-site transfers of pollutants in waste water

An off-site transfer of pollutants in waste water means the movement beyond the boundaries of a facility of pollutants in waste water destined for waste-water treatment including industrial waste water treatment. The off-site transfer may be carried out via a sewer or any other means such as containers or (road)tankers.

Operators shall report off-site transfers of any pollutant specified in Annex II to the E-PRTR Regulation in waste water destined for waste-water treatment for which the threshold value specified in column 1b of the table in Annex II to the E-PRTR Regulation is exceeded.[42]

Reporting should be carried out in accordance with Annex III of the E-PRTR Regulation, in other words in an analogous way as to that described above in respect of releases to water.

Off-site transfers of pollutants in waste water					
Pollutant		Method		Quantity	
no. A II	Name	M/C/E	Method used	T (total) kg/year	A (accidental) kg/year
12	Total nitrogen	M	EN 12260	76,400,000	-
13	Total phosphorus	M	EN ISO 6878:2004	10,900,000	-
n					

Table 9: Reporting of off-site transfers of pollutants in waste water (exemplary data)

Table 9 contains examples of reporting data of a facility that processes and preserves potatoes. The waste water of the facility contains nitrogen and phosphorus. The threshold values for releases to waste water are exceeded for both pollutants, being 50,000 k/year for total nitrogen and 5,000 kg/year for total phosphorus. The values of both pollutants were measured using the indicated internationally approved methods.

[42] See chapter 1.1.8.2 of this guide.

1.1.10 Off-site transfers of waste

An off-site transfer of waste means the movement beyond the boundaries of a facility of waste destined for disposal or recovery.

Operators shall report off-site transfers of

- hazardous waste (HW) exceeding 2 tonnes per year
- non hazardous waste (non-HW) exceeding 2,000 tonnes per year

for any operations of recovery or disposal (see Box 3) with the exception of the disposal operations of land treatment and deep injection, as these have to be reported as releases to land[43].

- 'Waste' means any substance or object as defined in Article 1(a) of Council Directive 75/442/EEC on waste of 15 July 1975.[44]
- 'Hazardous waste' means any substance or object as defined in Article 1(4) of Council Directive 91/689/EEC on hazardous waste of 12 December 1991.[45]
- 'Non hazardous waste' means any waste which is not 'Hazardous waste'

All data have to be expressed in tonnes/year of (normal) wet waste and with three significant digits.[46]

With respect to the threshold value the sum of waste transferred off-site is relevant, irrespective of whether it is treated within the country or it is transferred to another country or whether it is disposed of or recovered. Example: If a facility has transferred 1.5 tonnes of hazardous waste within the country for recovery and 1.5 tonnes of hazardous waste to other countries for disposal, it has to report since the total exceeds the threshold value (2 tonnes/year).

The operator has to indicate whether the waste is destined for recovery ("R") or for disposal ("D"). If the waste is destined for waste treatment that includes both recovery and disposal operations (e.g. sorting), the treatment operation (R or D) for which more than 50% of the waste is destined should be reported. In those rare cases where the facility is not able to trace whether more than 50% of the waste is disposed or recovered, then code "D" should be used.

[43] See chapter 1.1.8.3 of this guide.
[44] OJ L 194, 25.7.1975, p. 39. Directive as last amended by Regulation (EC) No 1882/2003.
[45] OJ L 377, 31.12.1991 p. 20 - 27.
[46] See chapter 1.1.8 of this guide.

For transboundary movements of hazardous waste, the name and address of the recoverer or the disposer of the waste and the actual recovery or disposal site have to be reported.

Reporting should be carried out in accordance with Annex III to the E-PRTR Regulation. Operators should indicate whether the amount of waste was measured (e.g. by the method of weighing), calculated (e.g. by emission or release factors) or estimated.

Table 10 and Table 11 show how data on off-site transfers of hazardous waste should be reported. Table 12 shows how off-site transfers of non-hazardous waste should be reported.

Off-site transfer of HW	Quantity (t/year)	Waste treatment operation	M/C/E	Method used
within the country	5	R	M	weighing
	1	D	M	weighing

Table 10: Reporting of an off-site transfer of hazardous waste (HW) within the country (exemplary data)

The figures presented in Table 10 show examples of reporting by a facility which has transferred off-site 5 tonnes of hazardous waste for recovery and 1 tonne of hazardous waste for disposal within the country in the reporting year. At 6 tonnes per year, the off-site transfer of hazardous waste exceeds the threshold value of 2 tonnes per year and transfers within the country should therefore be reported as shown in the example.

Off-site transfer of HW	Quan-tity (t/year)	Waste treatment operation	M/C/E	Method used	Name of recoverer/ disposer	Address of re-coverer/dis-poser	Address of actual recovery/disposal site
to other countries	15	R	M	weighing	Sunshine Compo-nents Ltd.	Sun Street, Flowertown south, PP12 8TS, United Kingdom	Sun Street, Flowertown south, PP12 8TS, United Kingdom
	4	D	M	weighing	BEST Environ-mental Ltd.	Kings Street, Kingstown, Highlands, AB2 1CD, United Kingdom	Kingstown Waste to Energy Plant, Kings Street, Kingstown, Highlands, AB2 1CD, United Kingdom
	30	D	M	weighing	BEST Environ-mental Ltd.	Kings Street, Kingstown, Highlands, AB2 1CD, United Kingdom	Queens Incineration Plant, Crown Street, Queenstown, EF3 4GH, United Kingdom

Table 11: Reporting of an off-site transfer of hazardous waste (HW) to other countries (exemplary data)
(note: if the waste is transferred to several recovery/disposal sites additional lines have to be inserted in the table)

The figures presented in Table 11 show examples of reporting by the same facility which has, in addition to the off-site transfer of hazardous waste within the country (as shown in Table 10), transferred 49 tonnes of hazardous waste to other countries, 15 tonnes thereof for recovery and 34 tonnes for disposal (at two different disposal sites).

Off-site transfer of non-haz. Waste	Quantity (t/year)	Waste treatment operation	M/C/E	Method used
Within the country or to other countries	1,000	R	M	weighing
	10,000	D	M	weighing

Table 12: Reporting of an off-site transfer of non-hazardous waste (exemplary data)

The figures presented in Table 12 show examples of reporting by a facility which has transferred off-site 1,000 tonnes of non-hazardous waste for recovery and 10,000 tonnes of non-hazardous waste for disposal in the reporting year. The off-site transfer of non-hazardous waste exceeds the threshold value of 2,000 tonnes per year and the transfers within the country or to other countries have to be reported as shown in the example.

1.1.11 Measurement/calculation/estimation of releases and off-site transfers

Reporting shall be carried out based on measurement, calculation or estimation of releases and off-site transfers.

For the indication of whether the reported release and transfer data is based on measurement, calculation or estimation a simplified system with three classes identified with a letter code is required, referring to the methodology used to determine the data:

Class M: Release data are based on measurements **("M")**. Additional calculations are needed to convert the results of measurements into annual release data. For these calculations the results of flow determinations are needed. "M" should also be used when the annual releases are determined based on the results of short term and spot measurements. "M" is used when the releases of a facility are derived from direct monitoring results for specific processes at the facility, based on actual continuous or discontinuous measurements of pollutant concentrations for a given release route.

Class C: Release data are based on calculations **("C")**. "C" is used when the releases are based on calculations using activity data (fuel used, production rate, etc.) and emission factors or mass balances. In some cases more complicated calculation methods can be applied, using variables like temperature, global radiance etc.

Class E: Release data are based on non-standardised estimations **("E")**. "E" is used when the releases are determined by best assumptions or expert guesses that are not based on publicly available references or in case of absence of recognised emission estimation methodologies or good practice guidelines.

Where the total release of a pollutant at a facility is determined by more than one determination method (e.g. M and C), the determination method with the highest amount of release is chosen for reporting. Example: The release of an air pollutant at a PRTR relevant facility occurs at two stacks (stack A and stack B). The total release exceeds the relevant release threshold. The release at stack A is measured and amounts 100 kg/year. The release at stack B is calculated and amounts 50 kg/year. Since the highest amount of release (100 kg/year) is measured, the total release (150 kg/year) has to be indicated as being based on measurement (M).

Chapters 1.1.11.1 to 1.1.11.4 provide references to information sources for release determination methods.

Article 5

Reporting by Operators

1. ...

In the case of data indicated as being based on measurement or calculation the analytical method and/or the method of calculation shall be reported.

...

3. The operator of each facility shall collect with appropriate frequency the information needed to determine which of *the facility's releases and off-site transfers are subject to reporting requirements under paragraph 1.*

4. When preparing the report, the operator concerned shall use the best available information, which may include monitoring data, emission factors, mass balance equations, indirect monitoring or other calculations, engineering judgements and other methods in line with Article 9(1) and in accordance with internationally approved methodologies, where these are available.

Box 8: E-PRTR Regulation, Article 5 (excerpt related to measurement, calculation and estimation)

Releases and off-site transfers of pollutants in waste water have to be reported as annual quantities of pollutants released in kg/year whereas waste transferred off-site has to be reported in tonnes/year. The annual quantities should be determined with a frequency and duration of data collection sufficient over the year to give reasonably representative and comparable data. When determining the frequency, it is important to balance the requirements with emission characteristics, risk to the environment, practicalities of sampling and the costs. Good practice also suggests matching the monitoring frequency to the timeframes over which harmful effects or potentially harmful trends occur. For more information see the BREF document on General Principles for Monitoring[47].

Operators are obliged to collect the data needed in order to determine which releases and off-site transfers have to be reported. Reporting shall be based on the best available information which enables appropriate quality assurance[48] and which is in accordance with internationally approved methodologies where such methodologies are available.

To reduce duplicate reporting (determination of pollutants), the reporting under the European PRTR for a facility may be integrated to the degree practicable and under consideration of the future comparability of the reported data with existing measurement, calculation or estimation methodologies already prescribed for the facility concerned by the competent authorities.

[47] Details on monitoring timing can be found in chapter 2.5 of the BREF "Monitoring System" (BREF 07.03.); see http://eippcb.jrc.es/pages/FAbout.htm

[48] See chapter 1.1.12 of this guide.

The operator of the facility has to decide before collecting the data which determination methodology (M, C or E) for a certain pollutant results in "best available information" for the reporting. Where data are measured or calculated, the method of measurement and/or the method for calculation shall in addition be indicated (see Box 8)[49].

Operators should prepare their data collection in accordance with **internationally approved methodologies** (see Article 5(4)), where such methodologies are available. The following methodologies are considered as internationally approved:

- CEN and ISO standards as measurement methodologies[50];
- the "Guidelines for the monitoring and reporting of greenhouse gas emissions under the Emission Trading Scheme", the "IPCC Guidelines" and the "UN-ECE/EMEP Atmospheric Emission Inventory Guidebook" as calculation methodologies.

The following chapters give precise references to internationally approved methodologies[51].

The operator may use **"equivalent" methodologies** other than internationally approved methodologies, even when available, if one or more of the following conditions are fulfilled:

1. The operator uses one or more measurement, calculation or estimation methodologies already prescribed by the competent authority in a licence or an operating permit for that facility (method name to be reported[52]: PER)
2. A national or regional binding measurement, calculation or estimation methodology is prescribed by legal act for the pollutant and facility concerned (method name to be reported: NRB).
3. The operator has shown that the alternative measurement methodology used is equivalent to existing CEN/ISO measurement standards[53] (method name to be reported: ALT).

[49] See Chapter 1.1.11.5 of this guide.
[50] Appendix 3 to this guide includes a list of standardised measuring methods for the determination of the release of air and water pollutants.
[51] See chapter 1.1.11.1 for measurement methods and chapter 1.1.11.2 for calculation methods.
[52] For details on the reporting of the method used see chapter 1.1.11.5 of this guide
[53] e.g. in accordance with CEN/TS 14793 (Intralaboratory validation procedure for an alternative method compared to a reference method)

4. The operator uses an equivalent methodology and demonstrated its performance equivalence by means of Certified Reference Materials (CRMs)[54] according to ISO 17025 and ISO Guide 33 together with an acceptance by the competent authority (method name to be reported: CRM).

5. The methodology is a mass balance method (e.g. the calculation of NMVOC releases into air as difference from process input data and incorporation into product) and is accepted by the competent authority (method name to be reported: MAB).

6. The methodology is a European-wide sector specific calculation method, developed by industry experts, which has been delivered to the European Commission (env-eper@ec.europa.eu/env-prtr@ec.europa.eu), to the European Environment Agency (eper@eea.eu.int/prtr@eea.eu.int) and the relevant international organisations (e.g. IPCC: www.ipcc-nggip.iges.or.jp/mail; UN-ECE/EMEP: http://tfeip-secretariat.org/unece.htm[55]). The methodology could be used unless it is rejected by the international organisation (method name to be reported: SSC).

Other methodologies shall only be used if internationally approved or equivalent methodologies are not available (method name to be reported: OTH).

The competent authorities of the Member States have to assess the quality of data collected by the operators[56] and to report it to the Commission. Therefore, the competent authorities of the Member States also have to assess the used methodologies.

1.1.11.1 Measurement methods

Data on releases and off-site transfers of pollutants in waste water may be based on measurements. Additional calculations may be needed to convert the results of measurements into annual loads.

In the case of off-site transfers of waste the annual data reported are usually obtained by weighing wastes.

A list of internationally approved measurement methods for the release into air and water/off-site transfer of pollutants in water of the 91 E-PRTR pollutants is set out in Appendix 3 to this guide. The list covers CEN and ISO standards and provides guidance on the availability of standardised measuring methods for air and water pollutants[57].

[54] A Certified Reference Material (CRM) is a material or substance accompanied by a certificate, one or more of whose property values are certified by a procedure which establishes its traceability to an accurate realization of the unit in which the property values are expressed, and for which each certified value is accompanied by an uncertainty at a stated level of confidence (Source: ISO Guide 30). Available CRMs can be found via the COMAR – database (see http://www.comar.bam.de/).

[55] This web-site of the UN-ECE Task Force on Emission Inventories and Projections provides contact details of relevant experts

[56] See chapter 1.2.3 of this guide.

[57] See chapter 1.1.11.5 of this guide.

1.1.11.2 Calculation methods

Release and transfer data can be based on calculations for the determination of releases using calculation methods and release factors, which are representative for certain pollutants and industrial sectors.

Internationally approved calculation methods are described in the following information sources:

- The European Commission has established **Guidelines for the monitoring and reporting of greenhouse gas emissions under the Emission Trading Scheme** (method name to be reported "ETS"; see chapter 1.1.11.5). The guidelines and related frequently asked questions can be found at the EU Environment website[58]. In the case of facilities which report on identical activities to those reported under the Emissions Trading Regulations, the annual amounts of pollutants determined by the facility according to the ETS Guidelines should be identical to the amounts of pollutants reported under the E-PRTR Regulation. Where only certain processes undertaken within an activity subject to the E-PRTR regulation fall under the Emissions Trading Regulations, the total annual amounts of pollutants resulting from the activity reported under the E-PRTR Regulation should equal the data reported under the ETS plus the contribution from the remaining sources.

- The **IPCC Guidelines**[59] provide methodologies for estimating anthropogenic emissions by sources (method name to be reported "IPCC"; see chapter 1.1.11.5). The Reference Manual (Volume 3) provides a compendium of information on methods for estimation of emissions for a broader range of **greenhouse gases** and a complete list of source types for each. It summarises a range of possible methods for many source types. It also provides summaries of the scientific basis for the inventory methods recommended and gives extensive references to the technical literature.

- The **UN-ECE/EMEP "EMEP/CORINAIR Emission Inventory Guidebook – 2005"**[60] provides a comprehensive guide to atmospheric emissions inventory methodology (method name to be reported "UNECE/EMEP"; see chapter 1.1.11.5). Its intention is to support reporting under the UN-ECE Convention on Long-Range Transboundary Air Pollution and the EU directive on national emission ceilings. The Guidebook is a joint activity of UN-ECE/EMEP and the European Environment agency. The guidebook contains chapters for specific source sectors, where all available emission factors and emission calculation methods are collected. A Task Force maintains a working web site, where drafts for new chapters and modifications of existing ones are available[61].

[58] For the guidelines see: http://europa.eu.int/comm/environment/climat/pdf/c2004_130_en.pdf, for FAQs see: http://europa.eu.int/comm/environment/climat/emission/pdf/monitoring_report_faq.pdf
[59] http://www.ipcc-nggip.iges.or.jp/public/gl/invs1.htm
[60] http://reports.eea.eu.int/EMEPCORINAIR4/en
[61] http://www.aeat.co.uk/netcen/airqual/TFEI/unece.htm

In the case of off-site transfers of waste the calculation of the annual quantity of waste(s) may use factors agreed on international, national or sectoral level which, for example, indicate the waste amount in relation to the material produced or the input of raw material.

1.1.11.3 Estimation methods

A measurement or calculation method is usually preferred by operators. In those relatively rare cases where measurement and calculation methods are not available, or (pertinently) in the case of accidents, data can be based on estimation, i.e. on non-standardised estimations derived from mass balances, best assumptions or expert guesses.

1.1.11.4 Other information on release determination methods[62]

Other information on **release determination methods**[63] can be found at the following information sources:

- The future E-PRTR website[64] will provide further selected information on available release determination methods.
- The IPPC-document "Reference Document on the General Principles of Monitoring" contains a list of CEN-standards and pre-standards for determination of releases[65].
- The United Nations Institute for Training and Research (UNITAR) provides support for the determination of releases. The document "Estimating Environmental Releases for Facility PRTR Reporting, Introduction and Guide to Methods"[66] gives an overview of the methods available to facilities to estimate their releases to air, water, and land. The document is not intended to be a complete guide but attempts to show how data already collected by facilities might be used. The document "Guidance for Facilities on PRTR Data Estimation and Reporting" supporting the determination of releases, can be found at the same source.
- The website of the OECD "Resource Centre for PRTR Release Estimation Techniques" (RETs)[67] provides a clearing-house of guidance manuals/documents of release estimation techniques for the principal pollutant release and transfer registries

[62] The references to websites describe the status as of September 2005
[63] Note that particularly in the U.S. the term "estimation" often comprises all three release determination approaches: measurement; calculation; and estimation
[64] www.prtr.ec.europa.eu
[65] http://eippcb.jrc.es/pages/FAbout.htm see in particular the document "Monitoring System" (BREF 07.03.)
[66] http://www.unitar.org/cwm/publications/prtr.htm
[67] http://www.oecd.org/env/prtr/rc

developed by OECD member countries. The manuals and documents include descriptive information on the sources of pollution and the pollutants that are released, as well as information on emission factors, mass balance methods, engineering calculations, and monitoring information.

- The "OECD's Database on Use and Release of Industrial Chemicals"[68] has been designed to provide readily accessible information on uses and releases of industrial chemicals for exposure/risk assessors. Of particular interest is information on emission scenarios, uses and releases of specific chemicals and uses and releases of chemicals on specific use/industry categories.

- The OECD/IPCC/IEA phase II development of the "Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories" (IPCC Guidelines) methodology for agricultural sources of N_2O (IPCC, 1997; Mosier et al., 1998) includes methodologies for calculating both direct and indirect emissions of N_2O related to agricultural production[69].

- The Australian emission estimation technique handbooks are available on the Internet[70].

- The US EPA Office of Air Quality Planning & Standards maintains a comprehensive web site where material on available emission factors and emission estimation methods in the United States can be viewed and, in many cases, downloaded[71].

- The European oil companies association has prepared a report providing information on "Air pollutant emission estimation methods for EPER and PRTR reporting by refineries"[72]

[68] http://appli1.oecd.org/ehs/urchem.nsf/
[69] http://www.ipcc-nggip.iges.or.jp/public/gp/bgp/4_5_N2O_Agricultural_Soils.pdf
[70] http://www.npi.gov.au/handbooks/
[71] http://www.epa.gov/ttn/chief/
[72] see Report No. 9/05 at http://www.concawe.org/Content/Default.asp?PageID=31

The literature on establishing releases to water is much more limited than in the case of releases to air. The following information sources are **specifically related to the determination of releases to water:**

1. Estimation methods of Industrial Waste-water Pollution in the Meuse Basin, Comparison of approaches, LIFE study ENV/F/205, August 1998, Agence de l'eau, Paris, France.[73]

2. Dutch Notes on Monitoring of Emission to Water, Institute for Inland Water Management and Waste Water Treatment/RIZA. February 2000, RIZA, Lelystad, The Netherlands.[74]

3. The OSPAR-Commission for Protection of the Marine Environment of the North-East Atlantic initiated the project "Harmonised Quantification and Reporting Procedures for Hazardous Substances (HARP)" which includes methods for release determination[75]. In the "Monitoring and Assessment" section of the OSPAR homepage under "decision, recommendations and other agreements" (agreement section) one can find other guidelines adopted by OSPAR for the measurement and assessment of hazardous substances in and their releases to the marine environment[76].

The following information sources are related to **release determination from specific activities:**

- E-PRTR activity sector 5: Waste management: **landfills**

  For the determination of diffuse methane and carbon dioxide releases from landfills different calculation models exist which are generally used at the national level, e.g. first order degradation models such as:

  - First order TNO model[77]
  - Afvalzorg-model (multiphase)[78]
  - GasSim (multiphase)-model[79]

[73] Summary document available at http://ruisseau.oieau.fr/life/summ_uk.pdf
[74] Document details available at http://eippcb.jrc.es/pages/webquery4_1.cfm?ID=mon&TYPE=tm&N=56
[75] http://www.sft.no/english/ see in particular the document HARP-HAZ Prototype (http://www.sft.no/publikasjoner/kjemikalier/1789/ta1789.pdf)
[76] http://www.ospar.org/
[77] Oonk, J., A. Boom, 1995. Landfill gas formation, recovery and emissions. NOVEM Programme Energy Generation from Waste and Biomass (EWAB), TNO report R95-203, Apeldoorn, Netherlands
[78] Scharff, H., J. Oonk, A. Hensen (2000) Quantifying landfill gas emissions in the Netherlands – Definition study. NOVEM Programme Reduction of Other Greenhouse Gases (ROB), projectnumber 374399/9020, Utrecht, Netherlands, http://www.robklimaat.nl/docs/3743999020.pdf

- GasSim (LandGEM)[80]
- EPER France model[81]
- LandGEM US-EPA[82]

These models are not necessarily appropriate to be applied in respect of every landfill. For instance the LandGEM US-EPA model calculates high methane releases since it presumes that the waste deposited is mainly organic. Further information can be found in the "Supporting document for the determination of diffuse methane emissions from landfills"[83] under EPER Guidance on the EPER website or the E-PRTR website[84].

- E-PRTR activity sector 6: Other activities

a) Calculation of releases of nitrogen and phosphorus from intensive **aquaculture**:

- The HELCOM "Guidelines for the compilation of waterborne pollution load to the Baltic Sea (PLC-water)" contains calculation of releases of nitrogen and phosphorus from intensive aquaculture[85].
- OSPAR Convention for the protection of the marine environment of the North-East Atlantic: Guideline 2: Quantification and Reporting of Nitrogen and Phosphorus Discharges/Losses from Aquaculture Plants (Reference Number: 2004-2); (Source: OSPAR 00/9/2 Add.2 and OSPAR 00/20/1, § 9.5a)[86].
- The Nordic Council has published a report concerning BAT in the aquaculture sector. Most of the report is written in Norwegian but it contains an English summary and describes (on page 136 ff) also in English three approaches to quantification of discharge/loss of N and P from aquaculture production systems to surface waters[87]

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[79] Gregory, R.G., G.M. Attenborough, D.C. Hall, C. Deed, 2003. The validation and development of an integrated landfill gas risk assessment model GasSim, Sardinia Proceedings 2003, Cagliari, Italy. See also: www.gassim.co.uk

[80] software and reference manual downloadable to http://www.epa.gov/ttn/atw/landfill/landflpg.html

[81] ADEME, Outil de calcul des émissions dans l'air de CH4, CO2, SOx, NOx issues des centres de stockage de déchets ménagers et assimilés (version 0), reference manual downloadable to : https://www.declarationpollution.ecologie.gouv.fr/gerep/download/annexe_guide_tech_emisions_ch4_CO2_SOx_NOx.pdf

[82] US-EPA. (2001) Landfill Volume III, http://www.epa.gov/ttn/chief/eiip/techreport/volume03/iii15_apr2001.pdf

[83] http://eper.ec.europa.eu/eper/documents/Supporting Document determination of emissions of landfills.pdf

[84] www.prtr.ec.europa.eu

[85] http://www.helcom.fi/groups/monas/en_GB/monas_guidelines/

[86] http://www.ospar.org/documents/dbase/decrecs/agreements/04-02b_HARP guideline 2_aquaculture installations.doc

[87] http://www.norden.org/pub/sk/showpub.asp?pubnr=2005:528

b) For the first EPER reporting cycle different calculation models have been applied at the national level for the determination of releases from **agriculture.** Further information on the methodologies used to determine the releases can be found in the "Supporting document on determination of emissions from pig and poultry farms"[88] under EPER Guidance on the EPER website.

The following information sources are examples related to releases from **fugitive and diffuse sources at facility level**. These also include fugitive and diffuse releases from facilities as addressed in the IPPC monitoring BREF:

- In the framework of the IMPEL network a project has been carried out with the objective to review the estimation methods and measures for diffuse VOC emissions used in the EU and to propose guidelines in order to improve the monitoring, licensing and inspection of industrial activities. The final report contains information on emission estimation methods[89].

- CEN is preparing standards on "Fugitive and diffuse emissions of common concern to industry sectors" covering the "Measurement of fugitive emissions of vapours generating from equipment and piping leaks" (draft standard CEN/TC 264 N 862) and "Fugitive dust emission rate estimates by Reverse Dispersion Modelling" (draft standard CEN/TC 264 N 863). As stated in the latter draft standard itself, *"the Reverse Dispersion Modelling method does not allow to quantify in absolute figures the dust emission rates in reason of an undetermined accuracy depending on various site conditions, but it is a tool which enables each industrial plant to identify its most emitting open dust sources, …".*

- The European Council of Vinyl Manufacturers has published a method "Identification, measurement and control of fugitive emissions from process equipment leaks"[90] to estimate total mass fugitive emission from individual leak detection measurements with a portable instrument. The method is currently used in the EDC-VMC-PVC sector and is in line with the future CEN standard CEN/TC 264 N 862.

- The European Council of Vinyl Manufacturers has published a method "Assessment of atmospheric emissions from gasholders"[91] for the estimation of releases from diffuse sources from gasholders.

- Euro Chlor representing the Chlor-Alkali Industry has published in the Environmental

[88] http://eper.ec.europa.eu/eper/documents/Supporting document determination of emissions from pig and poultry farms.pdf
[89] http://europa.eu.int/comm/environment/impel/vocemissions.htm
[90] http://www.ecvm.org/img/db/ECVM-Referencemethod-2004-rev2.pdf

Protection Series the “Guidelines for Making a Mercury Balance in a Chlorine Plant” (3rd Edition from June 2000) widely used by the European chlorine industry.

Further valuable information might also be drawn from **national PRTR websites.** An updated list of websites on national PRTRs is to be found on the European PRTR website.

[91] http://www.ecvm.org/img/db/reference_method_assessm.pdf

1.1.11.5 Reporting of the method used for measurement/calculation of releases/off-site transfers

Where reported data are based on measurements or calculation ("M" or "C"), the method shall be indicated (see Box 8). To this end the following designations shall be used (in addition to the indices “M” and “C” to be indicated according to chapter 1.1.11):

Method used for determination of releases/off-site transfers	Designation of the method used
Measurement methodologies[92]	
Internationally approved measurement standard	short designation of the relevant standard (e.g. EN 14385:2004)
Measurement methodology already prescribed by the competent authority in a licence or an operating permit for that facility	PER*
National or regional binding measurement methodology prescribed by legal act for the pollutant and facility concerned	NRB*
Alternative Measurement Method in accordance with existing CEN/ISO measurement standards	ALT
Measurement methodology the performance of which is demonstrated by means of certified reference materials and accepted by competent authority	CRM
Other measurement methodology	OTH*
Calculation methodologies	
Internationally approved calculation method[93]	short designation of the method used: ETS, IPCC, UNECE/EMEP
Calculation methodology already prescribed by the competent authority in a licence or an operating permit for that facility	PER*
National or regional binding calculation methodology prescribed by legal act for the pollutant and facility concerned	NRB*
Mass balance method which is accepted by the competent authority	MAB*
European-wide sector specific calculation method	SSC
Other calculation methodology	OTH*

* In addition to the three letter abbreviation (e.g. NRB) the short designation (e.g. VDI 3873) or a short description of the methodology could be given (see Table 14).

Table 13: Designation of the method used for determination of releases/off-site transfers

[92] See chapters 1.1.11 and 1.1.11.1
[93] See chapters 1.1.11 and 1.1.11.2

If more than one methodology is used for one pollutant, all used methodologies could be indicated by the facilities. Where reported data are based on estimation ("E") it is, in accordance with the E-PRTR Regulation, **not** required to report the name of the method used.

Reporting could include according to Annex III of the E-PRTR Regulation the following data:

Releases to air						
Pollutant		Method			Quantity	
No. Annex II	Name	M/C/E	Method used		T (total) (kg/year)	A (accidental) kg/year
			Code	Designation or description		
1	CH_4	**C**	**NRB**	regional binding measurement methodology using specific gas chromatography	125,000	-
3	CO_2	**C**	**ETS**	-	244,000,000	-
14	HCFCs	**E**	**-**	-	1.28	1.28
18	Cd	**M**	**EN 14385 :2004**	-	12.5	-
72	PAH	**M**	**NRB**	**VDI 3873**	122	-

Table 14: Example for reporting of releases to air including the indications for the method used

In the example illustrated in Table 14, the releases to air of the indicated pollutants exceed the threshold levels and have to be reported. The indication of releases of cadmium and PAH is based on measurement, that of CO_2[94] and CH_4[95] on calculation. The release of HCFCs has occurred accidentally and is based on estimation. It has to be reported as accidental release and has also to be included in the total release.

[94] Guidelines for the monitoring and reporting of greenhouse gas emissions under the Emission Trading Scheme; method name to be reported "ETS"; see above.
[95] National GasSim model; method name to be reported "NRB"; see above.

Table 15 provides an example of how the “method used” should be indicated for reporting of off-site transfers of waste.

Off-site transfer of waste	Quantity (t/year)	Waste treatment operation	M/C/E	**Method used**
Hazardous waste within the country	10.5	R	M	**weighing**
Non-hazardous waste	2,500	D	C	**PER**

Table 15: Example for reporting of off-site transfers of waste including the indications for the method used

The indication of the method used for the off-site transfer of hazardous waste is based on "weighing", that of non hazardous waste on calculation by using a methodology prescribed by the competent authority in the operating permit for the facility (method name to be reported “PER”).

1.1.12 Quality assurance

Operators are responsible for the quality of the information that they report.

Article 9

Quality Assurance and Assessment

1. *The operator of each facility subject to the reporting requirements set out in Article 5 shall assure the quality of the information that they report.*
2. *The competent authorities shall assess the quality of the data provided by the operators of the facilities referred to in paragraph 1, in particular as to their completeness, consistency and credibility*

Box 9: E-PRTR Regulation, Article 9(1) (Quality assurance by operators)

In order to ensure the quality of the data reported facilities may wish to take the information provided in the IPPC monitoring BREF[96] into account.

If a quality assurance system such as ISO 9001[97]; or an environmental management system such as EMAS[98] or ISO 14001[99] or other similar/analogous national systems is already being used by the facility, the reporting of the E-PRTR data might be included within that system to help to ensure the highest possible quality of the data.

Operators are obliged to use the "best available data" when preparing their reports. In accordance with article 9(2) of the E-PRTR Regulation, data reported by operators should be of high quality in particular as regards its completeness, consistency and credibility (see Box 9) as defined below:

Completeness means that the reported data should cover all releases and off-site transfers of all pollutants and wastes exceeding thresholds for all facilities with Annex I activities above the capacity thresholds. The purpose of the reporting threshold values is to minimise the reporting burden, although reporting of releases lower than the thresholds is also allowed. Completeness means also that all additionally required information on the identification of the facility and Annex I activities is fully reported.

[96] see BREF document "Monitoring System" (BREF 07.03.): http://eippcb.jrc.es/pages/FAbout.htm
[97] ISO 9001: 2000 Quality Management Systems, www.iso.org
[98] Regulation (EC) No 761/2001 of the European Parliament and of the Council of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS).
[99] ISO 14001: 2004 Environmental Management Systems, www.iso.org

Consistency means that data shall be reported on the basis of unambiguous and uniform definitions, source identification and reliable methodologies for the determination of releases over several years. Consistent reporting by facilities will enable Member States to carry out consistent reporting in standardised formats to the Commission and the EEA. This will enable comparison of the reported data with previous release data of reporting facilities or with data of similar sources in other countries. In this respect a consistent use in every Member State of the identification number of facilities, including the indication of changes of the identification number, is essential[100].

Credibility refers to the authenticity, reliability, comparability and transparency of the data. In the context of pollutant release and transfer registers credibility is closely linked to consistency. If the approaches and data sources used in an inventory development project are considered consistent, then users will have an acceptable degree of confidence in the releases data developed from those techniques. Furthermore it is important that the information in the E-PRTR is comparable to allow an objective and reliable comparison of releases and off-site transfers from different facilities within a country or amongst different countries. Detailing whether a release or off-site transfer was measured, calculated or estimated; and the exact specification of which measurement or calculation methodology was used to determine the release or off-site transfer helps to make the data transparent and ensures the credibility of the data.

The competent authorities have the duty to assess the quality of information provided by operators[101].

[100] See chapter 1.1.6 of this guide.
[101] See chapter 1.2.3 of this guide.

1.2 Member States

1.2.1 Identification by competent authorities of facilities to which the E-PRTR Regulation applies

Operators of facilities carrying out Annex I activities above the capacity thresholds are obliged to report to its relevant competent authority the information necessary to identify the facility unless that information is already available to the competent authority (see Box 6). Thus a Member State should have complete information at its disposal regarding the facilities to which the Regulation applies.

Annex I of the E-PRTR Regulation lists 65 relevant activities. For a number of these Annex I activities a capacity threshold is given. Reporting is required if the capacity threshold and release or off-site transfer thresholds are exceeded. If no capacity threshold is specified all facilities of the relevant activity are subject to reporting if release or off-site transfer threshold limit values are exceeded. IPPC activities have already been subject to reporting under EPER and are in general well known in the Member States. Differences between activities covered under the IPPC Directive and the E-PRTR Regulation are explained in Appendix 2, Table 21.

If an operator carries out several activities falling under the same Annex I activity at the same facility on the same site, the capacities of such activities are added together (e.g. the treatment volumes of vats). The production capacities of the individual activities should be aggregated at the Annex I activity level. The sum of the capacities is then compared with the capacity threshold for the specific Annex I activities as listed in Annex I of the E-PRTR Regulation.

According to Annex III to the E-PRTR Regulation, Member States have to report **an identification number for each facility** concerned. In order to ensure consistent reporting and the possibility of evaluating the development of releases and off-site transfers, the identification number for a specific facility should remain unchanged over time. If possible, the number should be identical to the corresponding number in EPER. Due to changes at facilities such as closure, relocation, severance or merger of facilities, it is not always possible to allocate a single identification number to a specific facility over time. Such changes at a facility should be reported by the operator to the competent authority which if necessary will allocate a new identification number. Changes to the identification number compared to the last 10 reporting years (also to EPER reporting years) could be given in the "Text field for textual information…" by the competent authority.

In general the following recommendations apply in respect of any change of identification numbers of facilities:

(1) Identification numbers should not be changed unless there is an overriding need to do so;

(2) In the case of closure of a facility the identification number should be maintained for the facility for at least 10 years since data will be accessible on the Internet for this period;

(3) In the case of relocation of a facility, the facility should receive a new identification number;

(4) If a facility changes only its operator, name or parent company the identification number should remain the same;

(5) If a facility merges with another facility at the same site, the identification number of the facility whose main activity is identical to the main activity of the new facility should be taken;

(6) If a facility is divided, the identification number should remain with the facility that continues the main activity / economic activity.

(7) It would be helpful if, for every reporting year the facility reports in the "Textual information" field of the facility report any changes to the "history" of the facility for the last ten years.

1.2.2 Indication of competent authorities for requests by the public

In accordance with Article 7(2) read in conjunction with Annex III of the E-PRTR Regulation, Member States have an obligation to report for each facility the **contact details of the "competent authority for requests of the public".** The following contact details are required:

- Name of the competent authority
- Street address
- Town/village
- Telephone No
- Fax No
- E-mail address

These contact details have to be reported for every facility and will appear in the facility report on the E-PRTR website.

If the Member State so decides, the competent authority for requests from the public could be the same for the whole Member State. If there is more than one competent authority for a facility, for reasons of transparency one of these should be designated as competent authority for requests from the public.

1.2.3 Quality assessment

Competent authorities of the Member States have to assess the quality of the data; whether the information provided by the individual facilities is satisfactory with respect to its completeness, consistency and credibility[102].

Article 9 *Quality Assurance and Assessment*
…
2. *The competent authorities shall assess the quality of the data provided by the operators of the facilities referred to in paragraph 1, in particular as to their completeness, consistency and credibility.*

Box 10: E-PRTR Regulation, Article 9(2) (Quality assessment by competent authorities)

Competent authorities shall assess the data provided against information that is already available, as appropriate. For example, competent authorities may wish to check the data received against the following:

- information received by the competent authorities arisen as part of licensing procedures or compliance checking of permits;
- information received as a result of self monitoring by facilities that is reported to the authorities; and
- information related to participation in the Community eco-management and audit scheme EMAS or to ISO 14001

Facility operators may provide optional information on the facility[103]. Such information may also be useful to the competent authority in assessing the quality of the data.

It should, however, be borne in mind that there may be restrictions at national level that prevent Competent Authorities from using information obtained for one purpose for a different, unconnected purpose without the permission of the person who supplied that information.

[102] See chapter 1.1.12 of this guide.
[103] See chapter 1.1.6 of this guide.

In the case of any discrepancies, uncertainties or doubts in respect of the information provided by facilities, the competent authority of the Member State could ask for clarification from the facility concerned. The facility could also be asked to amend the information supplied if appropriate. This includes examination by the competent authorities of the records held by operators in accordance with article 5(5) of the E-PRTR Regulation, including the data from which the reported information was derived and the description of the methodology used for data gathering.

Further to the assessment of the data provided by operators Member States have to assure themselves, that all data that has to be transmitted by the Member States to the Commission is also complete, consistent and credible. The Member States are supported by the European Commission, which will provide an electronic validation tool to be applied by the Member States. The validation tool, which can be downloaded by the Member States, comprises several electronic checks of the data in order to ensure specific data quality requirements. The validation tool is a software application which can easily detect erroneous data such as incorrect co-ordinates, wholly incorrect figures, pollutants reported twice and facilities with no reported releases. The use of the validation tool will support the quality of delivered data and compliance with the data format set in Annex III of the E-PRTR Regulation and will ensure a smooth transfer of data from the Member States to the Commission.

1.2.4 Confidentiality of information

The provisions governing confidentiality are laid down in Article 11 of the E-PRTR Regulation in connection with Article 4(2) of Directive 2003/4/EC.

Article 11: Confidentiality

Whenever information is kept confidential by a Member State in accordance with Article 4 of Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information (OJ L 41, 14.2.2003, p.26), the Member State shall, in its report under Article 7(2) of this Regulation for the reporting year concerned, indicate separately for each facility claiming confidentiality the type of information that has been withheld and the reason for which it has been withheld.

Box 11: E-PRTR Regulation, Article 11 (Confidentiality)

Article 4: Exceptions

[...]

"2. Member States may provide for a request for environmental information to be refused if disclosure of the information would adversely affect:

(a) the confidentiality of the proceedings of public authorities, where such confidentiality is provided for by law;

(b) international relations, public security or national defence;

(c) the course of justice, the ability of any person to receive a fair trial or the ability of a public authority to conduct an enquiry of a criminal or disciplinary nature;

(d) the confidentiality of commercial or industrial information where such confidentiality is provided for by national or Community law to protect a legitimate economic interest, including the public interest in maintaining statistical confidentiality and tax secrecy;

(e) intellectual property rights;

(f) the confidentiality of personal data and/or files relating to a natural person where that person has not consented to the disclosure of the information to the public, where such confidentiality is provided for by national or Community law;

(g) the interests or protection of any person who supplied the information requested on a voluntary basis without being under, or capable of being put under, a legal obligation to do so, unless that person has consented to the release of the information concerned;

(h) the protection of the environment to which such information relates, such as the location of rare species.

The grounds for refusal mentioned in paragraphs 1 and 2 shall be interpreted in a restrictive way, taking into account for the particular case the public interest served by disclosure. In every particular case, the public interest served by disclosure shall be weighed against the interest served by the refusal. Member States may not, by virtue of paragraph 2(a), (d), (f), (g) and (h), provide for a request to be refused where the request relates to information on emissions into the environment. Within this framework, and for the purposes of the application of subparagraph (f), Member States shall ensure that the requirements of Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data are complied with (OJ L 281, 23.11.1995, p.31)."

Box 12: Directive 2003/4/EC, Article 4(2) relating to confidentiality of information

All the data that is reported by operators in accordance with Article 5 of the E-PRTR Regulation will appear in the E-PRTR with the exception of that data that is kept confidential in accordance with to the exhaustive list of reasons set out in Article 4(2) of Directive 2003/4/EC.

The decision as to which data will be kept confidential is taken by the competent authorities of the Member States, possibly upon an indication to that effect by the operator. The data that the competent authority of a Member State classifies as confidential will not be transmitted to the European Commission. The European Commission will not check the classification of data transmitted to it by Member States where that information has not been classified as being confidential. All decisions on confidentiality are therefore taken by the competent authorities of the Member States in accordance with the E-PRTR Regulation.

In general, all grounds of confidentiality listed in Article 4(2) of Directive 2003/4/EC can be invoked to withhold any type of information reported by operators under Article 5 of the E-PRTR Regulation. An exception applies to information on emissions/releases[104]. Information on emissions/releases may only be kept confidential for the reasons mentioned in Article 4(2)(b), (c), and (e) of Directive 2003/4/EC. Information on emissions/releases may, thus, not be withheld on the grounds of Article 4(2)(a), (d), (f), (g) or (h) of Directive 2003/4/EC nor on any grounds other than those set out in Article 4(2)(b), (c), and (e) of Directive 2003/4/EC.

No exception applies to information on off-site-transfers. In this case all of the grounds for confidentiality set out in article 4(2) of Directive 2003/4/EC may be considered. This consideration does not always mean that information will necessarily be treated confidentially. When considering the confidentiality of a particular type of information, the competent authorities of the Member States shall interpret the grounds for confidentiality in a restrictive way and should weigh the public interest served by disclosure against the interest served by confidentiality.

Where information is kept confidential, for each facility claiming confidentiality the Member State will indicate to the European Commission in its report under Article 7(2) of the E-PRTR Regulation for each piece of information withheld the type of information that has been withheld and the reason for which it has been withheld.

In practice, this means that in the case of data regarding releases and off-site transfers of pollutants in waste water only the name of the pollutant should be kept confidential and instead should be replaced by the name of a group of pollutants, the method of measurement/calculation could not be reported and the ground for refusal should be indicated according to the article relied upon (in the example: “article 4(2)(b)” = international relations, public security or national defence; see Box 12) as follows:

[104] The term ‘emissions’ is used in Directive 2003/4/EC whereas the term ‘releases’ is used in the E-PRTR Regulation.

Releases to air						
	Pollutant no. from Annex II	Pollutant name from Annex II	M/C/E	Method used	Quantity kg/year	Reason for confidentiality
Confidential data	-	Heavy metal	M	-	8.45	Article 4(2)(b) of Directive 2003/4/EC

Table 16: Example for reporting of confidential data

The following names for groups of pollutants should be used for the replacement of the individual pollutants by groups of pollutants:

Groups of pollutants	No. of pollutant according to Annex II E-PRTR Regulation
Greenhouse gases	1, 3, 4, 5, 9, 10
Other gases	2, 6, 7, 8, 11, 14, 15, 16, 80, 84, 85
Heavy metals	17-24
Pesticides	25-30, 32, 33, 36-39, 41, 44-46, 51, 59, 67, 74, 75, 77, 89
Chlorinated organic substances	31, 34, 35, 40, 42, 43, 47-50, 52-58, 60, 63, 90
Other organic substances	61, 62, 64-66, 68-73, 76, 78, 87, 88, 91
Inorganic substances	12, 13, 79, 81-83, 86.

Table 17: Categorisation of E-PRTR pollutants in groups of pollutants

Whenever data on off-site transfers of waste are kept confidential it shall be clearly indicated which data are kept confidential (quantity of waste, waste treatment operation (R/D), M/C/E, name and address of recoverer/disposer, name and address of actual site of recovery/disposal) and the reason for it by indicating the ground for confidentiality. Table 18 shows an example for reporting of off-site transfer of waste where the waste quantity is not reported in accordance with article 4(2)(d) of Directive 2003/4/EC:

Off-site transfer of HW	Quan-tity (t/year)	Waste treat-ment opera-tion	M/C/E	Method used	Name of recover er/ disposer	Address of recoverer/ disposer	Address of actual recovery/ disposal site	Reason for confidentiality
to other countries	-	R	M	weigh-ing	Sun-shine Compo-nents Ltd.	Sun Street, Flowertown south, PP12 8TS, United Kingdom	Sun Street, Flowertown south, PP12 8TS, United Kingdom	Article 4(2)(d) of Directive 2003/4/EC

Table 18: Example for reporting of confidential data for an off-site transfer of hazardous waste (HW) to other countries (exemplary data; quantity of waste not reported in accordance with article 4(2)(d) of Directive 2003/4/EC)

Whenever data related to the identification of a facility are kept confidential because of the ground for refusal set out in article 4(2)(f) of Directive 2003/4/EC (protection of personal data) only the name and address of the natural person operation the facility should be kept confidential. In this case, the name and address of the facility would not be given as information for the identification of the facility[105]. The geographical coordinates of the facility shall not be kept confidential in this case in order to enable the public to look at the total of industrial releases and off-site transfers in their neighbourhood.

The following table shows an example for reporting of a release to air, where the name and address of the facility is not reported in accordance with article 4(2)(f) of Directive 2003/4/EC.

Name	Ad-dress	Geogra-phical co-ordinates	Pollutant no.	Pollutant name	M/C /E	Method used	Quantity (total in kg/year)	Quantity (accidental in kg/year)	Reason for confi-dentiality
-	-	8.665055 48.576678	1	Methane (CH_4)	C	IPCC	550,000	-	Article 4 (2) (f) of Directive 2003/4/EC

Table 19: Example for reporting of confidential data for a release to air (exemplary data; name and address of the facility not reported in accordance with article 4 (2) (f) of Directive 2003/4/EC)

[105] See chapter 1.1.6 of this guide.

1.2.5 Additional information

Every three years the Member States must report additional information to the Commission. The Commission will prepare a questionnaire in order to facilitate reporting of this additional information. A draft questionnaire will be provided to the Member States in due time for adoption in the Committee referred to in Article 19 before the first reporting obligation of additional information in March 2011. The additional information delivered by the Member States provides the European Commission with the information it needs to compile a review report in accordance with article 17 of the E-PRTR Regulation. (see Box 13)

Article 16
Additional information to be reported by the Member States

1. Member States shall, in a single report based on the information from the last three reporting years to be delivered every three years together with the data provided in accordance with Article 7, inform the Commission on practice and measures taken regarding the following:

(a) requirements according to Article 5;

(b) quality assurance and assessment according to Article 9;

(c) access to information according to Article 10(2);

(d) awareness raising activities according to Article 15;

(e) confidentiality of information according to Article 11;

(f) penalties provided for according to Article 20 and experience with their application.

2. To facilitate the reporting by Member States referred to in paragraph 1 the Commission shall submit a proposal for a questionnaire, which shall be adopted in accordance with the procedure referred to in Article 19(2).

Box 13: E-PRTR Regulation, Article 16 (Additional information to be reported by Member States)

1.2.6 Data provision: management and transfer

Facilities are obliged to report to the competent authorities in the Member States.[106]

According to Annex III to the E-PRTR Regulation Member States should report an identification number for each facility concerned and determine contact details of a competent authority of the Member State for requests of the public for each facility[107].

[106] Details on reporting requirements for facilities are given in chapters 1.1.6 to 1.1.12.
[107] See chapter 1.2.1 to this guide.

Member States have to transmit to the Commission data that relates to specific facilities. As under EPER, Member States have agreed to deliver their national data set electronically to the EEA and in parallel by CD-ROM to the Commission.

The Commission will deliver an appropriate validation tool in due time to the Member States in order to facilitate the transfer of the data[108].

1.2.7 Timetable

The timelines to be set by Member States for operators to provide their data to the competent authorities must allow the operators sufficient time to meet their obligation to collect and assure the quality of the data[109] and must leave sufficient time to the Member States for the quality assessment[110] and the compilation of the information. The Member States might determine a date by which operators have to report the data to the competent authorities. The Member States themselves have to transmit required information to the Commission according to specific timelines as set out in the E-PRTR Regulation. The Commission shall incorporate the information reported by the Member States according to further specific timelines into the E-PRTR (see Box 14)

Article 7
Reporting by Member States

1. The Member States shall determine, having regard to the requirements set out in paragraphs 2 and 3 of this Article, a date by which operators shall provide all the data referred to in Article 5(1 and (2) and the information referred to in Article 5(3), (4) and (5) to its competent authority.

2. Member States shall provide all the data referred to in Article 5(1) and (2) to the Commission by electronic transfer in the format set out in Annex III and within the following time-limits:

(a) for the first reporting year, within 18 months after the end of the reporting year;

(b) for all reporting years thereafter, within 15 months after the end of the reporting year.

The first reporting year shall be the year 2007.

3. The Commission, assisted by the European Environment Agency, shall incorporate the information reported by the Member States into the European PRTR within to the following time-limits:

(a) for the first reporting year, within 21 months after the end of the reporting year;

(b) for all reporting years thereafter, within 16 months after the end of the reporting year.

Box 14: E-PRTR Regulation, Article 7 (Reporting by Member States)

[108] See also chapter 1.2.3 of this guide.
[109] See chapter 1.1.12 of this guide.
[110] See chapter 1.2.3 of this guide.

Table 20 shows the timelines for the first reporting years for the reporting duty of Member States and the duty of the European Commission to incorporate the reported information into the European PRTR according to the E-PRTR Regulation.

Reporting year	Reporting by operators	Reporting by Member States	Incorporation by the Commission	Review by the Commission
2007*	**	30 June 2009	30 September 2009	31 October 2011
2008	**	31 March 2010	30 April 2010	
2009	**	31 March 2011	30 April 2011	
2010	**	31 March 2012	30 April 2012	31 October 2014
2011	**	31 March 2013	30 April 2013	
2012	**	31 March 2014	30 April 2014	

Table 20: Overview on timelines for the reporting of Member States and the obligation of the European Commission to incorporate and review the reported information
*** first E-PRTR reporting year**
**** to be determined by Member States**

The Commission will make a test website available to Member States prior to the deadline for submission of information by the Member States, as specified in the E-PRTR Regulation. The test website will enable final verification of the information provided to the Commission before the deadline for submission by the Member States.

1.2.8 Awareness raising

The Member States shall promote awareness of the E-PRTR and assist the access to the E-PRTR.

Article 15
Awareness Raising

The Commission and the Member States shall promote awareness of the public of the European PRTR and shall ensure that assistance is provided in accessing the European PRTR and in understanding and using the information contained in it.

Box 15: E-PRTR Regulation, Article 15 (Awareness raising)

To this end the Member States shall take appropriate measures e.g. provide for links from the national PRTR websites to the E-PRTR website[111] or to inform in publications on the national level of how to access the information of the E-PRTR.

[111] www.prtr.ec.europa.eu

1.2.9 Penalties

In accordance with Article 20 of the E-PRTR Regulation, Member States shall lay down the rules on penalties applicable to infringements and shall take measures to ensure the implementation of the E-PRTR Regulation. Member States are obliged to inform the Commission on corresponding provisions one year after the entry into force of the E-PRTR Regulation (i.e. by 20th February 2007) and must also inform the Commission without delay of any subsequent amendments (see Box 16).

Article 20
Penalties

1. Member States shall lay down the rules on penalties applicable to infringements of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive.

2. The Member States shall notify those provisions to the Commission one year after entry into force of this Regulation at the latest and shall notify it without delay of any subsequent amendment affecting them.

Box 16: E-PRTR Regulation, Article 20 (Penalties)

1.3 European Commission

1.3.1 Design and Structure of the E-PRTR

According to Article 4 of the E-PRTR Regulation, the Commission shall publish the European PRTR. This will be done at the E-PRTR website: www.prtr.ec.europa.eu

Information will be presented in aggregated and non-aggregated form and will provide the following search options:

- facility, including the facility's parent company where applicable, and its geographical location, including the river basin;
- activity;
- occurrence at Member State or Community level;
- pollutant or waste, as appropriate;
- each environmental medium (air, water, land) into which the pollutant is released;
- off-site transfers of waste and their destination, as appropriate;
- off-site transfers of pollutants in waste water;
- diffuse sources;
- facility owner or operator.

Access will be provided to the information of at least the last 10 reporting years. The E-PRTR website will include electronic links to other information sources as specified in Article 4(3) E-PRTR Regulation (see Box 17).

Article 4
Design and Structure

..
3. The European PRTR shall include links to the following:

(a) the national PRTRs of Member States;
(b) other relevant existing, publicly accessible databases on subject matters related to PRTRs, including national PRTRs of other Parties to the Protocol and, where feasible, those of other countries;
(c) facilities' websites if they exist and links are volunteered by the facilities.

Box 17: E-PRTR Regulation, Article 4(3) (Links on the E-PRTR website)

1.3.2 Data management by the Commission/EEA

The E-PRTR data developed by the Member States will be stored and processed at the EEA ReportNet site for their incorporation on the E-PRTR website. All E-PRTR data could be downloaded for further use by the public[112]. The Commission/EEA provide for a validation tool which is used by the Member States in order to ensure a harmonised dataset for storage at the EEA. For specific aspects and for detailed data processing and evaluation, external consultants and topic centres will be assigned to carry out profound analyses and evaluation of the data.

1.3.3 Access to information

The E-PRTR website will be continuously and readily accessible and will be free of charge. The European Commission will incorporate the reported information into the European PRTR website within the foreseen timeframe[113].

Information on the European PRTR will additionally be accessible by other electronic means such as the "Europe Direct Information Network"[114]. This is a service which offers information on all sorts of subjects related to the EU and can provide direct answers in face to face contact, via telephone or computer or which can signpost to another source of information and advice at EU, national, regional and local levels[115].

Article 10

Access to Information

1. The Commission, assisted by the European Environment Agency, shall make the European PRTR publicly accessible by dissemination free of charge on the Internet in accordance with *the timeframe set out in Article 7(3).*

2. Where the information contained in the European PRTR is not easily accessible to the public *by direct electronic means, the Member State concerned and the Commission shall facilitate electronic access to the European PRTR in publicly accessible locations.*

Box 18: E-PRTR Regulation, Article 10 (Access to information)

[112] www.prtr.ec.europa.eu
[113] See chapter 1.2.7, Table 20.
[114] See chapter 1.2.8.
[115] The Europe Direct Information Network is publicly accessible in different ways:
- by face to face contact at about 400 locations throughout Europe;
- free of charge by telephone at a single free phone number for EUROPE DIRECT available from all Member States: 00 800 6 7 8 9 10 11 or by normal telephone number: +32-2-299.96.96 available from all over the world;
- by computer via e-mail or website: http://europa.eu.int/europedirect/

1.3.4 Public participation

In accordance with Article 12 of the E-PRTR Regulation, the Commission will provide early and effective opportunities for public participation in the further development of the E-PRTR.

Article 12
Public Participation

1. The Commission shall provide the public with early and effective opportunities to participate in the further development of the European PRTR, including capacity-building and the preparation of amendments to this Regulation.

2. The public shall have the opportunity to submit any relevant comments, information, analyses or opinions within a reasonable timeframe.

3. The Commission shall take due account of such input and shall inform the public about the outcome of the public participation.

Box 19: E-PRTR Regulation, Article 12 (Public Participation)

In order to ensure appropriate public participation in the preparation of amendments to the E-PRTR-Regulation, relevant stakeholders will be invited at least 6 weeks in advance to participate in corresponding meetings of the E-PRTR Article 19 Committee. The stakeholder involvement via this Committee might be supported by consultations through the Internet. In particular in the case of amendments of the E-PRTR Regulation, reasonable timeframes (at least 6 weeks) will be foreseen for comments by the public.

The Commission will take due account of such input and will inform the public about the outcome of the public participation.

1.3.5 Awareness raising

The Commission shall promote awareness of the E-PRTR and assist access to the E-PRTR (see Box 15).

As under EPER the Commission will promote awareness of the E-PRTR by e.g. a launch event for the first reporting round, advertising material, workshops, publications, press releases, information on the E-PRTR in other international fora, etc.

The Commission assists access to the E-PRTR by other means than the Internet at national level e.g. via the “EUROPE DIRECT information network”[116].

[116] See chapter 1.3.3.

1.3.6 Coordination of quality assurance and quality assessment

Operators are responsible for quality assurance at facility level (see chapter 1.1.12). Competent authorities have to assess the quality of the data provided by the operators of the facilities in particular as to their completeness, consistency and credibility (see chapter 1.2.3). The Commission has the responsibility to coordinate quality assurance and assessment in consultation with the Committee established in accordance with article 19 of the E-PRTR Regulation.

Article 9
Quality Assurance and Assessment

...

3. The Commission shall coordinate work on quality assurance and quality assessment in consultation with the Committee referred to in Article 19(1).

4. The Commission may adopt guidelines for the monitoring and reporting of emissions in accordance with the procedure referred to in Article 19(2). These guidelines shall be in accordance with internationally approved methodologies, where these are available, and shall be consistent with other Community legislation.

Box 20: E-PRTR Regulation, Article 9(3) and 9(4) (related to coordination of quality assurance and assessment by the Commission)

The Commission and the European Environment Agency will perform checks on some aspects of the reported data; and in particular will consider the completeness and consistency of the data.

The Commission will coordinate quality assurance and assessment by:

- providing this guidance document to stakeholders and the public;
- delivering appropriate validation tools to the Member States in order to facilitate the transfer of data and to ensure specific quality requirements[117]; and
- reviewing the additional information provided every three years by the Member States[118]

Furthermore, in accordance with article 9(3) of the E-PRTR Regulation, the Commission will, in coordination with the Article 19 E-PRTR Committee, coordinate quality assurance and assessment whenever a Member State, a relevant stakeholder or the Commission itself sees a need for action related to quality aspects.

Whenever large divergences between the Member States in the collection and reporting of data occur, it might be advisable for the Commission to propose and adopt Guidelines for the monitoring and reporting of emissions according to article 9(4) (Box 20).

[117] See chapter 1.2.6.
[118] See chapter 1.3.8.

1.3.7 Releases from diffuse sources

The Commission, assisted by the European Environment Agency, shall include in the European PRTR information on releases from diffuse sources where such information exists and has already been reported by the Member States. The information shall be appropriately arranged on the E-PRTR website. Where no appropriate information is available, the Commission shall take measures to initiate appropriate reporting.

Article 8
Releases from Diffuse Sources

1. *The Commission, assisted by the European Environment Agency, shall include in the European PRTR information on releases from diffuse sources where such information exists and has already been reported by the Member States.*

2. *The information referred to in paragraph 1 shall be organised such as to allow users to search for and identify releases of pollutants from diffuse sources according to an adequate geographical disaggregation and shall include information on the type of methodology used to derive the information.*

3. *Where the Commission determines that no data on the releases from diffuse sources exist, it shall take measures to initiate reporting on releases of relevant pollutants from one or more diffuse sources in accordance with the procedure referred to in Article 19(2), using internationally approved methodologies where appropriate.*

Box 21: E-PRTR Regulation, Article 8 (Releases from diffuse sources)

The Commission will examine the existing reporting activities and inventories related to releases from diffuse sources which already exist, e.g. in greenhouse gas reporting and compile an EU-wide inventory of releases from diffuse sources that have already been reported by the Member States.

In a first test approach the inventory shall focus on existing data for the 91 pollutants of the E-PRTR Regulation in the sectors road traffic, shipping, aviation, agriculture, construction, solvent use, domestic fuel combustion, fossil fuel distribution and small industrial facilities ("SMEs").

Where the Commission determines that no data exist it shall take measures to initiate corresponding reporting.

1.3.8 Review of the information provided by Member States

The Commission shall publish every three years a review of the information provided by the Member States and provide an assessment of the E-PRTR operation to the European Parliament and the Council.

Article 17
Review by the Commission

1. The Commission shall review the information provided by Member States according to Article 7 and after consultation with the Member States shall publish a report every three years based on the information from the last three reporting years available, six months after the presentation of this information on the Internet.

2. This report shall be submitted to the European Parliament and the Council, together with an assessment of the operation of the European PRTR.

Box 22: E-PRTR Regulation, Article 17 (Review)

Every three years, the Commission will evaluate the complete E-PRTR reporting process. The review will focus on the evaluation of the data collection and reporting process concerning items such as e.g. methods used for release determination, consistency, completeness and credibility of the data, data management and timeliness of reporting. On the basis of the review, the Commission will recommend improvements in the efficiency and effectiveness of the E-PRTR reporting.

According to footnote (2) in Annex I to the E-PRTR Regulation, the capacity threshold (of 10,000 m^3 per day) for "independently operated industrial waste-water treatment plants which serve one or more activities of this annex" will be reviewed by the Commission in 2010 at the latest in the light of the results of the first reporting cycle.

1.3.9 Additional information

In accordance with Article 16(2) of the E-PRTR Regulation (see Box 13), the Commission will submit a proposal for a questionnaire which shall facilitate the reporting by Member States. The draft questionnaire will be presented to the E-PRTR Article 19 Committee to be adopted in accordance with the procedure referred to in Article 19(2)[119].

[119] See chapter 1.2.5.

1.3.10 Timetable

The Commission is obliged to incorporate the information reported by the Member States into the European PRTR in accordance with the timetable set out in article 7 of the E-PRTR Regulation and to review the reporting every three years (see Box 22). Table 20[120] shows the timelines for the first six reporting years to incorporate and to review the reported information in relation to the reporting timelines for Member States.

1.3.11 Committee procedure

The Commission shall be assisted by a Committee. The Committee procedure is set out in Article 19 of the E-PRTR Regulation (see Box 23); read in conjunction with articles 5, 7 and 8 of Decision 1999/468/EC[121].

Article 19

Committee Procedure

1. *The Commission shall be assisted by a committee (hereinafter "the Committee").*
2. *Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof. The period provided for in Article 5(6) of Decision 1999/468/EC shall be set at three months.*

Box 23: E-PRTR Regulation, Article 19 (Committee Procedure)

In consultation with the Committee the Commission

- coordinates the work on quality assurance and quality assessment according to Article 9(3) E-PRTR Regulation (see Box 20); and
- draws up a guidance document supporting the implementation of the European PRTR according to article 14 (see Box 2).

Together with the Committee the Commission will

- take measures to initiate reporting on releases of relevant pollutants from one or more diffuse sources in accordance with Article 8(3) of the E-PRTR Regulation (see Box 21)
- adopt guidelines for the monitoring and reporting of emissions in accordance with to Article 9(4) of the E-PRTR Regulation (Box 20)

[120] See chapter 1.2.7.
[121] Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission.

- adopt a questionnaire to facilitate the additional reporting by Member States in accordance with to Article 16(2) (see Box 13)

- adopt amendments of Annexes II and III of the E-PRTR Regulation that are necessary to adapt the annexes to scientific or technical progress; or as a result of the adoption by the Meeting of the Parties to the UNECE PRTR Protocol of any amendment to the Annexes to the Protocol in accordance with Article 18 of the E-PRTR Regulation (see Box 24)

1.3.12 Amendments to the Annexes

Amendments to the Annexes II and III of the E-PRTR Regulation that are necessary to adapt the annexes to scientific or technical progress; or as a result of the adoption by the Meeting of the Parties to the UNECE PRTR Protocol of any amendment to the Annexes to the Protocol shall be adopted by the Commission and assisted by the Committee referred to in Article 19(2) (see Box 24).

Amendments to Annex I of the E-PRTR Regulation underlie a co-decision procedure according to Article 251 of the EC treaty.

Article 18
Amendments to the Annexes

Any amendment necessary for adapting:

(a) *Annexes II or III to this Regulation to scientific or technical progress, or*

(b) *Annexes II and III to this Regulation as a result of the adoption by the Meeting of the Parties to the Protocol of any amendment to the Annexes to the Protocol, shall be adopted in accordance with the procedure referred to in Article 19(2).*

Box 24: E-PRTR Regulation, Article 18 (Amendments to the Annexes)

Glossary

Please note that many relevant terms used in the Guidance Document are defined in Article 2 of the E-PRTR Regulation.

Determination limit	The limit of quantification which is defined as the minimum concentration or amount of an analyte for which specified requirements for a given set of relevant quality criteria are fulfilled
CAS number	The Chemical Abstracts Service (CAS) Registry Numbers[122] are universal and precise identifiers of individual chemical compounds. The second column of Annex II of the E-PRTR regulation indicates the CAS number of each pollutant, when available.

[122] For more information on CAS Registry Numbers see http://www.cas.org/EO/regsys.html

Part II: Appendices

Appendix 1: Regulation concerning the establishment of a European PRTR

I

(Acts whose publication is obligatory)

REGULATION (EC) No 166/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 18 January 2006

concerning the establishment of a European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EURO-PEAN UNION,

Having regard to the Treaty establishing the European Community, and in particular Article 175(1) thereof,

Having regard to the proposal from the Commission,

Having regard to the opinion of the European Economic and Social Committee [1],

After consulting the Committee of the Regions,

Acting in accordance with the procedure laid down in Article 251 of the Treaty [2],

Whereas:

(1) The Sixth Community Environment Action Programme adopted by Decision No 1600/2002/EC of the European Parliament and of the Council [3] requires supporting the provision of accessible information to citizens on the state and trends of the environment in relation to social, economic and health trends as well as the general raising of environmental awareness.

(2) The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (hereinafter 'the Aarhus Convention'), signed by the European Community on 25 June 1998, recognises that increased public access to environmental information and the dissemination of such information contribute to a greater awareness of environmental matters, a free exchange of views, more effective participation by the public in environmental decision-making and, eventually, to a better environment.

(3) Pollutant release and transfer registers (hereinafter 'PRTRs') are a cost-effective tool for encouraging improvements in environmental performance, for providing public access to information on releases of pollutants and off-site transfers of pollutants and waste, and for use in tracking trends, demonstrating progress in pollution reduction, monitoring compliance with certain international agreements, setting priorities and evaluating progress achieved through Community and national environmental policies and programmes.

(4) An integrated and coherent PRTR gives the public, industry, scientists, insurance companies, local authorities, non-governmental organisations and other decision-makers a solid database for comparisons and future decisions in environmental matters.

(5) On 21 May 2003 the European Community signed the UNECE Protocol on Pollutant Release and Transfer Registers (hereinafter 'the Protocol'). Provisions of Community law should be consistent with that Protocol with a view to its conclusion by the Community.

(6) A European Pollutant Emission Register (hereinafter 'EPER') was established by Commission Decision 2000/479/EC [4]. The Protocol builds on the same principles as EPER, but goes beyond, by including reporting on more pollutants, more activities, releases to land, releases from diffuse sources and off-site transfers.

(7) The objectives and goals pursued by a European PRTR can only be achieved if data are reliable and comparable. An adequate harmonisation of the data collection and transfer system is therefore needed to ensure the quality and comparability of data. In accordance with the Protocol the European PRTR should be designed for maximum ease of public access through the Internet. Releases and transfers should be easily identified in different aggregated and non-aggregated forms in order to access a maximum of information in a reasonable time.

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[1] Opinion of 6 April 2005 (not yet published in the Official Journal).

[2] Opinion of the European Parliament of 6 July 2005 (not yet published in the Official Journal) and Decision of the Council of 2 December 2005.

[3] OJ L 242, 10.9.2002, p. 1.

[4] OJ L 192, 28.7.2000, p. 36.

(8) In order to further promote the objective of supporting the provision of accessible information to citizens on the state and trends of the environment as well as the general raising of environmental awareness, the European PRTR should contain links to other similar databases in Member States, non-Member States and international organisations.

(9) In accordance with the Protocol, the European PRTR should also contain information on specific waste disposal operations, to be reported as releases to land; recovery operations such as sludge and manure spreading are not reported under this category.

(10) In order to achieve the objective of the European PRTR to provide reliable information to the public and to allow for knowledge-based decisions it is necessary to provide for reasonable but strict timeframes for data collection and reporting; this is particularly relevant for reporting by Member States to the Commission.

(11) Reporting of releases from industrial facilities, although not yet always consistent, complete and comparable, is a well established procedure in many Member States. Where appropriate, reporting on releases from diffuse sources should be improved in order to enable decision-makers to better put into context those releases and to choose the most effective solution for pollution reduction.

(12) Data reported by the Member States should be of high quality in particular as regards their completeness, consistency and credibility. It is of great importance to coordinate future efforts of both operators and Member States to improve the quality of the reported data. The Commission will therefore initiate work, together with the Member States, on quality assurance.

(13) In accordance with the Aarhus Convention, the public should be granted access to the information contained in the European PRTR without an interest to be stated, primarily by ensuring that the European PRTR provides for direct electronic access through the Internet.

(14) Access to information provided by the European PRTR should be unrestricted and exceptions from this rule should only be possible where explicitly granted by existing Community legislation.

(15) In accordance with the Aarhus Convention, public participation should be ensured in the further development of the European PRTR by early and effective opportunities to submit comments, information, analysis or relevant opinions for the decision-making process. Applicants should be able to seek an administrative or judicial review of the acts or omissions of a public authority in relation to a request.

(16) In order to enhance the usefulness and impact of the European PRTR, the Commission and the Member States should cooperate in developing guidance supporting the implementation of the European PRTR, in promoting awareness of the public and in providing appropriate and timely technical assistance.

(17) The measures necessary for the implementation of this Regulation should be adopted in accordance with Council Decision 1999/468/EC of 28 June 1999 laying down the procedures for the exercise of implementing powers conferred on the Commission [1].

(18) Since the objective of the action to be taken, namely to enhance public access to environmental information through the establishment of an integrated, coherent Community-wide electronic database, cannot be sufficiently achieved by the Member States, because the need for comparability of data throughout the Member States argues for a high level of harmonisation, and can therefore be better achieved at Community level, the Community may adopt measures in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty. In accordance with the principle of proportionality as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve that objective.

(19) In order to simplify and streamline reporting requirements, Council Directive 91/689/EEC of 12 December 1991 on hazardous waste [2] and Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control [3] should be amended.

(20) The European PRTR aims, among other things, at informing the public about important pollutant emissions due, in particular, to activities covered by Directive 96/61/EC. Consequently, under this Regulation, information should be provided to the public on emissions from installations covered by Annex I of that Directive.

(21) To reduce duplicate reporting, pollutant release and transfer register systems may, under the Protocol, be integrated to the degree practicable with existing information sources such as reporting mechanisms under licences or operating permits. In accordance with the Protocol, the provisions of this Regulation should not affect the right of the Member States to maintain or introduce a more extensive or more publicly accessible pollutant release and transfer register than required under the Protocol,

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[1] OJ L 184, 17.7.1999, p. 23.

[2] OJ L 377, 31.12.1991, p. 20. Directive as amended by Directive 94/31/EC (OJ L 168, 2.7.1994, p. 28).

[3] OJ L 257, 10.10.1996, p. 26. Directive as last amended by Regulation (EC) No 1882/2003 of the European Parliament and of the Council (OJ L 284, 31.10.2003, p. 1).

HAVE ADOPTED THIS REGULATION:

Article 1

Subject matter

This Regulation establishes an integrated pollutant release and transfer register at Community level (hereinafter 'the European PRTR') in the form of a publicly accessible electronic database and lays down rules for its functioning, in order to implement the UNECE Protocol on Pollutant Release and Transfer Registers (hereinafter 'the Protocol') and facilitate public participation in environmental decision-making, as well as contributing to the prevention and reduction of pollution of the environment.

Article 2

Definitions

For the purposes of this Regulation the following definitions shall apply:

(1) 'the public' means one or more natural or legal persons, and, in accordance with national legislation or practice, their associations, organisations or groups;

(2) 'competent authority' means the national authority or authorities, or any other competent body or bodies, designated by the Member States;

(3) 'installation' means a stationary technical unit where one or more activities listed in Annex I are carried out, and any other directly associated activities which have a technical connection with the activities carried out on that site and which could have an effect on emissions and pollution;

(4) 'facility' means one or more installations on the same site that are operated by the same natural or legal person;

(5) 'site' means the geographical location of the facility;

(6) 'operator' means any natural or legal person who operates or controls the facility or, where this is provided for in national legislation, to whom decisive economic power over the technical functioning of the facility has been delegated;

(7) 'reporting year' means the calendar year for which data on releases of pollutants and off-site transfers must be gathered;

(8) 'substance' means any chemical element and its compounds, with the exception of radioactive substances;

(9) 'pollutant' means a substance or a group of substances that may be harmful to the environment or to human health on account of its properties and of its introduction into the environment;

(10) 'release' means any introduction of pollutants into the environment as a result of any human activity, whether deliberate or accidental, routine or non-routine, including spilling, emitting, discharging, injecting, disposing or dumping, or through sewer systems without final waste-water treatment;

(11) 'off-site transfer' means the movement beyond the boundaries of a facility of waste destined for recovery or disposal and of pollutants in waste water destined for waste-water treatment;

(12) 'diffuse sources' means the many smaller or scattered sources from which pollutants may be released to land, air or water, whose combined impact on those media may be significant and for which it is impractical to collect reports from each individual source;

(13) 'waste' means any substance or object as defined in Article 1(a) of Council Directive 75/442/EEC of 15 July 1975 on waste [1];

(14) 'hazardous waste' means any substance or object as defined in Article 1(4) of Directive 91/689/EEC;

(15) 'waste water' means urban, domestic and industrial waste water, as defined in Article 2(1), (2) and (3) of Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment [2], and any other used water which is subject, because of the substances or objects it contains, to regulation by Community law;

(16) 'disposal' means any of the operations provided for in Annex IIA to Directive 75/442/EEC;

(17) 'recovery' means any of the operations provided for in Annex IIB to Directive 75/442/EEC.

Article 3

Content of the European PRTR

The European PRTR shall include information on:

(a) releases of pollutants referred to in Article 5(1)(a) that must be reported by the operators of the facilities carrying out the activities listed in Annex I;

[1] OJ L 194, 25.7.1975, p. 39. Directive as last amended by Regulation (EC) No 1882/2003.

[2] OJ L 135, 30.5.1991, p. 40. Directive as last amended by Regulation (EC) No 1882/2003.

(b) off-site transfers of waste referred to in Article 5(1)(b) and of pollutants in waste water referred to in Article 5(1)(c), that must be reported by the operators of the facilities carrying out the activities listed in Annex I;

(c) releases of pollutants from diffuse sources referred to in Article 8(1), where available.

Article 4

Design and structure

1. The Commission shall publish the European PRTR, presenting the data in both aggregated and non-aggregated forms, so that releases and transfers can be searched for and identified by:

(a) facility, including the facility's parent company where applicable, and its geographical location, including the river basin;

(b) activity;

(c) occurrence at Member State or Community level;

(d) pollutant or waste, as appropriate;

(e) each environmental medium (air, water, land) into which the pollutant is released;

(f) off-site transfers of waste and their destination, as appropriate;

(g) off-site transfers of pollutants in waste water;

(h) diffuse sources;

(i) facility owner or operator.

2. The European PRTR shall be designed for maximum ease of public access to allow the information, under normal operating conditions, to be continuously and readily accessible on the Internet and by other electronic means. Its design shall take into account the possibility of its future expansion and shall include all data reported for previous reporting years, up to at least the last ten previous reporting years.

3. The European PRTR shall include links to the following:

(a) the national PRTRs of Member States;

(b) other relevant existing, publicly accessible databases on subject matters related to PRTRs, including national PRTRs of other Parties to the Protocol and, where feasible, those of other countries;

(c) facilities' websites if they exist and links are volunteered by the facilities.

Article 5

Reporting by operators

1. The operator of each facility that undertakes one or more of the activities specified in Annex I above the applicable capacity thresholds specified therein shall report the amounts annually to its competent authority, along with an indication of whether the information is based on measurement, calculation or estimation, of the following:

(a) releases to air, water and land of any pollutant specified in Annex II for which the applicable threshold value specified in Annex II is exceeded;

(b) off-site transfers of hazardous waste exceeding 2 tonnes per year or of non hazardous waste exceeding 2 000 tonnes per year, for any operations of recovery or disposal with the exception of the disposal operations of land treatment and deep injection referred to in Article 6, indicating with 'R' or 'D' respectively whether the waste is destined for recovery or disposal and, for transboundary movements of hazardous waste, the name and address of the recoverer or the disposer of the waste and the actual recovery or disposal site;

(c) off-site transfers of any pollutant specified in Annex II in waste water destined for waste-water treatment for which the threshold value specified in Annex II, column 1b is exceeded.

The operator of each facility that undertakes one or more of the activities specified in Annex I above the applicable capacity thresholds specified therein shall communicate to its competent authority the information identifying the facility in accordance with Annex III unless that information is already available to the competent authority.

In the case of data indicated as being based on measurement or calculation the analytical method and/or the method of calculation shall be reported.

The releases referred to in Annex II reported under point (a) of this paragraph shall include all releases from all sources included in Annex I at the site of the facility.

2. The information referred to in paragraph 1 shall include information on releases and transfers resulting as totals of all deliberate, accidental, routine and non-routine activities.

In providing this information operators shall specify, where available, any data that relate to accidental releases.

3. The operator of each facility shall collect with appropriate frequency the information needed to determine which of the facility's releases and off-site transfers are subject to reporting requirements under paragraph 1.

4. When preparing the report, the operator concerned shall use the best available information, which may include monitoring data, emission factors, mass balance equations, indirect monitoring or other calculations, engineering judgements and other methods in line with Article 9(1) and in accordance with internationally approved methodologies, where these are available.

5. The operator of each facility concerned shall keep available for the competent authorities of the Member State the records of the data from which the reported information was derived for a period of five years, starting from the end of the reporting year concerned. These records shall also describe the methodology used for data gathering.

Article 6

Releases to land

Waste which is subject to 'land treatment' or 'deep injection' disposal operations, as specified in Annex IIA to Directive 75/442/EEC, shall be reported as a release to land only by the operator of the facility originating the waste.

Article 7

Reporting by Member States

1. The Member States shall determine, having regard to the requirements set out in paragraphs 2 and 3 of this Article, a date by which operators shall provide all the data referred to in Article 5(1) and (2) and the information referred to in Article 5(3), (4) and (5) to its competent authority.

2. Member States shall provide all the data referred to in Article 5(1) and (2) to the Commission by electronic transfer in the format set out in Annex III and within the following time-limits:

(a) for the first reporting year, within 18 months after the end of the reporting year;

(b) for all reporting years thereafter, within 15 months after the end of the reporting year.

The first reporting year shall be the year 2007.

3. The Commission, assisted by the European Environment Agency, shall incorporate the information reported by the Member States into the European PRTR within the following time-limits:

(a) for the first reporting year, within 21 months after the end of the reporting year;

(b) for all reporting years thereafter, within 16 months after the end of the reporting year.

Article 8

Releases from diffuse sources

1. The Commission, assisted by the European Environment Agency, shall include in the European PRTR information on releases from diffuse sources where such information exists and has already been reported by the Member States.

2. The information referred to in paragraph 1 shall be organised such as to allow users to search for and identify releases of pollutants from diffuse sources according to an adequate geographical disaggregation and shall include information on the type of methodology used to derive the information.

3. Where the Commission determines that no data on the releases from diffuse sources exist, it shall take measures to initiate reporting on releases of relevant pollutants from one or more diffuse sources in accordance with the procedure referred to in Article 19(2), using internationally approved methodologies where appropriate.

Article 9

Quality assurance and assessment

1. The operator of each facility subject to the reporting requirements set out in Article 5 shall assure the quality of the information that they report.

2. The competent authorities shall assess the quality of the data provided by the operators of the facilities referred to in paragraph 1, in particular as to their completeness, consistency and credibility.

3. The Commission shall coordinate work on quality assurance and quality assessment in consultation with the Committee referred to in Article 19(1).

4. The Commission may adopt guidelines for the monitoring and reporting of emissions in accordance with the procedure referred to in Article 19(2). These guidelines shall be in accordance with internationally approved methodologies, where appropriate, and shall be consistent with other Community legislation.

Article 10

Access to information

1. The Commission, assisted by the European Environment Agency, shall make the European PRTR publicly accessible by dissemination free of charge on the Internet in accordance with the timeframe set out in Article 7(3).

2. Where the information contained in the European PRTR is not easily accessible to the public by direct electronic means, the Member State concerned and the Commission shall facilitate electronic access to the European PRTR in publicly accessible locations.

Article 11

Confidentiality

Whenever information is kept confidential by a Member State in accordance with Article 4 of Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information [1], the Member State shall, in its report under Article 7(2) of this Regulation for the reporting year concerned, indicate separately for each facility claiming confidentiality the type of information that has been withheld and the reason for which it has been withheld.

Article 12

Public participation

1. The Commission shall provide the public with early and effective opportunities to participate in the further development of the European PRTR, including capacity-building and the preparation of amendments to this Regulation.

2. The public shall have the opportunity to submit any relevant comments, information, analyses or opinions within a reasonable timeframe.

3. The Commission shall take due account of such input and shall inform the public about the outcome of the public participation.

Article 13

Access to justice

Access to justice in matters relating to public access to environmental information shall be ensured in accordance with Article 6 of Directive 2003/4/EC and, where the institutions of the Community are involved, in accordance with Articles 6, 7 and 8 of Regulation (EC) No 1049/2001 of the European Parliament and of the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents [2].

Article 14

Guidance document

1. The Commission shall draw up a guidance document supporting the implementation of the European PRTR as soon as possible but no later than four months before the beginning of the first reporting year and in consultation with the Committee referred to in Article 19(1).

2. The guidance document for implementation of the European PRTR shall address in particular details on the following:

(a) reporting procedures;

(b) the data to be reported;

(c) quality assurance and assessment;

(d) indication of type of withheld data and reasons why they were withheld in the case of confidential data;

(e) reference to internationally approved release determination and analytical methods, sampling methodologies;

(f) indication of parent companies;

(g) coding of activities according to Annex I to this Regulation and to Directive 96/61/EC.

Article 15

Awareness raising

The Commission and the Member States shall promote awareness of the public of the European PRTR and shall ensure that assistance is provided in accessing the European PRTR and in understanding and using the information contained in it.

Article 16

Additional information to be reported by the Member States

1. Member States shall, in a single report based on the information from the last three reporting years to be delivered every three years together with the data provided in accordance with Article 7, inform the Commission on practice and measures taken regarding the following:

(a) requirements according to Article 5;

(b) quality assurance and assessment according to Article 9;

(c) access to information according to Article 10(2);

(d) awareness raising activities according to Article 15;

(e) confidentiality of information according to Article 11;

(f) penalties provided for according to Article 20 and experience with their application.

[1] OJ L 41, 14.2.2003, p. 26.
[2] OJ L 145, 31.5.2001, p. 43.

2. To facilitate the reporting by Member States referred to in paragraph 1 the Commission shall submit a proposal for a questionnaire, which shall be adopted in accordance with the procedure referred to in Article 19(2).

Article 17

Review by the Commission

1. The Commission shall review the information provided by Member States according to Article 7 and after consultation with the Member States shall publish a report every three years based on the information from the last three reporting years available, six months after the presentation of this information on the Internet.

2. This report shall be submitted to the European Parliament and the Council, together with an assessment of the operation of the European PRTR.

Article 18

Amendments to the Annexes

Any amendment necessary for adapting:

(a) Annexes II or III to this Regulation to scientific or technical progress,

or

(b) Annexes II and III to this Regulation as a result of the adoption by the Meeting of the Parties to the Protocol of any amendment to the Annexes to the Protocol,

shall be adopted in accordance with the procedure referred to in Article 19(2).

Article 19

Committee Procedure

1. The Commission shall be assisted by a committee.

2. Where reference is made to this paragraph, Articles 5 and 7 of Decision 1999/468/EC shall apply, having regard to the provisions of Article 8 thereof.

The period provided for in Article 5(6) of Decision 1999/468/EC shall be set at three months.

Article 20

Penalties

1. Member States shall lay down the rules on penalties applicable to infringements of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive.

2. The Member States shall notify those provisions to the Commission one year after entry into force of this Regulation at the latest and shall notify it without delay of any subsequent amendment affecting them.

Article 21

Amendments to Directives 91/689/EEC and 96/61/EC

1. Article 8(3) of Directive 91/689/EEC shall be deleted.

2. Article 15(3) of Directive 96/61/EC shall be deleted.

Article 22

Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Strasbourg, 18 January 2006.

For the European Parliament
The President
J. BORRELL FONTELLES

For the Council
The President
H. WINKLER

ANNEX I

Activities

No	Activity	Capacity threshold
1.	Energy sector	
(a)	Mineral oil and gas refineries	* (1)
(b)	Installations for gasification and liquefaction	*
(c)	Thermal power stations and other combustion installations	With a heat input of 50 megawatts (MW)
(d)	Coke ovens	*
(e)	Coal rolling mills	With a capacity of 1 tonne per hour
(f)	Installations for the manufacture of coal products and solid smokeless fuel	*
2.	Production and processing of metals	
(a)	Metal ore (including sulphide ore) roasting or sintering installations	*
(b)	Installations for the production of pig iron or steel (primary or secondary melting) including continuous casting	With a capacity of 2,5 tonnes per hour
(c)	Installations for the processing of ferrous metals:	
	(i) Hot-rolling mills	With a capacity of 20 tonnes of crude steel per hour
	(ii) Smitheries with hammers	With an energy of 50 kilojoules per hammer, where the calorific power used exceeds 20 MW
	(iii) Application of protective fused metal coats	With an input of 2 tonnes of crude steel per hour
(d)	Ferrous metal foundries	With a production capacity of 20 tonnes per day
(e)	Installations:	
	(i) For the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes	*
	(ii) For the smelting, including the alloying, of non-ferrous metals, including recovered products (refining, foundry casting, etc.)	With a melting capacity of 4 tonnes per day for lead and cadmium or 20 tonnes per day for all other metals
(f)	Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process	Where the volume of the treatment vats equals 30 m^3
3.	Mineral industry	
(a)	Underground mining and related operations	*
(b)	Opencast mining and quarrying	Where the surface of the area effectively under extractive operation equals 25 hectares
(c)	Installations for the production of:	
	(i) Cement clinker in rotary kilns	With a production capacity of 500 tonnes per day
	(ii) Lime in rotary kilns	With a production capacity of 50 tonnes per day
	(iii) Cement clinker or lime in other furnaces	With a production capacity of 50 tonnes per day
(d)	Installations for the production of asbestos and the manufacture of asbestos-based products	*

No	Activity	Capacity threshold
(e)	Installations for the manufacture of glass, including glass fibre	With a melting capacity of 20 tonnes per day
(f)	Installations for melting mineral substances, including the production of mineral fibres	With a melting capacity of 20 tonnes per day
(g)	Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain	With a production capacity of 75 tonnes per day, or with a kiln capacity of 4 m^3 and with a setting density per kiln of 300 kg/m^3
4.	Chemical industry	*
(a)	Chemical installations for the production on an industrial scale of basic organic chemicals, such as: (i) Simple hydrocarbons (linear or cyclic, saturated or unsaturated, aliphatic or aromatic) (ii) Oxygen-containing hydrocarbons such as alcohols, aldehydes, ketones, carboxylic acids, esters, acetates, ethers, peroxides, epoxy resins (iii) Sulphurous hydrocarbons (iv) Nitrogenous hydrocarbons such as amines, amides, nitrous compounds, nitro compounds or nitrate compounds, nitriles, cyanates, isocyanates (v) Phosphorus-containing hydrocarbons (vi) Halogenic hydrocarbons (vii) Organometallic compounds (viii) Basic plastic materials (polymers, synthetic fibres and cellulose-based fibres) (ix) Synthetic rubbers (x) Dyes and pigments (xi) Surface-active agents and surfactants	
(b)	Chemical installations for the production on an industrial scale of basic inorganic chemicals, such as: (i) Gases, such as ammonia, chlorine or hydrogen chloride, fluorine or hydrogen fluoride, carbon oxides, sulphur compounds, nitrogen oxides, hydrogen, sulphur dioxide, carbonyl chloride (ii) Acids, such as chromic acid, hydrofluoric acid, phosphoric acid, nitric acid, hydrochloric acid, sulphuric acid, oleum, sulphurous acids (iii) Bases, such as ammonium hydroxide, potassium hydroxide, sodium hydroxide (iv) Salts, such as ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate (v) Non-metals, metal oxides or other inorganic compounds such as calcium carbide, silicon, silicon carbide	*

No	Activity	Capacity threshold
(c)	Chemical installations for the production on an industrial scale of phosphorous-, nitrogen- or potassium-based fertilisers (simple or compound fertilisers)	*
(d)	Chemical installations for the production on an industrial scale of basic plant health products and of biocides	*
(e)	Installations using a chemical or biological process for the production on an industrial scale of basic pharmaceutical products	*
(f)	Installations for the production on an industrial scale of explosives and pyrotechnic products	*
5.	Waste and wastewater management	
(a)	Installations for the recovery or disposal of hazardous waste	Receiving 10 tonnes per day
(b)	Installations for the incineration of non-hazardous waste in the scope of Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste ([2])	With capacity of 3 tonnes per hour
(c)	Installations for the disposal of non-hazardous waste	With a capacity of 50 tonnes per day
(d)	Landfills (excluding landfills of inert waste and landfills, which were definitely closed before 16.7.2001 or for which the after-care phase required by the competent authorities according to Article 13 of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste ([3]) has expired)	Receiving 10 tonnes per day or with a total capacity of 25 000 tonnes
(e)	Installations for the disposal or recycling of animal carcasses and animal waste	With a treatment capacity of 10 tonnes per day
(f)	Urban waste-water treatment plants	With a capacity of 100 000 population equivalents
(g)	Independently operated industrial waste-water treatment plants which serve one or more activities of this annex	With a capacity of 10 000 m^3 per day ([4])
6.	Paper and wood production and processing	
(a)	Industrial plants for the production of pulp from timber or similar fibrous materials	*
(b)	Industrial plants for the production of paper and board and other primary wood products (such as chipboard, fibreboard and plywood)	With a production capacity of 20 tonnes per day
(c)	Industrial plants for the preservation of wood and wood products with chemicals	With a production capacity of 50 m^3 per day
7.	Intensive livestock production and aquaculture	
(a)	Installations for the intensive rearing of poultry or pigs	(i) With 40 000 places for poultry (ii) With 2 000 places for production pigs (over 30 kg) (iii) With 750 places for sows
(b)	Intensive aquaculture	With a production capacity of 1 000 tonnes of fish or shellfish per year

No	Activity	Capacity threshold
8.	Animal and vegetable products from the food and beverage sector	
(a)	Slaughterhouses	With a carcass production capacity of 50 tonnes per day
(b)	Treatment and processing intended for the production of food and beverage products from:	
	(i) Animal raw materials (other than milk)	With a finished product production capacity of 75 tonnes per day
	(ii) Vegetable raw materials	With a finished product production capacity of 300 tonnes per day (average value on a quarterly basis)
(c)	Treatment and processing of milk	With a capacity to receive 200 tonnes of milk per day (average value on an annual basis)
9.	Other activities	
(a)	Plants for the pre-treatment (operations such as washing, bleaching, mercerisation) or dyeing of fibres or textiles	With a treatment capacity of 10 tonnes per day
(b)	Plants for the tanning of hides and skins	With a treatment capacity of 12 tonnes of finished product per day
(c)	Installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating	With a consumption capacity of 150 kg per hour or 200 tonnes per year
(d)	Installations for the production of carbon (hard-burnt coal) or electro-graphite by means of incineration or graphitisation	*
(e)	Installations for the building of, and painting or removal of paint from ships	With a capacity for ships 100 m long

(1) An asterisk (*) indicates that no capacity threshold is applicable (all facilities are subject to reporting).

(2) OJ L 332, 28.12.2000, p. 91.

(3) OJ L 182, 16.7.1999, p. 1. Directive as amended by Regulation (EC) No 1882/2003.

(4) The capacity threshold shall be reviewed by 2010 at the latest in the light of the results of the first reporting cycle.

ANNEX II

Pollutants (*)

No	CAS number	Pollutant (1)	Threshold for releases (column 1)		
			to air (column 1a) kg/year	to water (column 1b) kg/year	to land (column 1c) kg/year
1	74-82-8	Methane (CH_4)	100 000	— (2)	—
2	630-08-0	Carbon monoxide (CO)	500 000	—	—
3	124-38-9	Carbon dioxide (CO_2)	100 million	—	—
4		Hydro-fluorocarbons (HFCs) (3)	100	—	—
5	10024-97-2	Nitrous oxide (N_2O)	10 000	—	—
6	7664-41-7	Ammonia (NH_3)	10 000	—	—
7		Non-methane volatile organic compounds (NMVOC)	100 000	—	—
8		Nitrogen oxides (NO_x/NO_2)	100 000	—	—
9		Perfluorocarbons (PFCs) (4)	100	—	—
10	2551-62-4	Sulphur hexafluoride (SF_6)	50	—	—
11		Sulphur oxides (SO_x/SO_2)	150 000	—	—
12		Total nitrogen	—	50 000	50 000
13		Total phosphorus	—	5 000	5 000
14		Hydrochlorofluorocarbons (HCFCs) (5)	1	—	—
15		Chlorofluorocarbons (CFCs) (6)	1	—	—
16		Halons (7)	1	—	—
17		Arsenic and compounds (as As) (8)	20	5	5
18		Cadmium and compounds (as Cd) (8)	10	5	5
19		Chromium and compounds (as Cr) (8)	100	50	50
20		Copper and compounds (as Cu) (8)	100	50	50
21		Mercury and compounds (as Hg) (8)	10	1	1
22		Nickel and compounds (as Ni) (8)	50	20	20
23		Lead and compounds (as Pb) (8)	200	20	20
24		Zinc and compounds (as Zn) (8)	200	100	100
25	15972-60-8	Alachlor	—	1	1
26	309-00-2	Aldrin	1	1	1
27	1912-24-9	Atrazine	—	1	1
28	57-74-9	Chlordane	1	1	1

(*) Releases of pollutants falling into several categories of pollutants shall be reported for each of these categories.

No	CAS number	Pollutant (1)	Threshold for releases (column 1)		
			to air (column 1a) kg/year	to water (column 1b) kg/year	to land (column 1c) kg/year
29	143-50-0	Chlordecone	1	1	1
30	470-90-6	Chlorfenvinphos	—	1	1
31	85535-84-8	Chloro-alkanes, C_{10}-C_{13}	—	1	1
32	2921-88-2	Chlorpyrifos	—	1	1
33	50-29-3	DDT	1	1	1
34	107-06-2	1,2-dichloroethane (EDC)	1 000	10	10
35	75-09-2	Dichloromethane (DCM)	1 000	10	10
36	60-57-1	Dieldrin	1	1	1
37	330-54-1	Diuron	—	1	1
38	115-29-7	Endosulphan	—	1	1
39	72-20-8	Endrin	1	1	1
40		Halogenated organic compounds (as AOX) (9)	—	1 000	1 000
41	76-44-8	Heptachlor	1	1	1
42	118-74-1	Hexachlorobenzene (HCB)	10	1	1
43	87-68-3	Hexachlorobutadiene (HCBD)	—	1	1
44	608-73-1	1,2,3,4,5,6-hexachlorocyclohexane(HCH)	10	1	1
45	58-89-9	Lindane	1	1	1
46	2385-85-5	Mirex	1	1	1
47		PCDD + PCDF (dioxins + furans) (as Teq) (10)	0,0001	0,0001	0,0001
48	608-93-5	Pentachlorobenzene	1	1	1
49	87-86-5	Pentachlorophenol (PCP)	10	1	1
50	1336-36-3	Polychlorinated biphenyls (PCBs)	0,1	0,1	0,1
51	122-34-9	Simazine	—	1	1
52	127-18-4	Tetrachloroethylene (PER)	2 000	10	—
53	56-23-5	Tetrachloromethane (TCM)	100	1	—
54	12002-48-1	Trichlorobenzenes (TCBs) (all isomers)	10	1	—
55	71-55-6	1,1,1-trichloroethane	100	—	—
56	79-34-5	1,1,2,2-tetrachloroethane	50	—	—
57	79-01-6	Trichloroethylene	2 000	10	—
58	67-66-3	Trichloromethane	500	10	—
59	8001-35-2	Toxaphene	1	1	1
60	75-01-4	Vinyl chloride	1 000	10	10
61	120-12-7	Anthracene	50	1	1

No	CAS number	Pollutant [1]	Threshold for releases (column 1)		
			to air (column 1a) kg/year	to water (column 1b) kg/year	to land (column 1c) kg/year
62	71-43-2	Benzene	1 000	200 (as BTEX) [11]	200 (as BTEX) [11]
63		Brominated diphenylethers (PBDE) [12]	—	1	1
64		Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	—	1	1
65	100-41-4	Ethyl benzene	—	200 (as BTEX) [11]	200 (as BTEX) [11]
66	75-21-8	Ethylene oxide	1 000	10	10
67	34123-59-6	Isoproturon	—	1	1
68	91-20-3	Naphthalene	100	10	10
69		Organotin compounds(as total Sn)	—	50	50
70	117-81-7	Di-(2-ethyl hexyl) phthalate (DEHP)	10	1	1
71	108-95-2	Phenols (as total C) [13]	—	20	20
72		Polycyclic aromatic hydrocarbons (PAHs) [14]	50	5	5
73	108-88-3	Toluene	—	200 (as BTEX) [11]	200 (as BTEX) [11]
74		Tributyltin and compounds [15]	—	1	1
75		Triphenyltin and compounds [16]	—	1	1
76		Total organic carbon (TOC) (as total C or COD/3)	—	50 000	—
77	1582-09-8	Trifluralin	—	1	1
78	1330-20-7	Xylenes [17]	—	200 (as BTEX) [11]	200 (as BTEX) [11]
79		Chlorides (as total Cl)	—	2 million	2 million
80		Chlorine and inorganic compounds (as HCl)	10 000	—	—
81	1332-21-4	Asbestos	1	1	1
82		Cyanides (as total CN)	—	50	50
83		Fluorides (as total F)	—	2 000	2 000
84		Fluorine and inorganic compounds (as HF)	5 000	—	—
85	74-90-8	Hydrogen cyanide (HCN)	200	—	—
86		Particulate matter (PM_{10})	50 000	—	—
87	1806-26-4	Octylphenols and Octylphenol ethoxylates	—	1	—

No	CAS number	Pollutant [1]	Threshold for releases (column 1)		
			to air (column 1a) kg/year	to water (column 1b) kg/year	to land (column 1c) kg/year
88	206-44-0	Fluoranthene	—	1	—
89	465-73-6	Isodrin	—	1	—
90	36355-1-8	Hexabromobiphenyl	0,1	0,1	0,1
91	191-24-2	Benzo(g,h,i)perylene		1	

(1) Unless otherwise specified any pollutant specified in Annex II shall be reported as the total mass of that pollutant or, where the pollutant is a group of substances, as the total mass of the group.

(2) A hyphen (—) indicates that the parameter and medium in question do not trigger a reporting requirement.

(3) Total mass of hydrogen fluorocarbons: sum of HFC23, HFC32, HFC41, HFC4310mee, HFC125, HFC134, HFC134a, HFC152a, HFC143, HFC143a, HFC227ea, HFC236fa, HFC245ca, HFC365mfc.

(4) Total mass of perfluorocarbons: sum of CF_4, C_2F_6, C_3F_8, C_4F_{10}, c-C_4F_8, C_5F_{12}, C_6F_{14}.

(5) Total mass of substances including their isomers listed in Group VIII of Annex I to Regulation (EC) No 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer (OJ L 244, 29.9.2000, p. 1). Regulation as amended by Regulation (EC) No 1804/2003 (OJ L 265, 16.10.2003, p. 1).

(6) Total mass of substances including their isomers listed in Group I and II of Annex I to Regulation (EC) No 2037/2000.

(7) Total mass of substances including their isomers listed in Group III and VI of Annex I to Regulation (EC) No 2037/2000.

(8) All metals shall be reported as the total mass of the element in all chemical forms present in the release.

(9) Halogenated organic compounds which can be adsorbed to activated carbon expressed as chloride.

(10) Expressed as I-TEQ.

(11) Single pollutants are to be reported if the threshold for BTEX (the sum parameter of benzene, toluene, ethyl benzene, xylenes) is exceeded.

(12) Total mass of the following brominated diphenylethers: penta-BDE, octa-BDE and deca-BDE.

(13) Total mass of phenol and simple substituted phenols expressed as total carbon.

(14) Polycyclic aromatic hydrocarbons (PAHs) are to be measured for reporting of releases to air as benzo(a)pyrene (50-32-8), benzo(b)fluoranthene (205-99-2), benzo(k)fluoranthene (207-08-9), indeno(1,2,3-cd)pyrene (193-39-5) (derived from Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants (OJ L 229, 29.6.2004, p. 5)).

(15) Total mass of tributyltin compounds, expressed as mass of tributyltin.

(16) Total mass of triphenyltin compounds, expressed as mass of triphenyltin.

(17) Total mass of xylene (ortho-xylene, meta-xylene, para-xylene).

ANNEX III

Format for the reporting of release and transfer data by Member States to the Commission

Reference year		
Identification of the facility		
Name of the parent company Name of the facility Identification number of facility Street address Town/village Postal code Country Coordinates of the location River basin district (1) NACE-code (4 digits) Main economic activity Production volume (optional) Number of installations (optional) Number of operating hours in year (optional) Number of employees (optional) Text field for textual information or website address delivered by facility or parent company (optional)		
All Annex I activities of the facility (according to the coding system given in Annex I and the IPPC code where available)		
Activity 1 (main Annex I activity) Activity 2 Activity N		
Release data to air for the facility for each pollutant exceeding threshold value (according to Annex II)		Releases to air
Pollutant 1 Pollutant 2 Pollutant N	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	T: Total in kg/year A: accidental in kg/year
Release data to water for the facility for each pollutant exceeding threshold value (according to Annex II)		Releases to water
Pollutant 1 Pollutant 2 Pollutant N	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	T: Total in kg/year A: accidental in kg/year
Release data to land for the facility for each pollutant exceeding threshold value (according to Annex II)		Releases to land
Pollutant 1 Pollutant 2 Pollutant N	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	T: Total in kg/year A: accidental in kg/year

Off-site transfer of each pollutant destined for waste-water treatment in quantities exceeding threshold value (according to Annex II)		
Pollutant 1 Pollutant 2 Pollutant N	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	in kg/year
Off-site transfers of hazardous waste for the facility exceeding threshold value (according to Article 5)		
Within the country: For Recovery (R)	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	in tonnes/year
Within the country: For Disposal (D)	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	in tonnes/year
To other countries: For Recovery (R) Name of the recoverer Address of the recoverer Address of actual recovery site receiving the transfer	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	in tonnes/year
To other countries: For Disposal (D) Name of the disposer Address of the disposer Address of actual disposal site receiving the transfer	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	in tonnes/year
Off-site transfer of non-hazardous waste for the facility exceeding threshold value (according to Article 5)		
For Recovery (R)	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	in tonnes/year
For Disposal (D)	M: measured; Analytical Method used C: calculated; Calculation Method used E: estimated	in tonnes/year
Competent authority for requests of the public: Name Street address Town/village Telephone No Fax No E-mail address		

(1) According to Article 3(1) of Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy (OJ L 327, 22.12.2000, p. 1). Directive as amended by Decision No 2455/2001/EC (OJ L 331, 15.12.2001, p. 1).

Appendix 2: Comparison of IPPC and E-PRTR activities

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
1	Energy industries		1.	Energy sector		
1.2	Mineral oil and gas refineries		(a)	Mineral oil and gas refineries	*[123]	
1.4	Coal gasification and liquefaction plants		(b)	Installations for gasification and liquefaction	*	Extension of the IPPC activity definition, covering coal gasification and liquefaction, to cover any gasification and liquefaction (i.e. not just coal). Gasification/liquefaction of feedstocks other than coal, such as shale, petroleum coke, high sulphur fuel oil or other materials is subject to reporting under E-PRTR.
1.1	Combustion installations with a rated thermal input exceeding	50 MW	(c)	Thermal power stations and other combustion installations	With a heat input of 50 megawatts (MW)	Different wording covering the same activities.
1.3	Coke ovens		(d)	Coke ovens	*	
			(e)	Coal rolling mills	With a capacity of 1 tonne per hour	New activity in E-PRTR compared to IPPC.
			(f)	Installations for the manufacture of coal products and solid smokeless fuel	*	New activity in E-PRTR compared to IPPC; note that the industrial briquetting of coal and lignite is included in Annex II of the EIA Directive 85/337/EEC[124].
2	Production and processing of metals		2.	Production and processing of metals		
2.1	Metal ore (including sulphide ore) roasting or sintering installations		(a)	Metal ore (including sulphide ore) roasting or sintering installations	*	

[123] An asterisk (*) indicates that no capacity threshold is applicable (all facilities are subject to reporting).
[124] OJ L 175, 5.7.1985, p. 40.

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
2.2	Installations for the production of pig iron or steel (primary or secondary fusion) including continuous casting	with a capacity exceeding2.5 tonnes per hour	(b)	Installations for the production of pig iron or steel (primary or secondary melting) including continuous casting	With a capacity of 2.5 tonnes per hour	New wording: (primary or secondary) "fusion" is adjusted to "melting"; no change for activities covered.
2.3	Installations for the processing of ferrous metals:		(c)	Installations for the processing of ferrous metals:		
	(a) hot-rolling mills	with a capacity exceeding 20 tonnes of crude steel per hour		(i) Hot-rolling mills	With a capacity of 20 tonnes of crude steel per hour	
	(b) smitheries with hammers	the energy of which exceeds 50 kilojoule per hammer, where the calorific power used exceeds 20 MW		(ii) Smitheries with hammers	With an energy of 50 kilojoules per hammer, where the calorific power used exceeds 20 MW	
	(c) application of protective fused metal coats	with an input exceeding 2 tonnes of crude steel per hour		(iii) Application of protective fused metal coats	With an input of 2 tonnes of crude steel per hour	
2.4	Ferrous metal foundries	with a production capacity exceeding 20 tonnes per day	(d)	Ferrous metal foundries	With a production capacity of 20 tonnes per day	

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
2.5	Installations		(e)	Installations:		
	(a) for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes			(i) For the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes	*	
	(b) for the smelting, including the alloyage, of non-ferrous metals, including recovered products (refining, foundry casting, etc.)	with a melting capacity exceeding 4 tonnes per day for lead and cadmium or 20 tonnes per day for all other metals		(ii) For the smelting, including the alloying, of non-ferrous metals, including recovered products (refining, foundry casting, etc.)	With a melting capacity of 4 tons per day for lead and cadmium or 20 tonnes per day for all other metals	
2.6	Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process	where the volume of the treatment vats exceeds 30 m^3	(f)	Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process	Where the volume of the treatment vats equals 30 m^3	
3.	Mineral industry		3.	Mineral industry		
			(a)	Underground mining and related operations	*	New activity in E-PRTR compared to IPPC; note that underground mining is included in Annex II of the EIA Directive 85/337/EEC.
			(b)	Opencast mining and quarrying	Where the surface of the area effectively under extractive operation equals 25 hectares	New activity in E-PRTR compared to IPPC; note that quarries and open-cast mining where the surface of the site exceeds 25 hectares are included in Annex I and projects below that surface limit are included in Annex II of the EIA Directive 85/337/EEC. "Surface of the area effectively under extractive operation" means the surface of the area of the site reduced by the surface of the rehabilitated area and reduced by the area of future excavation.

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
3.1	Installations for the production of		(c)	Installations for the production of:		
	cement clinker in rotary kilns	with a production capacity exceeding 500 tonnes per day		(i) Cement clinker in rotary kilns	With a production capacity of 500 tonnes per day	
	or lime in rotary kilns	with a production capacity exceeding 50 tonnes per day		(ii) Lime in rotary kilns	With a production capacity of 50 tonnes per day	
	or in other furnaces	with a production capacity exceeding 50 tonnes per day		(iii) Cement clinker or lime in other furnaces	With a production capacity of 50 tonnes per day	Extension of the IPPC activity definition, covering cement clinker in other furnaces, to cover both, cement clinker or lime in other furnaces.
3.2	Installations for the production of asbestos and the manufacture of asbestos-based products		(d)	Installations for the production of asbestos and the manufacture of asbestos-based products	*	
3.3	Installations for the manufacture of glass including glass fibre	with a melting capacity exceeding 20 tonnes per day	(e)	Installations for the manufacture of glass, including glass fibre	With a melting capacity of 20 tonnes per day	
3.4	Installations for melting mineral substances including the production of mineral fibres	with a melting capacity exceeding 20 tonnes per day	(f)	Installations for melting mineral substances, including the production of mineral fibres	With a melting capacity of 20 tonnes per day	
3.5	Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain,	with a production capacity exceeding 75 tonnes per day, and/or with a kiln capacity exceeding 4 m^3 and with a setting density per kiln exceeding 300 kg/m^3	(g)	Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain	With a production capacity of 75 tonnes per day, or with a kiln capacity of 4 m^3 and with a setting density per kiln of 300 kg/m^3	"and/or" has been changed to "or". Clarification or extension depending on what MS have chosen to do with "and/or" under IPPC.

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
4.	Chemical industry Production within the meaning of the categories of activities contained in this section means the production on an industrial scale by chemical processing of substances or groups of substances listed in Sections 4.1 to 4.6		4.	Chemical industry		The scope of the chemical industry under the IPPC Directive and the E-PRTR Regulation is the same.
4.1	Chemical installations for the production of basic organic chemicals, such as:		(a)	Chemical installations for the production on an industrial scale of basic organic chemicals, such as:	*	
	(a) simple hydrocarbons (linear or cyclic, saturated or unsaturated, aliphatic or aromatic)			(i) Simple hydrocarbons (linear or cyclic, saturated or unsaturated, aliphatic or aromatic)		
	(b) oxygen-containing hydrocarbons such as alcohols, aldehydes, ketones, carboxylic acids, esters, acetates, ethers, peroxides, epoxy resins			(ii) Oxygen-containing hydrocarbons such as alcohols, aldehydes, ketones, carboxylic acids, esters, acetates, ethers, peroxides, epoxy resins		
	(c) sulphurous hydrocarbons			(iii) Sulphurous hydrocarbons		

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
	(d) nitrogenous hydrocarbons such as amines, amides, nitrous compounds, nitro compounds or nitrate compounds, nitriles, cyanates, isocyanates			(iv) Nitrogenous hydrocarbons such as amines, amides, nitrous compounds, nitro compounds or nitrate compounds, nitriles, cyanates, isocyanates		
	(e) phosphorus-containing hydrocarbons			(v) Phosphorus-containing hydrocarbons		
	(f) halogenic hydrocarbons			(vi) Halogenic hydrocarbons		
	(g) organometallic compounds			(vii) Organometallic compounds		
	(h) basic plastic materials (polymers synthetic fibres and cellulose-based fibres)			(viii) Basic plastic materials (polymers, synthetic fibres and cellulose-based fibres)		
	(i) synthetic rubbers			(ix) Synthetic rubbers		
	(j) dyes and pigments			(x) Dyes and pigments		
	(k) surface-active agents and surfactants			(xi) Surface-active agents and surfactants		
4.2	Chemical installations for the production of basic inorganic chemicals, such as:		(b)	Chemical installations for the production on an industrial scale of basic inorganic chemicals, such as:	*	
	(a) gases, such as ammonia, chlorine or hydrogen chloride, fluorine or hydrogen fluoride, carbon oxides, sulphur compounds, nitrogen oxides, hydrogen, sulphur dioxide, carbonyl chloride			(i) Gases, such as ammonia, chlorine or hydrogen chloride, fluorine or hydrogen fluoride, carbon oxides, sulphur compounds, nitrogen oxides, hydrogen, sulphur dioxide, carbonyl chloride		

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
	(b) acids, such as chromic acid, hydrofluoric acid, phosphoric acid, nitric acid, hydrochloric acid, sulphuric acid, oleum, sulphurous acids			(ii) Acids, such as chromic acid, hydrofluoric acid, phosphoric acid, nitric acid, hydrochloric acid, sulphuric acid, oleum, sulphurous acids		
	(c) bases, such as ammonium hydroxide, potassium hydroxide, sodium hydroxide			(iii) Bases, such as ammonium hydroxide, potassium hydroxide, sodium hydroxide		
	(d) salts, such as ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate			(iv) Salts, such as ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate		
	(e) non-metals, metal oxides or other inorganic compounds such as calcium carbide, silicon, silicon carbide			(v) Non-metals, metal oxides or other inorganic compounds such as calcium carbide, silicon, silicon carbide		
4.3	Chemical installations for the production of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)		(c)	Chemical installations for the production on an industrial scale of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)	*	
4.4	Chemical installations for the production of basic plant health products and of biocides		(d)	Chemical installations for the production on an industrial scale of basic plant health products and of biocides	*	

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
4.5	Installations using a chemical or biological process for the production of basic pharmaceutical products		(e)	Installations using a chemical or biological process for the production on an industrial scale of basic pharmaceutical products	*	
4.6	Chemical installations for the production of explosives		(f)	Installations for the production on an industrial scale of explosives and pyrotechnic products	*	Extension: production of pyrotechnic products is added to the IPPC activity.
5.	Waste management Without prejudice of Article 11 of Directive 75/442/EEC or Article 3 of Council Directive 91/689/EEC of 12 December 1991 on hazardous waste[125]		5.	Waste and waste water management		
5.1	Installations for the disposal or recovery of hazardous waste as defined in the list referred to in Article 1(4) of Directive 91/689/EEC, as defined in Annexes II A and II B (operations R1, R5, R6, R8 and R9) to Directive 75/442/EEC and in Council Directive 75/439/EEC of 16 June	with a capacity exceeding 10 tonnes per day	(a)	Installations for the recovery or disposal of hazardous waste	Receiving 10 tonnes per day	Extension: E-PRTR covers all installations for recovery or disposal of hazardous waste above the specified threshold whereas IPPC only covers specified types of operations.

[125] OJ No L 377, 31. 12. 1991, p. 20. Directive as amended by Directive 94/31/EC (OJ No L 168, 2. 7. 1994, p. 28).

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
	1975 on the disposal of waste oils[126]					
5.2	Installations for the incineration of municipal waste as defined in Council Directive 89/369/EEC of 8 June 1989 on the prevention of air pollution from new municipal waste incineration plants[127] and Council Directive 89/429/EEC of 21 June 1989 on the reduction of air pollution from existing municipal waste-incineration plants[128]	with a capacity exceeding 3 tonnes per hour	(b)	Installations for the incineration of non-hazardous waste in the scope of Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste[129]	With a capacity of 3 tonnes per hour	Change of activity description from "incineration of municipal waste" to the term of "incineration of non-hazardous waste in the scope of Directive 2000/76/EC…"; the capacity threshold has not been changed.
5.3	Installations for the disposal of non-hazardous waste as defined in Annex II A to Directive 75/442/EEC under headings D8 and D9,	with a capacity exceeding 50 tonnes per day	(c)	Installations for the disposal of non-hazardous waste	With a capacity of 50 tonnes per day	Extension: E-PRTR covers all installations for the disposal of non-hazardous waste above the specified threshold whereas IPPC only covers specified types of operations.

[126] OJ No L 194, 25. 7. 1975, p. 23. Directive as last amended by Directive 91/692/EEC (OJ No L 377, 31. 12. 1991, p. 48).
[127] OJ No L 163, 14. 6. 1989, p. 32.
[128] OJ No L 203, 15. 7. 1989, p. 50.
[129] OJ L 332 , 28.12.2000, p. 91.

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
5.4	Landfills excluding landfills of inert waste	receiving more than 10 tonnes per day or with a total capacity exceeding 25 000 tonnes,	(d)	Landfills (excluding landfills of inert waste and landfills, which have been definitely closed before 16.7.2001 or for which the after-care phase required by the competent authorities according to Article 13 of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste[130] has expired)	Receiving 10 tonnes per day or with a total capacity of 25,000 tonnes	In the E-PRTR an explicit exclusion for part of the landfills, which are no longer receiving waste, is introduced. Those landfills are excluded – which have been definitely closed before 16.7.2001 or – for which the after-care phase required by the competent authorities according to Article 13 of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste has expired.
6.5	Installations for the disposal or recycling of animal carcases and animal waste	exceeding 10 tonnes per day	(e)	Installations for the disposal or recycling of animal carcasses and animal waste	With a treatment capacity of 10 tonnes per day	
			(f)	Urban waste-water treatment plants	With a capacity of 100 000 population equivalents	New activity in E-PRTR compared to IPPC; note that waste-water treatment plants with a capacity exceeding 150,000 population equivalent as defined in Article 2 point (6) of Directive 91/271/EEC are included in Annex I and projects below that capacity are included in

[130] OJ L 182, 16.7.1999, p. 1. Directive as amended by Regulation (EC) No 1882/2003.

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
						Annex II of the EIA Directive 85/337/EEC.
			(g)	Independently operated industrial waste-water treatment plants which serve one or more activities of this annex	With a capacity of 10 000 m^3 per day[131]	New activity in E-PRTR compared to IPPC; addition of independently operated industrial waste-water treatment plants which serve one or more other activities of Annex I, with a capacity of 10,000 m^3 per day. Note that to a large extent these waste-water treatment plants have already reported their releases under EPER, e.g. in the case of large industrial complexes reporting their releases according to the exception clause in Part III, Appendix 2 of the EPER Guidance document.
6.	Other activities					
			6.	Paper and wood production and processing		
6.1	Industrial plants for the production of: (a) pulp from timber or other fibrous materials		(a)	Industrial plants for the production of pulp from timber or similar fibrous materials	*	Clarification by new wording: "other fibrous material" is changed to "similar fibrous materials".
	(b) paper and board	with a production capacity exceeding 20 tonnes per day	(b)	Industrial plants for the production of paper and board and other primary wood products (such as chipboard, fibreboard and plywood)	With a production capacity of 20 tonnes per day	Extension of the IPPC activity definition, covering production of paper and board, to cover also other primary wood products such as chipboard, fibreboard and plywood.
			(c)	Industrial plants for the preservation of wood and wood products with chemicals	With a production capacity of 50 m^3 per day	New activity in E-PRTR compared to IPPC.

[131] The capacity threshold shall be reviewed by 2010 at the latest in the light of the results of the first reporting cycle.

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
			7.	Intensive livestock production and aquaculture		
6.6	Installations for the intensive rearing of poultry or pigs	(a) more than 40,000 places for poultry	(a)	Installations for the intensive rearing of poultry or pigs	(i) With 40 000 places for poultry	
		(b) more than 2,000 places for production pigs (over 30 kg), or			(ii) With 2 000 places for production pigs (over 30 kg)	
		(c) more than 750 places for sows			(iii) With 750 places for sows	
			(b)	Intensive aquaculture	With a production capacity of 1,000 tonnes of fish or shellfish per year	New activity in E-PRTR compared to IPPC; note that intensive fish farming projects are included in Annex II of the EIA Directive 85/337/EEC.
			8.	Animal and vegetable products from the food and beverage sector		Beverage sector explicitly mentioned.
6.4	(a) Slaughterhouses	with a carcase production capacity greater than 50 tonnes per day	(a)	Slaughterhouses	With a carcass production capacity of 50 tonnes per day	
	(b) Treatment and processing intended for the production of food products from:		(b)	Treatment and processing intended for the production of food and beverage products from:		New wording: explicit mentioning of “beverage products” although these are already considered (included as “food”) under IPPC.
	— animal raw materials (other than milk)	with a finished product production capacity greater than 75 tonnes per day		(i) Animal raw materials (other than milk)	With a finished product production capacity of 75 tonnes per day	

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
	— vegetable raw materials	with a finished product production capacity greater than 300 tonnes per day (average value on a quarterly basis)		(ii) Vegetable raw materials	With a finished product production capacity of 300 tonnes per day (average value on a quarterly basis)	
	(c) Treatment and processing of milk	the quantity of milk received being greater than 200 tonnes per day (average value on an annual basis)	(c)	Treatment and processing of milk	With a capacity to receive 200 tonnes of milk per day (average value on an annual basis)	Different wording: IPPC is based on the average actual quantity of milk received whereas E-PRTR is based on capacity to receive milk.
			9.	Other activities		
6.2	Plants for the pre-treatment (operations such as washing, bleaching, mercerization) or dyeing of fibres or textiles	where the treatment capacity exceeds 10 tonnes per day	(a)	Plants for the pre-treatment (operations such as washing, bleaching, mercerization) or dyeing of fibres or textiles	With a treatment capacity of 10 tonnes per day	
6.3	Plants for the tanning of hides and skins	where the treatment capacity exceeds 12 tonnes of finished products per day	(b)	Plants for the tanning of hides and skins	With a treatment capacity of 12 tonnes of finished product per day	
6.7	Installations for the surface treatment of substances, objects or products using organic solvents, in	with a consumption capacity of more than 150 kg per hour or more than	(c)	Installations for the surface treatment of substances, objects or products using organic solvents, in	With a consumption capacity of 150 kg per hour or 200	

IPPC Directive (96/61/EC)			PRTR Regulation			
Code	Activity	Capacity threshold	Code	Activity	Capacity threshold	Changes in E-PRTR Regulation
	particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating,	200 tonnes per year		particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating	tonnes per year	
6.8	Installations for the production of carbon (hard-burnt coal) or electrographite by means of incineration or graphitization		(d)	Installations for the production of carbon (hard-burnt coal) or electro-graphite by means of incineration or graphitization	*	
			(e)	Installations for the building of, and painting or removal of paint from ships	With a capacity for ships 100 m long	New activity in E-PRTR compared to IPPC; to a certain extent such activities are already covered elsewhere (especially "surface treatment using solvents" under activity 6.7 of Annex I) by the IPPC Directive; note that shipyards are included in Annex II of the EIA Directive 85/337/EEC.

Table 21: Comparison of IPPC Annex I activities with E-PRTR Annex I activities

Appendix 3: List of internationally approved measuring methods for air and water pollutants*

NOTE - The different steps of these measurement methods (sampling, transport and storage, pre-treatment, extraction, analysis-quantification, reporting) are standardised in one or several standards. For releases to air the quoted standards generally cover all steps of the measurement methods. For releases to water, the quoted standards generally cover the analysis-quantification step. Guidance on the other steps is provided in "general standards (G1-G7)" listed at the end of this table; they also include standards (G6, G7) on issues such as competence of laboratories, uncertainties…..etc.

The absence of CEN or ISO standards in this table does not mean always a lack of relevant procedures, for instance work on such topics may be in progress in CEN or ISO.

No.	CAS number	Pollutant	EN or ISO standard Emission to air (Abbreviations see below)	EN or ISO standard Emission to water (Abbreviations see below)
1	74-82-8	Methane (CH_4)	ISO Standard in preparation by ISO/TC 146/SC 1/ WG 22 (for information only)	---
2	630-08-0	Carbon monoxide (CO)	EN 15058:2004 ISO 12039:2001	---
3	124-38-9	Carbon dioxide (CO_2)	ISO 12039:2001	---
4		Hydro-fluorocarbons (HFCs)		---
5	10024-97-2	Nitrous oxide (N_2O)	ISO Standard in preparation by ISO/TC 146/SC 1/ WG 19 (for information only)	---
6	7664-41-7	Ammonia (NH_3)		---
7		Non-methane volatile organic compounds (NMVOC)	EN 13649:2001	---
8		Nitrogen oxides (NO_x/NO_2)	EN 14792:2005 ISO 11564:1998 ISO 10849:1996	---
9		Perfluorocarbons (PFCs)		---
10	2551-62-4	Sulphur hexafluoride (SF_6)		---

* ***Releases of pollutants falling into several categories of pollutants shall be reported for each of these categories.***

No.	CAS number	Pollutant	EN or ISO standard Emission to air (Abbreviations see below)	EN or ISO standard Emission to water (Abbreviations see below)
11		Sulphur oxides (SO_x/SO_2)	EN 14791:2005 ISO 7934:1989 ISO 7935:1992 ISO 11632:1998	---
12		Total nitrogen	---	EN 12260:2003 EN ISO 11905-1:1998
13		Total phosphorus	---	EN ISO 15681-1:2004 EN ISO 15681-2:2004 EN ISO 11885:1997 EN ISO 6878:2004
14		Hydrochlorofluorocarbons (HCFCs)		---
15		Chlorofluorocarbons (CFCs)		---
16		Halons		---
17		*Arsenic* and compounds (as As)	EN 14385:2004	EN ISO 11969:1996 EN 26595:1992
18		*Cadmium* and compounds (as Cd)	EN 14385:2004	EN ISO 5961:1995 EN ISO 11885:1997
19		*Chromium* and compounds (as Cr)	EN 14385:2004	EN 1233:1996 EN ISO 11885:1997
20		*Copper* and compounds (as Cu)	EN 14385:2004	EN ISO 11885:1997
21		*Mercury* and compounds (as Hg)	EN 13211:2001 EN 14884:2005	EN 1483:1997 EN 12338:1998 EN 13506:2001 According to the level of concentration
22		*Nickel* and compounds (as Ni)	EN 14385:2004	EN ISO 11885:1997
23		*Lead* and compounds (as Pb)	EN 14385:2004	EN ISO 11885:1997
24		*Zinc* and compounds (as Zn)		EN ISO 11885:1997
25	15972-60-8	Alachlor	---	

No.	CAS number	Pollutant	EN or ISO standard Emission to air (Abbreviations see below)	EN or ISO standard Emission to water (Abbreviations see below)
26	309-00-2	Aldrin		EN ISO 6468:1996
27	1912-24-9	Atrazine	---	EN ISO 10695:2000
28	57-74-9	Chlordane		
29	143-50-0	Chlordecone		
30	470-90-6	Chlorfenvinphos	---	
31	85535-84-8	Chloro-alkanes, C_{10}-C_{13}	---	
32	2921-88-2	Chlorpyrifos	---	
33	50-29-3	DDT		EN ISO 6468:1996
34	107-06-2	1,2-dichloroethane (EDC)		EN ISO 10301:1997 EN ISO 15680:2003
35	75-09-2	Dichloromethane (DCM)		EN ISO 10301:1997 EN ISO 15680:2003
36	60-57-1	Dieldrin		EN ISO 6468:1996
37	330-54-1	Diuron	---	EN ISO 11369:1997
38	115-29-7	Endosulfan	---	EN ISO 6468:1996
39	72-20-8	Endrin		EN 6468:1996
40		Halogenated organic compounds (as AOX)	---	EN ISO 9562:2004
41	76-44-8	Heptachlor		EN ISO 6468:1996
42	118-74-1	Hexachlorobenzene (HCB)		EN ISO 6468:1996
43	87-68-3	Hexachlorobutadiene (HCBD)	---	
44	608-73-1	1,2,3,4,5, 6 -hexachlorocyclohexane (HCH)		EN ISO 6468:1996
45	58-89-9	Lindane		EN ISO 6468:1996
46	2385-85-5	Mirex		
47		PCDD +PCDF (dioxins +furans) (as Teq)	EN 1948-1 to -3:2003	ISO 18073:2004
48	608-93-5	Pentachlorobenzene		EN ISO 6468:1996
49	87-86-5	Pentachlorophenol (PCP)		

No.	CAS number	Pollutant	EN or ISO standard Emission to air (Abbreviations see below)	EN or ISO standard Emission to water (Abbreviations see below)
50	1336-36-3	Polychlorinated biphenyls (PCBs)	(prCEN/TS 1948-4) for information only	EN ISO 6468:1996
51	122-34-9	Simazine	---	EN ISO 11369:1997 EN ISO 10695:2000
52	127-18-4	Tetrachloroethylene (PER)		EN ISO 15680:2003 EN ISO 10301:1997
53	56-23-5	Tetrachloromethane (TCM)		EN ISO 10301:1997
54	12002-48-1	Trichlorobenzenes (TCBs) *(all isomers)*		EN ISO 15680:2003
55	71-55-6	1,1,1-trichloroethane		---
56	79-34-5	1,1,2,2-tetrachloroethane		---
57	79-01-6	Trichloroethylene		EN ISO 15680:2003 EN ISO 10301:1997
58	67-66-3	Trichloromethane		EN ISO 15680:2003 EN ISO 10301:1997
59	8001-35-2	Toxaphene		
60	75-01-4	Vinyl chloride		EN ISO 15680:2003
61	120-12-7	Anthracene	ISO 11338-1 to -2:2003	EN ISO 17993:2003
62	71-43-2	Benzene	EN 13649:2001	ISO 11423-1:1997 ISO 11423-2:1997 EN ISO 15680:2003
63		Brominated diphenylethers (PBDE)	---	ISO 22032
64		Nonylphenol *and Nonylphenol* ethoxylates *(NP/NPEs)*	---	
65	100-41-4	Ethyl benzene	---	EN ISO 15680:2003
66	75-21-8	Ethylene oxide		
67	34123-59-6	Isoproturon	---	
68	91-20-3	Naphthalene		EN ISO 15680:2003 EN ISO 17993:2003

No.	CAS number	Pollutant	EN or ISO standard Emission to air (Abbreviations see below)	EN or ISO standard Emission to water (Abbreviations see below)
69		Organotin compounds (as total Sn)	---	EN ISO 17353:2005
70	117-81-7	Di-(2-ethyl hexyl) phthalate (DEHP)		EN ISO 18856:2005
71	108-95-2	Phenols (as total C)	---	ISO 18857-1:2005
72		Polycyclic aromatic hydrocarbons (PAHs)	ISO 11338-1 to -2:2003	EN ISO 17993:2003 ISO 7981-1:2005 ISO 7981-2:2005
73	108-88-3	Toluene	---	EN ISO 15680:2003
74		Tributyltin and compounds	---	EN ISO 17353:2005
75		Triphenyltin and compounds	---	EN ISO 17353:2005
76		Total organic carbon (TOC) (as total C or COD/3)	---	EN 1484:1997
77	1582-09-8	Trifluralin	---	
78	1330-20-7	Xylenes	---	EN ISO 15680:2003
79		Chlorides (as total Cl)	---	EN ISO 10304-1:1995 EN ISO 10304-2:1996 EN ISO 10304-4:1999 EN ISO 15682:2001
80		Chlorine and inorganic compounds (as HCl)	EN 1911-1 to -3:2003	---
81	1332-21-4	Asbestos	ISO 10397:1993	
82		Cyanides (as total CN)	---	EN ISO 14403:2002
83		Fluorides (as total F)	---	EN ISO 10304-1:1995
84		Fluorine and inorganic compounds (as HF)	ISO/DIS 15713:2004	---
85	74-90-8	Hydrogen cyanide (HCN)		---
86		Particulate matter (PM10)	ISO Standard in preparation by ISO/TC 146/SC 1/ WG 20 (available as Committee Draft CD 23210) (for information only)	---

No.	CAS number	Pollutant	EN or ISO standard Emission to air (Abbreviations see below)	EN or ISO standard Emission to water (Abbreviations see below)
87	1806-26-4	Octylphenols and Octylphenol ethoxylates	---	
88	206-44-0	Fluoranthene	ISO 11338-1 to -2:2003	EN ISO 17993:2003
89	465-73-6	Isodrin	---	
90	36355-1-8	Hexabromobiphenyl		
91	191-24-2	Benzo(g,h,i)perylene	---	EN ISO 17993:2003
GENERAL STANDARDS for EMISSION to AIR and/or WATER				
G1	Water sampling – Part1 Guidance on the design of sampling programmes			EN ISO 5667-1 : 1996
G2	Water sampling – Part 10 Guidance on sampling waste water			EN ISO 5667-10 : 1992
G3	Water sampling – Part 3 Guidance on the preservation and handling of samples			EN ISO 5667-3 : 1994
G4	Guide to analytical quality control for water analysis			CEN/ISO TR 13530 : 1998
G5	Stationary source emission – Intralaboratory validation procedure for an alternative method compared to a reference method		CEN/TS 14793	
G6	General requirements for competence of testing and calibration laboratories		EN ISO 17025 : 2005	
G7	GUM = Guide to the expression of uncertainty (1995) published by BIPM, IEC, IFCC, ISO, IUPAC, IUPAP, OIML		CEN TS 13005 : 2000	

Table 22: Internationally approved measuring methods for air and water pollutants

Abbreviations:

EN European Standard
CEN/TS CEN Technical Specification
CEN/TR CEN Technical Report

ISO	International Standard
ISO/CD	ISO Committee Draft
ISO/TS	ISO Technical Specification
ISO/TR	ISO Technical Report
PrXXX	Draft standard (for information only)

"---"	no obligation to report under the European PRTR

Titles of Standards

EN (ISO) Standards

EN 1233:1996: *Water quality - Determination of chromium - Atomic absorption spectrometric methods*

EN 1483:1997: *Water quality - Determination of mercury*

EN 1484:1997: *Water analysis - Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)*

EN 1911-1:1998: *Stationary source emissions - Manual method of determination of HCl - Part 1: Sampling of gases*

EN 1911-2:1998: *Stationary source emissions - Manual method of determination of HCl - Part 2: Gaseous compounds absorption*

EN 1911-3:1998: *Stationary source emissions - Manual method of determination of HCl - Part 3: Absorption solutions analysis and calculation*

EN 1948-1:2006: *Stationary source emissions – Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs – Part 1: Sampling of PCDDs/PCDFs*

EN 1948-2:2006: *Stationary source emissions – Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs – Part 2: Extraction and clean-up of PCDDs/PCDFs*

EN 1948-3: *Stationary source emissions – Determination of the mass concentration of PCDDs/PCDFs and dioxin-like PCBs – Part 3: Identification and quantification of PCDDs/PCDFs*

prCEN/TS 1948-4:xxxx: *Stationary source emissions -- Determination of the mass concentration of PCDD/PCDF and dioxin-like PCBs - Part 4: Sampling and analysis of dioxin-like PCBs*

EN 12260:2003: *Water quality – Determination of nitrogen – Determination of bound nitrogen (TN_b), following oxidation to nitrogen oxides*

EN 12338:1998: *Water quality – Determination of mercury – Methods after enrichment by amalgamation*

ENV 13005:1999: *Guide to the expression of uncertainty in measurement*

EN 13211:2001: *Air quality - Stationary source emissions - Manual method of determination of the concentration of total mercury*

EN 13506:2001: *Water quality - Determination of mercury by atomic fluorescence spectrometry*

EN 13649:2001: *Stationary source emissions - Determination of the mass concentration of individual gaseous organic compounds - Activated carbon and solvent desorption method*

EN 14385:2004: *Stationary source emissions - Determination of the total emission of As, Cd, Cr, Co, Cu, Mn, Ni, Pb, Sb, TI and V*

EN 14791:2005: *Stationary source emissions - Determination of mass concentration of sulphur dioxide - Reference method*

EN 14792:2005: *Stationary source emissions – Determination of mass concentration of nitrogen oxides (NO_2) – Reference method: chemiluminescence*

CEN/TS 14793:2005: *Stationary source emission - Intralaboratory validation procedure for an alternative method compared to a reference method*

EN 14884:2005: *Air quality - Stationary source emissions - Determination of total mercury: Automated measuring systems*

EN 15058:2004: *Stationary source emissions - Reference method for the determination of carbon monoxide in emission by means of the non-dispersive infrared method*

EN 26595:1992/AC:1992: *Water quality; determination of total arsenic; silver diethyldithiocarbamate spectrophotometric method (ISO 6595:1982)*

EN ISO 5667-1:2005: *Water quality - Sampling - Part 1: Guidance on the design of sampling programmes and sampling techniques (revision of ISO 5667-1:1980 and ISO 5667-2:1991)*

EN ISO 5667-3:2003: *Water quality - Sampling - Part 3: Guidance on the preservation and handling of water samples*

EN ISO 5667-10:1992: *Water quality; sampling; part 10: guidance on sampling of waste waters*

EN ISO 5961:1995: *Water quality - Determination of cadmium by atomic absorption spectrometry*

EN ISO 6468:1996: *Water quality - Determination of certain organochlorine insecticides, polychlorinated biphenyls and chlorobenzenes - Gas-chromatographic method after liquid-liquid extraction*

EN ISO 6878:2004: *Water quality - Determination of phosphorus - Ammonium molybdate spectrometric method*

EN ISO 9562:2004: *Water quality - Determination of adsorbable organically bound halogens (AOX)*

EN ISO 10301:1997: *Water quality - Determination of highly volatile halogenated hydrocarbons - Gas-chromatographic methods*

EN ISO 10304-1:1995: *Water quality - Determination of dissolved fluoride, chloride, nitrite, orthophosphate, bromide, nitrate and sulfate ions, using liquid chromatography of ions - Part 1: Method for water with low contamination*

EN ISO 10304-2:1996: *Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 2: Determination of bromide, chloride, nitrate, nitrite, orthophosphate and sulfate in waste water*

EN ISO 10304-4:1999: *Water quality - Determination of dissolved anions by liquid chromatography of ions - Part 4: Determination of chlorate, chloride and chlorite in water with low contamination*

EN ISO 10695:2000: *Water quality - Determination of selected organic nitrogen and phosphorus compounds - Gas chromatographic methods*

EN ISO 11369:1997: *Water quality - Determination of selected plant treatment agents - Method using high performance liquid chromatography with UV detection after solid-liquid extraction*

EN ISO 11885:1997: *Water quality - Determination of 33 elements by inductively coupled plasma atomic emission spectroscopy*

EN ISO 11905-1:1998: *Water quality - Determination of nitrogen - Part 1: Method using oxidative digestion with peroxodisulfate*

EN ISO 11969:1996: *Water quality - Determination of arsenic - Atomic absorption spectrometric method (hydride technique)*

ENV/ISO 13530:1998: *Water quality - Guide to analytical quality control for water analysis*

EN ISO 14403:2002: *Water quality - Determination of total cyanide and free cyanide by continuous flow analysis*

EN ISO 15680:2003: *Water quality - Gas-chromatographic determination of a number of monocyclic aromatic hydrocarbons, naphthalene and several chlorinated compounds using purge-and-trap and thermal desorption*

EN ISO 15681-1:2004: *Water quality - Determination of orthophosphate and total phosphorus contents by flow analysis (FIA and CFA) - Part 1: Method by flow injection analysis (FIA)*

EN ISO 15681-2:2004: *Water quality - Determination of orthophosphate and total phosphorus contents by flow analysis*

(FIA and CFA) - Part 2: Method by continuous flow analysis (CFA)

EN ISO 15682:2001: *Water quality - Determination of chloride by flow analysis (CFA and FIA) and photometric or potentiometric detection*

EN ISO/IEC 17025:2005: *General requirements for the competence of testing and calibration laboratories*

EN ISO 17353:2005: *Water quality - Determination of selected organotin compounds - Gas chromatographic method*

EN ISO 17993:2003: *Water quality - Determination of 15 polycyclic aromatic hydrocarbons (PAH) in water by HPLC with fluorescence detection after liquid-liquid extraction*

EN ISO 18856:2005: *Water quality - Determination of selected phthalates using gas chromatography/mass spectrometry*

ISO Standards

ISO 7934:1989: *Stationary source emissions - Determination of the mass concentration of sulfur dioxide, hydrogen peroxide/bariumperchlorate/Thorin method*

ISO 7935:1992: *Stationary source emissions; determination of the mass concentration of sulfur dioxide; performance characteristics of automated measuring methods*

ISO 7981-1:2005: *Water quality - Determination of polycyclic aromatic hydrocarbons (PAH) - Part 1: Determination of six PAH by high-performance thin-layer chromatography with fluorescence detection after liquid-liquid extraction*

ISO 7981-2:2005: *Water quality - Determination of polycyclic aromatic hydrocarbons (PAH) - Part 2: Determination of six PAH by high-performance liquid chromatography with fluorescence detection after liquid-liquid extraction*

ISO 10397:1993: *Stationary source emissions; determination of asbestos plant emissions; method by fibre count measurement*

ISO 10849:1996: *Stationary source emissions - Determination of the mass concentration of nitrogen oxides - Performance characteristics of automated measuring systems*

ISO 11338-1:2003: *Stationary source emissions - Determination of gas and particle-phase polycyclic aromatic hydrocarbons - Part 1: Sampling*

ISO 11338-2:2003: *Stationary source emissions - Determination of gas and particle-phase polycyclic aromatic hydrocarbons - Part 2: Sample preparation, clean-up and determination*

ISO 11423-1:1997: *Water quality - Determination of benzene and some derivatives - Part 1: Head-space gas chromatograhic method*

ISO 11423-2:1997: *Water quality - Determination of benzene and some derivatives - Part 2: Method using extraction and gas chromatography*

ISO 11564:1998: *Stationary source emissions - Determination of the mass concentration of nitrogen oxides - Naphthylethylenediamine photometric method*

ISO 11632:1998: *Stationary source emissions - Determination of mass concentration of sulfur dioxide - Ion chromatography method*

ISO 12039:2001: *Stationary source emissions - Determination of carbon monoxide, carbon dioxide and oxygen - Performance characteristics and calibration of automated measuring systems*

ISO/FDIS 15713:2006: *Stationary source emissions - Sampling and determination of gaseous fluoride content*

ISO 18073:2004: *Water quality - Determination of tetra- to octa-chlorinated dioxins and furans - Method using isotope dilution HRGC/HRMS*

ISO 18857-1:2005: *Water quality - Determination of selected alkylphenols - Part 1: Method for non-filtered samples using liquid-liquid extraction and gas chromatography with mass selective detection*

ISO/DIS 22032:2004: *Water quality - Determination of selected polybrominated diphenyl ethers in sediment and sewage sludge - Method using extraction and gas chromatography/mass spectrometry*

ISO/CD 23210:2005: *Stationary source emissions — Determination of low PM10/PM2,5 mass concentration in flue gas by use of impactors*

Table 23: List of complete title for internationally approved measuring methods

Appendix 4: Indicative sector specific sub-list of air pollutants

Pollutant no			1	2	3	4	5	6	7	8	9	10	11	14	15	16	17	18	19	20	21	22	23	24	26	28	29	33	34	35	36	39	41
		Pollutant name	Methane (CH_4)	Carbon monoxide (CO)	Carbon dioxide (CO_2)	Hydro-fluorocarbons (HFCs)	Nitrous oxide (N_2O)	Ammonia (NH_3)	Non-methane volatile organic compounds (NMVOC)	Nitrogen oxides (NO_x/NO_2)	Perfluorocarbons (PFCs)	Sulphur hexafluoride (SF_6)	Sulphur oxides (SO_x/SO_2)	Hydrochlorofluorocarbons (HCFCs)	Chlorofluorocarbons (CFCs)	Halons	Arsenic and compounds (as As)	Cadmium and compounds (as Cd)	Chromium and compounds(as Cr)	Copper and compounds (as Cu)	Mercury and compounds (as Hg)	Nickel and compounds (as Ni)	Lead and compounds (as Pb)	Zinc and compounds (as Zn)	Aldrin	Chlordane	Chlordecone	DDT	1,2-dichloroethane (EDC)	Dichloromethane (DCM)	Dieldrin	Endrin	Heptachlor
no	b	activity																															
1		**Energy sector**																															
	(a)	Mineral oil and gas refineries	•	•	•	•	•	•	•	•			•	•			•	•	•	•	•	•	•	•									
	(b)	Installations for gasification and liquefaction	•	•	•	•	•	•	•	•			•	•			•	•	•	•	•	•	•	•									
	(c)	Thermal power stations and other combustion installations	•	•	•	•	•	•	•	•		•	•	•			•	•	•	•	•	•	•	•									
	(d)	Coke ovens	•	•	•			•	•	•			•				•	•	•	•	•	•	•	•									
	(e)	Coal rolling mills	•	•	•	•	•	•	•	•	•		•				•	•	•	•	•	•	•	•									
	(f)	Installations for the manufacture of coal products and solid smokeless fuel	•	•	•	•	•	•	•	•	•		•				•	•	•	•	•	•	•	•									
2		**Production and processing of metals**																															
	(a)	Metal ore (including sulphide ore) roasting or sintering installations	•	•	•		•	•	•	•			•				•	•	•	•	•	•	•	•									
	(b)	Installations for the production of pig iron or steel (primary or secondary melting) including continuous casting	•	•	•	•	•	•	•	•			•				•	•	•	•	•	•	•	•									
	(c)	Installations for the processing of ferrous metals	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						•			
	(d)	Ferrous metal foundries	•	•	•			•	•	•			•		•		•	•	•	•	•	•	•	•									
	(e)	Installations for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes and for the smelting, including the alloying, of non-ferrous metals, including recovered products (refining, foundry casting, etc.)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						•			
	(f)	Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						•			

Pollutant no			42	44	45	46	47	48	49	50	52	53	54	55	56	57	58	59	60	61	62	66	68	70	72	80	81	84	85	86	90
		Pollutant name	Hexachlorobenzene (HCB)	1,2,3,4,5, 6 -hexachlorocyclohexane (HCH)	Lindane	Mirex	PCDD + PCDF (dioxins + furans) (as Teq)	Pentachlorobenzene	Pentachlorophenol (PCP)	Polychlorinated biphenyls (PCBs)	Tetrachloroethylene (PER)	Tetrachloromethane (TCM)	Trichlorobenzenes (TCBs) (all isomers)	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	Trichloroethylene	Trichloromethane	Toxaphene	Vinyl chloride	Anthracene	Benzene	Ethylene oxide	Naphthalene	Di-(2-ethyl hexyl) phthalate (DEHP)	Polycyclic aromatic hydrocarbons (PAHs)	Chlorine and inorganic compounds (as HCl)	Asbestos	Fluorine and inorganic compounds (as HF)	Hydrogen cyanide (HCN)	Particulate matter (PM_{10})	Hexabromobiphenyl
no	b	activity																													
1		**Energy sector**																													
	(a)	Mineral oil and gas refineries																			●				●	●				●	
	(b)	Installations for gasification and liquefaction																			●				●	●				●	
	(c)	Thermal power stations and other combustion installations					●									●					●				●	●				●	
	(d)	Coke ovens					●													●	●		●		●				●	●	
	(e)	Coal rolling mills																			●				●	●				●	
	(f)	Installations for the manufacture of coal products and solid smokeless fuel																			●				●	●				●	
2		**Production and processing of metals**																													
	(a)	Metal ore (including sulphide ore) roasting or sintering installations					●	●	●	●					●						●				●	●		●	●	●	
	(b)	Installations for the production of pig iron or steel (primary or secondary melting) including continuous casting					●	●	●	●					●					●	●		●		●	●		●	●	●	
	(c)	Installations for the processing of ferrous metals	●				●	●	●	●	●					●					●				●	●		●	●	●	
	(d)	Ferrous metal foundries					●													●	●		●		●	●		●	●	●	
	(e)	Installations for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes and for the smelting, including the alloying, of non-ferrous metals, including recovered products (refining, foundry casting, etc.)	●				●	●	●	●	●					●					●				●	●		●	●	●	
	(f)	Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process	●				●	●	●	●	●					●					●			●	●	●		●	●	●	□

Pollutant no			1	2	3	4	5	6	7	8	9	10	11	14	15	16	17	18	19	20	21	22	23	24	26	28	29	33	34	35	36	39	41
		Pollutant name	Methane (CH_4)	Carbon monoxide (CO)	Carbon dioxide (CO_2)	Hydro-fluorocarbons (HFCs)	Nitrous oxide (N_2O)	Ammonia (NH_3)	Non-methane volatile organic compounds (NMVOC)	Nitrogen oxides (NO_x/NO_2)	Perfluorocarbons (PFCs)	Sulphur hexafluoride (SF_6)	Sulphur oxides (SO_x/SO_2)	Hydrochlorofluorocarbons (HCFCs)	Chlorofluorocarbons (CFCs)	Halons	Arsenic and compounds (as As)	Cadmium and compounds (as Cd)	Chromium and compounds(as Cr)	Copper and compounds (as Cu)	Mercury and compounds (as Hg)	Nickel and compounds (as Ni)	Lead and compounds (as Pb)	Zinc and compounds (as Zn)	Aldrin	Chlordane	Chlordecone	DDT	1,2-dichloroethane (EDC)	Dichloromethane (DCM)	Dieldrin	Endrin	Heptachlor
no	b	activity																															
3		**Mineral industry**																															
	(a)	Underground mining and related operations	•	•	•					•			•				•	•	•	•		•	•	•								
	(b)	Opencast mining and quarrying	•	•	•					•			•				•	•	•	•		•	•	•								
	(c)	Installations for the production of cement clinker in rotary kilns, lime in rotary kilns, cement clinker or lime in other furnaces		•	•		•	•	•	•			•				•	•	•	•	•	•	•	•								
	(d)	Installations for the production of asbestos and the manufacture of asbestos-based products																															
	(e)	Installations for the manufacture of glass, including glass fibre		•	•	•	•	•	•	•			•				•	•	•	•	•	•	•	•								
	(f)	Installations for melting mineral substances, including the production of mineral fibres		•	•	•	•	•	•	•			•				•	•	•	•	•	•	•	•								
	(g)	Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain		•	•				•	•			•				•	•	•	•	•	•	•	•								
4		**Chemical industry**																															
	(a)	Chemical installations for the production on an industrial scale of basic organic chemicals	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	(b)	Chemical installations for the production on an industrial scale of basic inorganic chemicals	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					•	•			
	(c)	Chemical installations for the production on an industrial scale of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)	•	•	•	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•					•	•			
	(d)	Chemical installations for the production on an industrial scale of basic plant health products and of biocides			•	•	•	•	•	•			•				•	•	•	•	•	•	•	•					•	•	•	•	•
	(e)	Installations using a chemical or biological process for the production on an industrial scale of basic pharmaceutical products			•	•	•	•	•	•			•				•	•	•	•	•	•	•	•					•				
	(f)	Installations for the production on an industrial scale of explosives and pyrotechnic products			•	•	•	•	•	•			•				•	•	•	•	•	•	•	•					•	•			

Pollutant no			42	44	45	46	47	48	49	50	52	53	54	55	56	57	58	59	60	61	62	66	68	70	72	80	81	84	85	86	90
		Pollutant name	Hexachlorobenzene (HCB)	1,2,3,4,5, 6 -hexachlorocyclohexane (HCH)	Lindane	Mirex	PCDD + PCDF (dioxins + furans) (as Teq)	Pentachlorobenzene	Pentachlorophenol (PCP)	Polychlorinated biphenyls (PCBs)	Tetrachloroethylene (PER)	Tetrachloromethane (TCM)	Trichlorobenzenes (TCBs) (all isomers)	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	Trichloroethylene	Trichloromethane	Toxaphene	Vinyl chloride	Anthracene	Benzene	Ethylene oxide	Naphthalene	Di-(2-ethyl hexyl) phthalate (DEHP)	Polycyclic aromatic hydrocarbons (PAHs)	Chlorine and inorganic compounds (as HCl)	Asbestos	Fluorine and inorganic compounds (as HF)	Hydrogen cyanide (HCN)	Particulate matter (PM_{10})	Hexabromobiphenyl
no	b	activity																													
3		**Mineral industry**																													
	(a)	Underground mining and related operations																								•				•	
	(b)	Opencast mining and quarrying																								•				•	
	(c)	Installations for the production of cement clinker in rotary kilns, lime in rotary kilns, cement clinker or lime in other furnaces					•			•										•	•		•	•	•	•		•	•	•	
	(d)	Installations for the production of asbestos and the manufacture of asbestos-based products														•										•	•			•	
	(e)	Installations for the manufacture of glass, including glass fibre					•			•											•				•	•		•		•	
	(f)	Installations for melting mineral substances, including the production of mineral fibres					•			•											•				•	•		•		•	
	(g)	Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain																			•				•	•		•		•	
4		**Chemical industry**																													
	(a)	Chemical installations for the production on an industrial scale of basic organic chemicals	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	
	(b)	Chemical installations for the production on an industrial scale of basic inorganic chemicals	•	•			•	•	•		•	•	•	•	•	•	•		•		•				•	•		•	•	•	
	(c)	Chemical installations for the production on an industrial scale of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)	•	•			•	•	•		•	•	•	•	•	•	•		•							•				•	
	(d)	Chemical installations for the production on an industrial scale of basic plant health products and of biocides			•	•		•							•	•		•	•	•		•	•	•		•				•	
	(e)	Installations using a chemical or biological process for the production on an industrial scale of basic pharmaceutical products					•	•			•	•			•	•	•		•					•		•			•	•	
	(f)	Installations for the production on an industrial scale of explosives and pyrotechnic products						•								•			•							•				•	

Pollutant no			1	2	3	4	5	6	7	8	9	10	11	14	15	16	17	18	19	20	21	22	23	24	26	28	29	33	34	35	36	39	41
		Pollutant name	Methane (CH_4)	Carbon monoxide (CO)	Carbon dioxide (CO_2)	Hydro-fluorocarbons (HFCs)	Nitrous oxide (N_2O)	Ammonia (NH_3)	Non-methane volatile organic compounds (NMVOC)	Nitrogen oxides (NO_x/NO_2)	Perfluorocarbons (PFCs)	Sulphur hexafluoride (SF_6)	Sulphur oxides (SO_x/SO_2)	Hydrochlorofluorocarbons (HCFCs)	Chlorofluorocarbons (CFCs)	Halons	Arsenic and compounds (as As)	Cadmium and compounds (as Cd)	Chromium and compounds(as Cr)	Copper and compounds (as Cu)	Mercury and compounds (as Hg)	Nickel and compounds (as Ni)	Lead and compounds (as Pb)	Zinc and compounds (as Zn)	Aldrin	Chlordane	Chlordecone	DDT	1,2-dichloroethane (EDC)	Dichloromethane (DCM)	Dieldrin	Endrin	Heptachlor
no	b	activity																															
5		**Waste and wastewater management**																															
	(a)	Installations for the disposal or recovery of hazardous waste	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						•	•	•	•
	(b)	Installations for the incineration of non-hazardous waste in the scope of Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste (2)	•	•	•		•	•	•	•			•				•	•	•	•	•	•	•	•									
	(c)	Installations for the disposal of non-hazardous waste	•		•	•	•	•	•	•		•					•	•	•	•	•	•	•	•									
	(d)	Landfills (excluding landfills for inert waste and landfills, which have been definitely closed before the 16.7.2001 or for which the after-care phase required by the competent authorities according to Article 13 of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (3) has expired)	•	•	•		•	•		•			•				•	•	•	•	•	•		•									
	(e)	Installations for the disposal or recycling of animal carcasses and animal waste	•		•	•		•		•			•																				
	(f)	Urban waste-water treatment plants	•	•	•		•	•	•	•			•																•	•			
	(g)	Independently operated industrial waste-water treatment plants which serve one or more activities of this annex	•	•	•	•	•	•	•	•	•	•	•																				
6		**Paper and wood production and processing**																															
	(a)	Industrial plants for the production of pulp from timber or similar fibrous materials	•	•	•	•	•	•	•	•			•				•	•	•	•	•	•	•	•									
	(b)	Industrial plants for the production of paper and board and other primary wood products (such as chipboard, fibreboard and plywood)	•	•	•	•	•	•	•	•			•				•	•		•	•	•	•	•									
	(c)	Industrial plants for the preservation of wood and wood products with chemicals						•	•								•		•	•													
7		**Intensive livestock production and aquaculture**																															
	(a)	Installations for the intensive rearing of poultry or pigs	•				•	•																									
	(b)	Intensive aquaculture																															

Pollutant no			42	44	45	46	47	48	49	50	52	53	54	55	56	57	58	59	60	61	62	66	68	70	72	80	81	84	85	86	90
		Pollutant name	Hexachlorobenzene (HCB)	1,2,3,4,5, 6 -hexachlorocyclohexane (HCH)	Lindane	Mirex	PCDD + PCDF (dioxins + furans) (as Teq)	Pentachlorobenzene	Pentachlorophenol (PCP)	Polychlorinated biphenyls (PCBs)	Tetrachloroethylene (PER)	Tetrachloromethane (TCM)	Trichlorobenzenes (TCBs) (all isomers)	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	Trichloroethylene	Trichloromethane	Toxaphene	Vinyl chloride	Anthracene	Benzene	Ethylene oxide	Naphthalene	Di-(2-ethyl hexyl) phthalate (DEHP)	Polycyclic aromatic hydrocarbons (PAHs)	Chlorine and inorganic compounds (as HCl)	Asbestos	Fluorine and inorganic compounds (as HF)	Hydrogen cyanide (HCN)	Particulate matter (PM_{10})	Hexabromobiphenyl
no	b	activity																													
5		**Waste and wastewater management**																													
	(a)	Installations for the disposal or recovery of hazardous waste	•	•			•	•			•	•	•		•	•	•		•		•	•	•	•	•	•		•	•	•	
	(b)	Installations for the incineration of non-hazardous waste in the scope of Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste (2)	•				•	•			•					•					•				•	•		•		•	
	(c)	Installations for the disposal of non-hazardous waste	•				•	•				•		•																•	
	(d)	Landfills (excluding landfills for inert waste and landfills, which have been definitely closed before the 16.7.2001 or for which the after-care phase required by the competent authorities according to Article 13 of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (3) has expired)	•				•																							•	
	(e)	Installations for the disposal or recycling of animal carcasses and animal waste					•	•																	•					•	
	(f)	Urban waste-water treatment plants	•					•			•	•		•		•	•				•										
	(g)	Independently operated industrial waste-water treatment plants which serve one or more activities of this annex						•			•	•	•	•		•	•				•				•	•		•	•		
6		**Paper and wood production and processing**																													
	(a)	Industrial plants for the production of pulp from timber or similar fibrous materials					•				•					•	•				•					•		•		•	
	(b)	Industrial plants for the production of paper and board and other primary wood products (such as chipboard, fibreboard and plywood)					•				•					•	•				•			•		•		•		•	
	(c)	Industrial plants for the preservation of wood and wood products with chemicals																		•	•		•		•					•	
7		**Intensive livestock production and aquaculture**																													
	(a)	Installations for the intensive rearing of poultry or pigs																												•	
	(b)	Intensive aquaculture																													

Pollutant no			1	2	3	4	5	6	7	8	9	10	11	14	15	16	17	18	19	20	21	22	23	24	26	28	29	33	34	35	36	39	41
		Pollutant name	Methane (CH_4)	Carbon monoxide (CO)	Carbon dioxide (CO_2)	Hydro-fluorocarbons (HFCs)	Nitrous oxide (N_2O)	Ammonia (NH_3)	Non-methane volatile organic compounds (NMVOC)	Nitrogen oxides (NO_x/NO_2)	Perfluorocarbons (PFCs)	Sulphur hexafluoride (SF_6)	Sulphur oxides (SO_x/SO_2)	Hydrochlorofluorocarbons (HCFCs)	Chlorofluorocarbons (CFCs)	Halons	Arsenic and compounds (as As)	Cadmium and compounds (as Cd)	Chromium and compounds(as Cr)	Copper and compounds (as Cu)	Mercury and compounds (as Hg)	Nickel and compounds (as Ni)	Lead and compounds (as Pb)	Zinc and compounds (as Zn)	Aldrin	Chlordane	Chlordecone	DDT	1,2-dichloroethane (EDC)	Dichloromethane (DCM)	Dieldrin	Endrin	Heptachlor
no	b	activity																															
8		**Animal and vegetable products from the food and beverage sector**																															
	(a)	Slaughterhouses	•	•	•	•	•	•	•	•			•				•	•			•	•								•			
	(b)	Treatment and processing intended for the production of food and beverage products from animal raw materials (other than milk) and vegetable raw materials	•	•	•	•	•	•	•	•			•				•	•			•	•								•			
	(c)	Treatment and processing of milk	•	•	•	•	•	•	•	•			•				•	•			•	•								•			
9		**Other activities**																															
	(a)	Plants for the pretreatment (operations such as washing, bleaching, mercerization) or dyeing of fibres or textiles		•	•			•	•	•			•																				
	(b)	Plants for the tanning of hides and skins			•			•	•	•																				•			
	(c)	Installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating		•	•	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•					•	•			
	(d)	Installations for the production of carbon (hard-burnt coal) or electro-graphite by means of incineration or graphitization		•					•	•			•							•	•		•										
	(e)	Installations for the building of, and painting or removal of paint from ships		•	•	•	•	•	•	•	•	•	•				•	•	•	•	•	•	•	•					•	•			

Pollutant no			42	44	45	46	47	48	49	50	52	53	54	55	56	57	58	59	60	61	62	66	68	70	72	80	81	84	85	86	90
		Pollutant name	Hexachlorobenzene (HCB)	1,2,3,4,5, 6 -hexachlorocyclohexane (HCH)	Lindane	Mirex	PCDD + PCDF (dioxins + furans) (as Teq)	Pentachlorobenzene	Pentachlorophenol (PCP)	Polychlorinated biphenyls (PCBs)	Tetrachloroethylene (PER)	Tetrachloromethane (TCM)	Trichlorobenzenes (TCBs) (all isomers)	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	Trichloroethylene	Trichloromethane	Toxaphene	Vinyl chloride	Anthracene	Benzene	Ethylene oxide	Naphthalene	Di-(2-ethyl hexyl) phthalate (DEHP)	Polycyclic aromatic hydrocarbons (PAHs)	Chlorine and inorganic compounds (as HCl)	Asbestos	Fluorine and inorganic compounds (as HF)	Hydrogen cyanide (HCN)	Particulate matter (PM_{10})	Hexabromobiphenyl
no	b	activity																													
8		**Animal and vegetable products from the food and beverage sector**																													
	(a)	Slaughterhouses					•	•																		•				•	
	(b)	Treatment and processing intended for the production of food and beverage products from animal raw materials (other than milk) and vegetable raw materials					•	•																		•				•	
	(c)	Treatment and processing of milk					•	•																		•				•	
9		**Other activities**																													
	(a)	Plants for the pretreatment (operations such as washing, bleaching, mercerization) or dyeing of fibres or textiles									•					•								•					•	•	
	(b)	Plants for the tanning of hides and skins									•																				
	(c)	Installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating	•	•			•	•	•		•	•	•	•		•	•				•			•	•	•				•	
	(d)	Installations for the production of carbon (hard-burnt coal) or electro-graphite by means of incineration or graphitization																			•				•			•		•	
	(e)	Installations for the building of, and painting or removal of paint from ships					•			•				•		•	•				•			•	•	•		•		•	

Table 24: Indicative sector specific sub-list of air pollutants

Appendix 5: Indicative sector specific sub-list of water pollutants

Pollutant no			12	13	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
		Pollutant name	Total nitrogen	Total phosphorus	Arsenic and compounds (as As)	Cadmium and compounds (as Cd)	Chromium and compounds(as Cr)	Copper and compounds (as Cu)	Mercury and compounds (as Hg)	Nickel and compounds (as Ni)	Lead and compounds (as Pb)	Zinc and compounds (as Zn)	Alachlor	Aldrin	Atrazine	Chlordane	Chlordecone	Chlorfenvinphos	Chloro-alkanes, C_{10}-C_{13}	Chlorpyrifos	DDT	1,2-dichloroethane (EDC)	Dichloromethane (DCM)	Dieldrin	Diuron	Endosulphan	Endrin	Halogenated organic compounds (as AOX)	Heptachlor	Hexachlorobenzene (HCB)	Hexachlorobutadiene (HCBD)	1,2,3,4,5, 6 -hexachlorocyclohexane (HCH)	Lindane	Mirex	PCDD + PCDF (dioxins + furans) (as Teq)	Pentachlorobenzene	Pentachlorophenol (PCP)	Polychlorinated biphenyls (PCBs)
no	b	activity																																				
1		**Energy sector**																																				
	(a)	Mineral oil and gas refineries	●	●	●	●	●	●	●	●	●	●											●					●							●	●		
	(b)	Installations for gasification and liquefaction	●	●	●	●	●	●	●	●	●	●											●					●							●	●		
	(c)	Thermal power stations and other combustion installations	●	●	●	●	●	●	●	●	●	●																●							●			
	(d)	Coke ovens	●	●	●				●		●																	●							●		●	
	(e)	Coal rolling mills																																				
	(f)	Installations for the manufacture of coal products and solid smokeless fuel	●	●	●	●	●	●	●	●	●	●							●				●					●										
2		**Production and processing of metals**																																				
	(a)	Metal ore (including sulphide ore) roasting or sintering installations	●	●	●	●	●	●	●	●	●	●																●										
	(b)	Installations for the production of pig iron or steel (primary or secondary melting) including continuous casting	●	●	●	●	●	●	●	●	●	●																●										
	(c)	Installations for the processing of ferrous metals	●	●	●	●	●	●	●	●	●	●																●										
	(d)	Ferrous metal foundries	●	●	●	●	●	●	●	●	●	●																										
	(e)	Installations for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes and for the smelting, including the alloying, of non-ferrous metals, including recovered products (refining, foundry casting, etc.)	●	●	●	●	●	●	●	●	●	●																●										
	(f)	Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process	●	●	●	●	●	●	●	●	●	●																●										

Pollutant no			51	52	53	54	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	81	82	83	87	88	89	90	91
		Pollutant name	Simazine	Tetrachloroethylene (PER)	Tetrachloromethane (TCM)	Trichlorobenzenes (TCBs) (all isomers)	Trichloroethylene	Trichloromethane	Toxaphene	Vinyl chloride	Anthracene	Benzene	Brominated diphenylethers (PBDE)	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	Ethyl benzene	Ethylene oxide	Isoproturon	Naphthalene	Organotin compounds (as total Sn)	Di-(2-ethyl hexyl) phthalate (DEHP)	Phenols (as total C)	Polycyclic aromatic hydrocarbons (PAHs)	Toluene	Tributyltin and compounds	Triphenyltin and compounds	Total organic carbon (TOC) (as total C or COD/3)	Trifluralin	Xylenes	Chlorides (as total Cl)	Asbestos	Cyanides (as total CN)	Fluorides (as total F)	Octylphenols and Octylphenol Ethoxylates	Fluoranthene	Isodrin	Hexabromobiphenyl	Benzo(g,h,i)perylene
no	b	activity																																			
1		**Energy sector**																																			
	(a)	Mineral oil and gas refineries										•			•						•	•	•			•		•	•		•	•		•			•
	(b)	Installations for gasification and liquefaction										•			•						•	•	•			•		•	•		•	•		•			•
	(c)	Thermal power stations and other combustion installations																			•	•				•			•			•		•			•
	(d)	Coke ovens										•			•					•	•	•	•			•		•	•		•	•		•			•
	(e)	Coal rolling mills																																			
	(f)	Installations for the manufacture of coal products and solid smokeless fuel													•						•	•	•			•		•	•		•	•		•			•
2		**Production and processing of metals**																																			
	(a)	Metal ore (including sulphide ore) roasting or sintering installations																			•	•				•			•		•	•		•			•
	(b)	Installations for the production of pig iron or steel (primary or secondary melting) including continuous casting																			•	•				•			•		•	•		•			•
	(c)	Installations for the processing of ferrous metals																			•	•				•			•		•	•		•			•
	(d)	Ferrous metal foundries																			•	•				•			•		•	•		•			•
	(e)	Installations for the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes and for the smelting, including the alloying, of non-ferrous metals, including recovered products (refining, foundry casting, etc.)																			•	•				•			•		•	•		•			•
	(f)	Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process																		•	•	•				•			•		•	•		•			•

Pollutant no			12	13	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
		Pollutant name	Total nitrogen	Total phosphorus	Arsenic and compounds (as As)	Cadmium and compounds (as Cd)	Chromium and compounds(as Cr)	Copper and compounds (as Cu)	Mercury and compounds (as Hg)	Nickel and compounds (as Ni)	Lead and compounds (as Pb)	Zinc and compounds (as Zn)	Alachlor	Aldrin	Atrazine	Chlordane	Chlordecone	Chlorfenvinphos	Chloro-alkanes, C_{10}-C_{13}	Chlorpyrifos	DDT	1,2-dichloroethane (EDC)	Dichloromethane (DCM)	Dieldrin	Diuron	Endosulphan	Endrin	Halogenated organic compounds (as AOX)	Heptachlor	Hexachlorobenzene (HCB)	Hexachlorobutadiene (HCBD)	1,2,3,4,5, 6 -hexachlorocyclohexane (HCH)	Lindane	Mirex	PCDD + PCDF (dioxins + furans) (as Teq)	Pentachlorobenzene	Pentachlorophenol (PCP)	Polychlorinated biphenyls (PCBs)
no	b	activity																																				
3		**Mineral industry**																																				
	(a)	Underground mining and related operations	●	●	●	●	●	●		●	●	●																										
	(b)	Opencast mining and quarrying	●	●	●	●	●	●		●	●	●																										
	(c)	Installations for the production of cement clinker in rotary kilns, lime in rotary kilns, cement clinker or lime in other furnaces			●	●	●		●	●	●																							●			
	(d)	Installations for the production of asbestos and the manufacture of asbestos-based products					●																					●										
	(e)	Installations for the manufacture of glass, including glass fibre	●	●	●	●	●	●	●	●	●	●																							●	●		
	(f)	Installations for melting mineral substances, including the production of mineral fibres	●	●	●	●	●	●	●	●	●	●																							●			
	(g)	Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain	●	●	●	●	●	●	●	●	●	●																●									
4		**Chemical industry**																																				
	(a)	Chemical installations for the production on an industrial scale of basic organic chemicals	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	(b)	Chemical installations for the production on an industrial scale of basic inorganic chemicals	●	●	●	●	●	●	●	●	●	●										●	●					●		●	●	●			●	●		
	(c)	Chemical installations for the production on an industrial scale of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)	●	●	●	●	●	●	●	●	●	●										●	●					●				●			●	●	●	
	(d)	Chemical installations for the production on an industrial scale of basic plant health products and of biocides	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●			●	●	●	●	●	●	●
	(e)	Installations using a chemical or biological process for the production on an industrial scale of basic pharmaceutical products	●	●	●	●	●	●	●	●	●	●										●						●				●			●	●		
	(f)	Installations for the production on an industrial scale of explosives and pyrotechnic products	●	●	●	●	●	●	●	●	●	●										●	●					●				●			●	●		

Pollutant no			51	52	53	54	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	81	82	83	87	88	89	90	91
		Pollutant name	Simazine	Tetrachloroethylene (PER)	Tetrachloromethane (TCM)	Trichlorobenzenes (TCBs) (all isomers)	Trichloroethylene	Trichloromethane	Toxaphene	Vinyl chloride	Anthracene	Benzene	Brominated diphenylethers (PBDE)	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	Ethyl benzene	Ethylene oxide	Isoproturon	Naphthalene	Organotin compounds (as total Sn)	Di-(2-ethyl hexyl) phthalate (DEHP)	Phenols (as total C)	Polycyclic aromatic hydrocarbons (PAHs)	Toluene	Tributyltin and compounds	Triphenyltin and compounds	Total organic carbon (TOC) (as total C or COD/3)	Trifluralin	Xylenes	Chlorides (as total Cl)	Asbestos	Cyanides (as total CN)	Fluorides (as total F)	Octylphenols and Octylphenol Ethoxylates	Fluoranthene	Isodrin	Hexabromobiphenyl	Benzo(g,h,i)perylene
no	b	activity																																			
3		**Mineral industry**																																			
	(a)	Underground mining and related operations																								•			•							
	(b)	Opencast mining and quarrying																								•			•							
	(c)	Installations for the production of cement clinker in rotary kilns, lime in rotary kilns, cement clinker or lime in other furnaces																			•					•										
	(d)	Installations for the production of asbestos and the manufacture of asbestos-based products																								•				•			•				
	(e)	Installations for the manufacture of glass, including glass fibre										•			•						•		•			•		•	•		•	•	•				
	(f)	Installations for melting mineral substances, including the production of mineral fibres										•			•						•		•			•		•	•		•	•					
	(g)	Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain																											•			•					
4		**Chemical industry**																																			
	(a)	Chemical installations for the production on an industrial scale of basic organic chemicals	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•
	(b)	Chemical installations for the production on an industrial scale of basic inorganic chemicals										•		•	•						•	•	•			•		•	•	•	•	•	•	•			•
	(c)	Chemical installations for the production on an industrial scale of phosphorous-, nitrogen- or potassium-based fertilizers (simple or compound fertilizers)			•	•	•	•				•		•	•						•	•	•			•		•	•		•	•		•			•
	(d)	Chemical installations for the production on an industrial scale of basic plant health products and of biocides	•		•	•	•		•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•		•	•		•
	(e)	Installations using a chemical or biological process for the production on an industrial scale of basic pharmaceutical products		•	•		•	•				•			•					•	•	•	•	•			•		•	•		•	•		•		•
	(f)	Installations for the production on an industrial scale of explosives and pyrotechnic products			•	•	•			•		•			•					•		•		•			•		•	•		•	•				

Pollutant no			12	13	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
		Pollutant name	Total nitrogen	Total phosphorus	Arsenic and compounds (as As)	Cadmium and compounds (as Cd)	Chromium and compounds(as Cr)	Copper and compounds (as Cu)	Mercury and compounds (as Hg)	Nickel and compounds (as Ni)	Lead and compounds (as Pb)	Zinc and compounds (as Zn)	Alachlor	Aldrin	Atrazine	Chlordane	Chlordecone	Chlorfenvinphos	Chloro-alkanes, C $_{10}$-C$_{13}$	Chlorpyrifos	DDT	1,2-dichloroethane (EDC)	Dichloromethane (DCM)	Dieldrin	Diuron	Endosulphan	Endrin	Halogenated organic compounds (as AOX)	Heptachlor	Hexachlorobenzene (HCB)	Hexachlorobutadiene (HCBD)	1,2,3,4,5, 6 -hexachlorocyclohexane (HCH)	Lindane	Mirex	PCDD + PCDF (dioxins + furans) (as Teq)	Pentachlorobenzene	Pentachlorophenol (PCP)	Polychlorinated biphenyls (PCBs)
no	b	activity																																				
5		**Waste and wastewater management**																																				
	(a)	Installations for the disposal or recovery of hazardous waste	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	(b)	Installations for the incineration of non-hazardous waste in the scope of Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste (2)	●	●	●	●	●	●	●	●	●	●										●	●					●							●	●		
	(c)	Installations for the disposal of non-hazardous waste	●	●	●	●	●	●	●	●	●	●											●					●							●	●		
	(d)	Landfills (excluding landfills of inert waste and landfills, which have been definitely closed before the 16.7.2001 or for which the after-care phase required by the competent authorities according to Article 13 of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (3) has expired)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	(e)	Installations for the disposal or recycling of animal carcasses and animal waste	●	●			●	●				●																							●	●		
	(f)	Urban waste-water treatment plants	●	●	●	●	●	●	●	●	●	●			●							●	●		●			●		●			●				●	●
	(g)	Independently operated industrial waste-water treatment plants which serve one or more activities of this annex	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
6		**Paper and wood production and processing**																																				
	(a)	Industrial plants for the production of pulp from timber or similar fibrous materials	●	●	●	●	●	●	●	●	●	●																●					●		●			
	(b)	Industrial plants for the production of paper and board and other primary wood products (such as chipboard, fibreboard and plywood)	●	●	●	●	●	●	●	●	●	●																●					●		●		●	
	(c)	Industrial plants for the preservation of wood and wood products with chemicals	●	●	●		●	●				●																●										
7		**Intensive livestock production and aquaculture**																																				
	(a)	Installations for the intensive rearing of poultry or pigs	●	●				●				●																										
	(b)	Intensive aquaculture	●	●				●				●																							●			

Pollutant no			51	52	53	54	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	81	82	83	87	88	89	90	91
		Pollutant name	Simazine	Tetrachloroethylene (PER)	Tetrachloromethane (TCM)	Trichlorobenzenes (TCBs) (all isomers)	Trichloroethylene	Trichloromethane	Toxaphene	Vinyl chloride	Anthracene	Benzene	Brominated diphenylethers (PBDE)	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	Ethyl benzene	Ethylene oxide	Isoproturon	Naphthalene	Organotin compounds (as total Sn)	Di-(2-ethyl hexyl) phthalate (DEHP)	Phenols (as total C)	Polycyclic aromatic hydrocarbons (PAHs)	Toluene	Tributyltin and compounds	Triphenyltin and compounds	Total organic carbon (TOC) (as total C or COD/3)	Trifluralin	Xylenes	Chlorides (as total Cl)	Asbestos	Cyanides (as total CN)	Fluorides (as total F)	Octylphenols and Octylphenol Ethoxylates	Fluoranthene	Isodrin	Hexabromobiphenyl	Benzo(g,h,i)perylene
no	b	activity																																			
5		**Waste and wastewater management**																																			
	(a)	Installations for the disposal or recovery of hazardous waste	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	(b)	Installations for the incineration of non-hazardous waste in the scope of Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste (2)		•			•					•			•					•		•	•	•			•		•	•		•	•	•			•
	(c)	Installations for the disposal of non-hazardous waste			•	•	•													•		•					•			•		•	•	•			
	(d)	Landfills (excluding landfills of inert waste and landfills, which have been definitely closed before the 16.7.2001 or for which the after-care phase required by the competent authorities according to Article 13 of Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste (3) has expired)	•	•	•	•	•	•		•	•	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	(e)	Installations for the disposal or recycling of animal carcasses and animal waste																								•											
	(f)	Urban waste-water treatment plants	•	•	•		•	•				•		•			•	•	•	•	•	•	•	•	•	•		•	•		•	•	•	•			•
	(g)	Independently operated industrial waste-water treatment plants which serve one or more activities of this annex	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
6		**Paper and wood production and processing**																																			
	(a)	Industrial plants for the production of pulp from timber or similar fibrous materials		•			•	•														•				•							•	•			•
	(b)	Industrial plants for the production of paper and board and other primary wood products (such as chipboard, fibreboard and plywood)		•			•	•												•		•				•							•	•			•
	(c)	Industrial plants for the preservation of wood and wood products with chemicals									•							•		•		•	•			•		•	•			•		•			•
7		**Intensive livestock production and aquaculture**																																			
	(a)	Installations for the intensive rearing of poultry or pigs																								•											
	(b)	Intensive aquaculture																								•											

Pollutant no			12	13	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
		Pollutant name	Total nitrogen	Total phosphorus	Arsenic and compounds (as As)	Cadmium and compounds (as Cd)	Chromium and compounds(as Cr)	Copper and compounds (as Cu)	Mercury and compounds (as Hg)	Nickel and compounds (as Ni)	Lead and compounds (as Pb)	Zinc and compounds (as Zn)	Alachlor	Aldrin	Atrazine	Chlordane	Chlordecone	Chlorfenvinphos	Chloro-alkanes, C_{10}-C_{13}	Chlorpyrifos	DDT	1,2-dichloroethane (EDC)	Dichloromethane (DCM)	Dieldrin	Diuron	Endosulphan	Endrin	Halogenated organic compounds (as AOX)	Heptachlor	Hexachlorobenzene (HCB)	Hexachlorobutadiene (HCBD)	1,2,3,4,5, 6 -hexachlorocyclohexane (HCH)	Lindane	Mirex	PCDD + PCDF (dioxins + furans) (as Teq)	Pentachlorobenzene	Pentachlorophenol (PCP)	Polychlorinated biphenyls (PCBs)
no	b	activity																																				
8		**Animal and vegetable products from the food and beverage sector**																																				
	(a)	Slaughterhouses	•	•	•	•	•	•	•	•	•	•																										
	(b)	Treatment and processing intended for the production of food and beverage products from animal raw materials (other than milk) and vegetable raw materials	•	•	•	•	•	•	•	•	•	•																										
	(c)	Treatment and processing of milk	•	•	•	•	•	•	•	•	•	•																										
9		**Other activities**																																				
	(a)	Plants for the pretreatment (operations such as wasNEWg, bleacNEWg, mercerization) or dyeing of fibres or textiles	•	•		•	•	•	•	•	•	•																•										
	(b)	Plants for the tanning of hides and skins	•	•	•		•	•																				•										
	(c)	Installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating	•	•	•	•	•	•		•	•	•							•				•					•							•	•	•	
	(d)	Installations for the production of carbon (hard-burnt coal) or electro-graphite by means of incineration or graphitization								•																												
	(e)	Installations for the building of, and painting or removal of paint from ships	•	•	•	•	•	•	•	•	•	•							•			•	•					•							•	•		•

Pollutant no			51	52	53	54	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	81	82	83	87	88	89	90	91
		Pollutant name	Simazine	Tetrachloroethylene (PER)	Tetrachloromethane (TCM)	Trichlorobenzenes (TCBs) (all isomers)	Trichloroethylene	Trichloromethane	Toxaphene	Vinyl chloride	Anthracene	Benzene	Brominated diphenylethers (PBDE)	Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	Ethyl benzene	Ethylene oxide	Isoproturon	Naphthalene	Organotin compounds (as total Sn)	Di-(2-ethyl hexyl) phthalate (DEHP)	Phenols (as total C)	Polycyclic aromatic hydrocarbons (PAHs)	Toluene	Tributyltin and compounds	Triphenyltin and compounds	Total organic carbon (TOC) (as total C or COD/3)	Trifluralin	Xylenes	Chlorides (as total Cl)	Asbestos	Cyanides (as total CN)	Fluorides (as total F)	Octylphenols and Octylphenol Ethoxylates	Fluoranthene	Isodrin	Hexabromobiphenyl	Benzo(g,h,i)perylene
no	b	activity																																			
8		**Animal and vegetable products from the food and beverage sector**																																			
	(a)	Slaughterhouses																			•	•				•			•			•		•			•
	(b)	Treatment and processing intended for the production of food and beverage products from animal raw materials (other than milk) and vegetable raw materials																			•	•				•			•			•		•			•
	(c)	Treatment and processing of milk																			•	•				•			•			•		•			•
9		**Other activities**																																			
	(a)	Plants for the pretreatment (operations such as wasNEWg, bleacNEWg, mercerization) or dyeing of fibres or textiles										•	•	•	•					•	•	•	•			•		•	•				•	•			•
	(b)	Plants for the tanning of hides and skins												•							•					•			•				•				
	(c)	Installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating	•	•	•	•	•	•						•					•	•	•	•					•		•		•	•	•	•			•
	(d)	Installations for the production of carbon (hard-burnt coal) or electro-graphite by means of incineration or graphitization		•	•			•						•							•	•				•							•	•			•
	(e)	Installations for the building of, and painting or removal of paint from ships	•		•	•	•	•				•	•	•					•	•	•	•	•				•		•	•		•	•	•	•			•

New activity compared to EPER activities

New substance new compared to EPER

Table 25: Indicative sector specific sub-list of water pollutants

Appendix 6: Examples for reporting releases and off-site transfers

Appendix 6 presents three examples of realistic situations with various industrial activities at facilities and demonstrates the reporting of releases and off-site transfers by the facilities.

Information on the identification of the facility and optional information related to the facility have to be reported as described in chapter 1.1.6.

Example 1

Example 1 in Figure 3 represents an industrial site with two facilities P and Q. The main Annex I activity of facility P is the production of paper and board and other primary wood products. The main Annex I activity of facility Q is the production of pulp from timber or fibrous materials. Facility Q also includes a combustion plant and a waste-water treatment plant all run by operator Q. In addition operator Q runs another installation as part of facility Q, which is a non-Annex I activity.

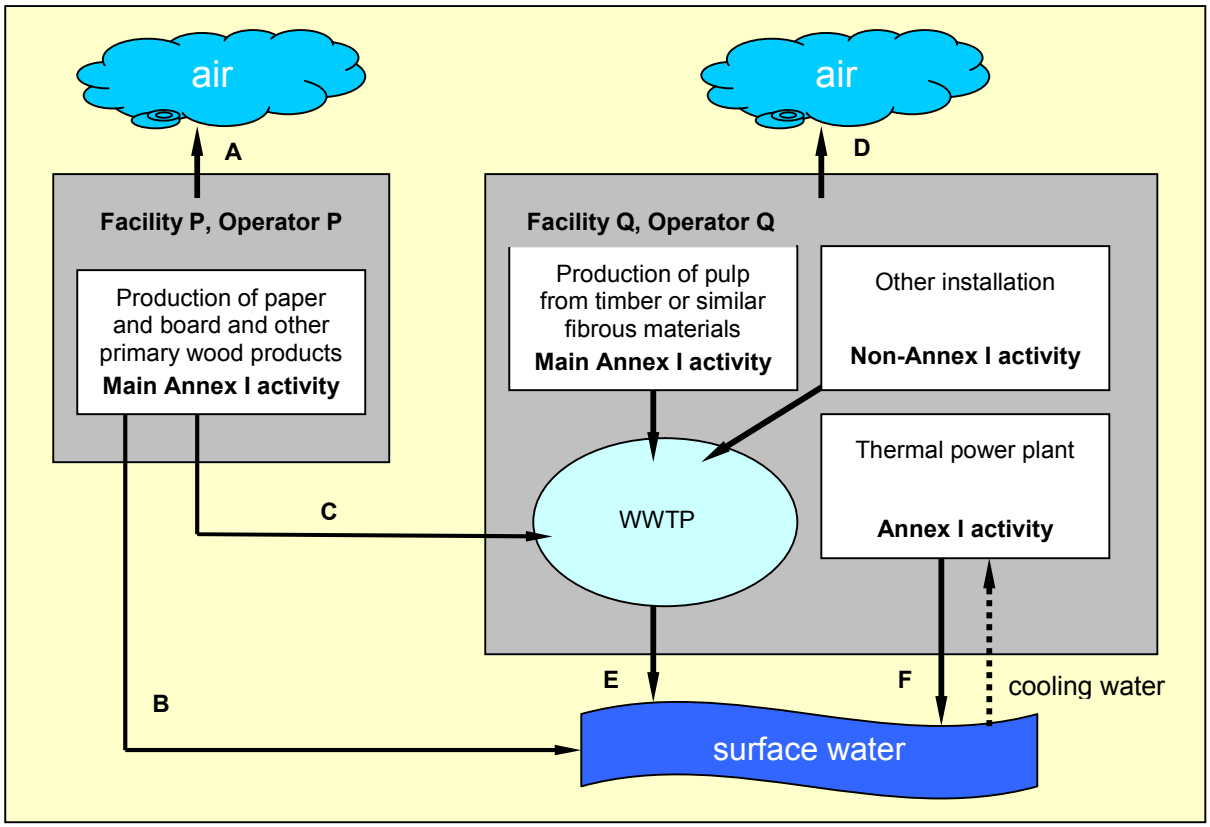

Figure 3: Industrial site with two facilities

Table 26 shows the reporting requirements for facilities P and Q.

Reporting facility	Activity	Release/ Off-site transfer	Reporting requirements	Comments
Facility P	Production of paper and board and other primary wood products	A B C	To be reported as release to air To be reported as release to water To be reported as off-site transfer[132] of pollutants in waste water	
Facility Q	Production of pulp from timber or similar fibrous materials Thermal power station Waste-water treatment plant Other installation (non-Annex I)	D F E	Sum of releases to be reported as release to air Sum of all releases (E+F) to be reported as release to water	Background loads may be subtracted from releases via cooling water (Release F) Non-Annex I activities may be excluded[133]

Table 26: Reporting requirements for facilities P and Q

Facility P

The only Annex I activity of facility P is the production of paper and board. Table 27 shows the coding of the activity.

Annex I activity*	PRTR-code	IPPC-code	Activity name according to Annex I of E-PRTR Regulation (not obligatory to be reported)
1	6.(b)	6.1	Industrial plants for the production of paper and board and other primary wood products (such as chipboard, fibreboard and plywood)

Table 27: Coding of activities for facility P
*** Consecutive no of Annex I activities**

Facility P releases pollutants to air (Release A) and water (Release B) and reports all pollutants which exceed the threshold values specified in Annex II to the E-PRTR Regulation, column 1a and column 1b respectively. A part of the waste water is transferred off-site (Off-

[132] In complex industrial sites with several facilities "off-site transfers" are in reality sometimes "off-facility transfers" if the transfer still takes place on the site. In order to maintain a consistent use of the wording the term "off-site transfer" is also used in these cases.
[133] See also remarks concerning non-Annex I activities in chapter 1.1.4 of this guide.

site transfer C) to the external waste-water treatment plant which is situated at facility Q. Facility P reports all pollutants which exceed the threshold value specified in Annex II to the E-PRTR Regulation, column 1b as off-site transfer of pollutants in waste water destined for waste water treatment.

The reporting shall be carried out as described for releases to air in chapter 1.1.8.1, for releases to water in chapter 1.1.8.2 and for off-site transfer of pollutants in waste water in chapter 1.1.9.

Table 28 shows the reporting on releases and off-site transfers for facility P.

Pollutant		Method		Quantity	
no. A II	Name	M/C/E	Method used	T (total) kg/year	A (accidental) kg/year
Releases to air (release A)					
8	Nitrogen oxides (NO_X)	M	ISO 10849: 1996	149,000	-
86	Particulate matter (PM10)	M	ISO 9096:2003	145,000	-
Releases to water (release B)					
76	Total organic carbon (TOC)	M	EN 1484:1997	70,000	-
Off-site transfer of pollutants in waste water (release C)					
24	Zinc and its compounds (as Zn)	M	EN ISO 11885:1997	320	-
76	Total organic carbon (TOC)	M	EN 1484:1997	536,000,000	-

Table 28: Reporting of releases and off-site transfers of facility P

Facility Q

The main economic activity of facility Q is the production of pulp from timber or fibrous materials. This is also the **main** Annex I activity to be reported. Facility Q also includes a combustion plant of greater than 50 MW capacity, which is an Annex I activity. The waste water is treated in a waste-water treatment plant operated by the facility. Table 29 shows the coding of the activities for facility Q.

Annex I activity*	PRTR-code	IPPC-code	Activity name according to Annex I of E-PRTR Regulation (not obligatory to be reported)
1**	6.(a)	6.1	Industrial plants for the production of pulp from timber or similar fibrous materials
2	1.(c)	1.1.	Thermal power stations and other combustion installations

Table 29: Coding of activities for facility Q
*** Consecutive no. of Annex I activities**
**** Activity 1 is the main Annex I activity**

For Facility Q the total of releases of pollutants to air (Release D) where the threshold values specified in Annex II to the E-PRTR Regulation, column 1a are exceeded have to be reported as releases to air. The waste water is transferred to the own waste water treatment plant. The facility uses water from a nearby river for cooling processes. It releases the water into the same water body. The facility reports all pollutants where the sum of the releases (Releases E plus F) exceeds the threshold values specified in Annex II to the E-PRTR Regulation, column 1b as release to water. It is allowed to subtract background loads from the extracted cooling water (see chapter 1.1.4). The released water contains total organic carbon (TOC), cadmium (Cd) and lead (Pb) above the threshold values. The releases from non-Annex I activities are allowed to be excluded from the report. However, it might be pragmatic and cost-effective, e.g. in the case of highly interlaced sewer systems, where no sampling point exists for the non-Annex I activity, to report the releases from non-Annex I activities together with those from Annex I activities.

The reporting shall be carried out as described for releases to air in chapter 1.1.8.1 and for releases to water in chapter 1.1.8.2. Table 30 shows the reporting of releases to water of facility Q (the data on releases to air are not shown).

Releases to water (releases E + F)					
Pollutant		Method		Quantity	
no. A II	Name	M/C/E	Method used	T (total) kg/year	A (accidental) kg/year
18	Cadmium and its compounds (as Cd)	M	EN ISO 5961	9.85	
23	Lead and its compounds (as Pb)	M	EN ISO 11885	28.0	-
76	Total organic carbon (TOC)	M	EN 1484:1997	781,000,000	-

Table 30: Reporting of releases to water of facility Q

Example 2

Example 2 in Figure 4 represents a facility for the production of basic inorganic chemicals, which is an Annex I activity. The facility produces hazardous and non-hazardous waste which is transferred to other facilities for disposal or recovery and transfers salt solutions off-site for deep injection.

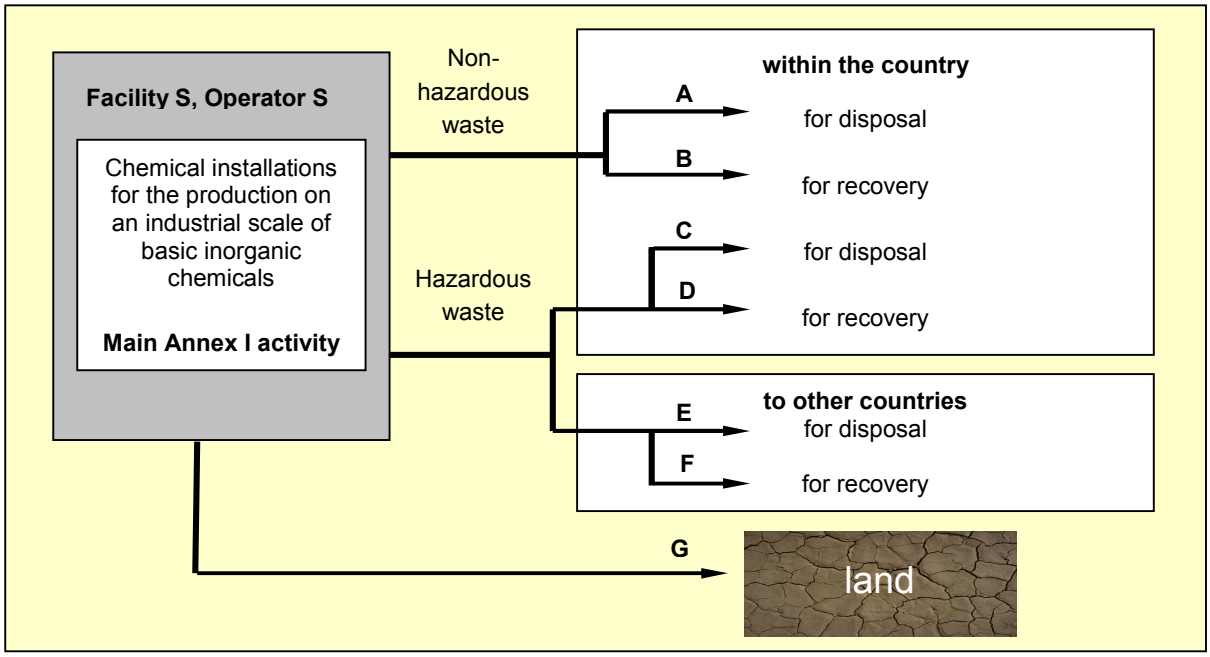

Figure 4: Example for a facility which transfers off-site hazardous and non-hazardous waste and releases to land

Table 31 shows the reporting requirements for facility S.

Reporting facility	Activity	Release / Off-site transfer	Reporting requirements
Facility S	Chemical installations for the production on an industrial scale of basic inorganic chemicals	A	To be reported as off-site transfer of non-hazardous waste for disposal
		B	To be reported as off-site transfer of non-hazardous waste for recovery
		C	To be reported as off-site transfer of hazardous waste for disposal within the country
		D	To be reported as off-site transfer of hazardous waste for recovery within the country
		E	To be reported as off-site transfer of hazardous waste for disposal to other countries
		F	To be reported as off-site transfer of hazardous waste for recovery to other countries
		G	To be reported as release to land

Table 31: Reporting requirements for facility S in example 2

The only Annex I activity of facility S is the production of basic inorganic chemicals and therefore is also the main activity. Table 32 shows the coding of the activity.

Annex I activity*	PRTR-code	IPPC-code	Activity name according to Annex I of E-PRTR Regulation (not obligatory to be reported)
1	4.(b)	4.1	Chemical installations for the production on an industrial scale of basic inorganic chemicals

Table 32: Coding of activities for facility S

More than 2,000 t/year of non-hazardous and more than 2 t/year of hazardous waste are transferred off-site and have to be reported. The waste is transferred off-site within the country for disposal (Transfers A, C) or for recovery (Transfer B, D). Part of the hazardous waste is transferred outside the country for disposal (Transfer E) or for recovery (Transfer F). As a consequence the name and address of the site and the actual recoverer/disposer receiving the transfer have to be reported. Another part of waste transferred off-site is subject to deep injection. This has to be reported as release to land (Release G) for pollutants which exceed the threshold values in Annex II to the E-PRTR Regulation, column 1c. The quantities of waste transferred off-site have been determined by the method of weighing the waste with the exception of the quantity of non-hazardous waste for disposal which has been determined on the basis of an estimated waste generation factor.

Table 33 shows the reporting of off-site transfers for non-hazardous waste, Table 34 for the off-site transfer of hazardous waste and Table 35 for the release to land for facility S.

Off-site transfer of non-haz. waste	Quantity (t/year)	WEste treatment operation	M/C/E	Method used
	1,000	R	M	weighing
	10,000	D	E	

Table 33: Reporting of off-site transfer of non-hazardous waste by facility S

Off-site transfer of haz. waste	Quantity (t/year)	Waste treatment operation	M/C/E	Method used	Name of recoverer/ disposer	Address of recoverer/ disposer	Address of actual recovery/disposal site
within the country	5.25	R	M	weighing			
	3.00	D	M	weighing			
to other countries	0.500	R	M	weighing	Sunshine Components Ltd.	Sun Street, Flowertown south, PP12 8TS, United Kingdom	Sun Street, Flowertown south, PP12 8TS, United Kingdom
	0.750	D	M	weighing	BEST Environmental Ltd.	Kings Street, Kingstown, Highlands, AB2 1CD, United Kingdom	Kingstown Waste to Energy Plant, Kings Street, Kingstown, Highlands, AB2 1CD, United Kingdom

Table 34: Reporting of off-site transfers of hazardous waste by facility S

Note that only in the case of transboundary movements of hazardous waste, the name and address of the recoverer or the disposer of the waste and the actual recovery or disposal site have to be reported.

releases to land					
Pollutant		Method		Quantity	
no. A II	Name	M/C/E	Method used	T (total) kg/year	A (accidental) kg/year
79	Chlorides (as total Cl)	M	EN ISO 10304-1	2,540,000	-

Table 35: Reporting of releases to land by facility S

Example 3

Example 3 in Figure 5 represents an industrial complex with the four facilities A, B, C and D. Facility A, B and C discharge their waste waters into an independently operated waste-water treatment plant with a capacity of 15,000 m^3 per day (facility D) and have to report the quantity of all pollutants which exceed the threshold values specified in Annex II to the E-PRTR Regulation, column 1b as off-site transfers of pollutants destined for waste-water treatment. The main Annex I activity of facility D is the treatment of the industrial waste water. It discharges the treated waste waters into surface waters (river) and has to report all pollutants which exceed the threshold values specified in Annex II to the E-PRTR Regulation, column 1b as release to water.

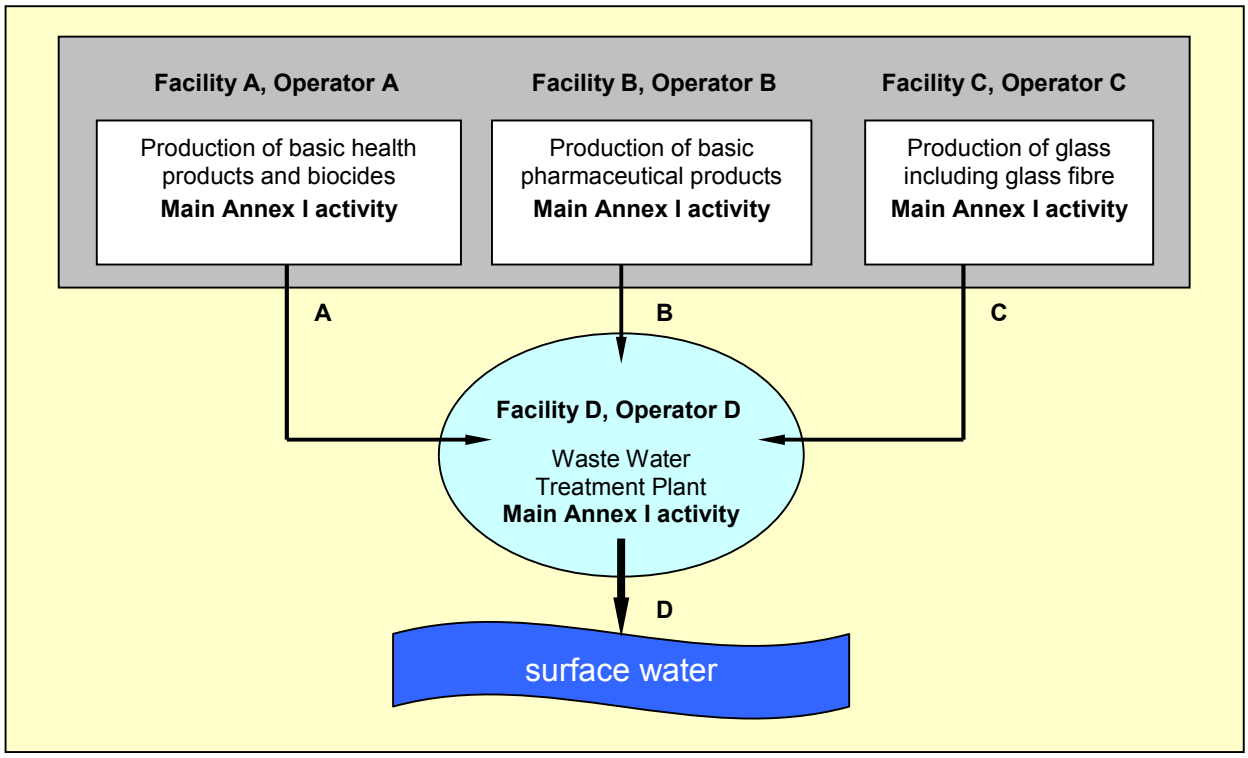

Figure 5: Industrial complex with three facilities and an independently operated WWTP

Table 36 shows the reporting requirements for facilities A, B, C and D.

Reporting facility	Activity	Release / Off-site transfer	Reporting requirements
Facility A	Production of basic health products and biocides	A	To be reported as off-site transfer of pollutants destined for waste-water treatment
Facility B	Production of basic pharmaceutical products	B	To be reported as off-site transfer of pollutants destined for waste-water treatment
Facility C	Production of glass including glass fibre	C	To be reported as off-site transfer of pollutants destined for waste-water treatment
Facility D	Independently operated industrial waste-water treatment plant	D	To be reported as release to water

Table 36: Reporting requirements for facilities A, B, C and D

The coding of the activities and the reporting of releases and off-site transfers has to be done in the same way as that described in the other two examples.

Example 4

Example 4 in Figure 3 represents an urban waste water treatment plant (activity 5(f)) with a capacity of 600,000 population equivalents[134]. A certain share of the sewage sludge is treated anaerobically on the site of the facility. Another share of sludge is transferred off-site to an external sludge incineration (off-site transfer of non hazardous waste for disposal). Another share of the sludge is applied to farmland resulting in benefits for agriculture (off-site transfer of non hazardous waste for recovery).

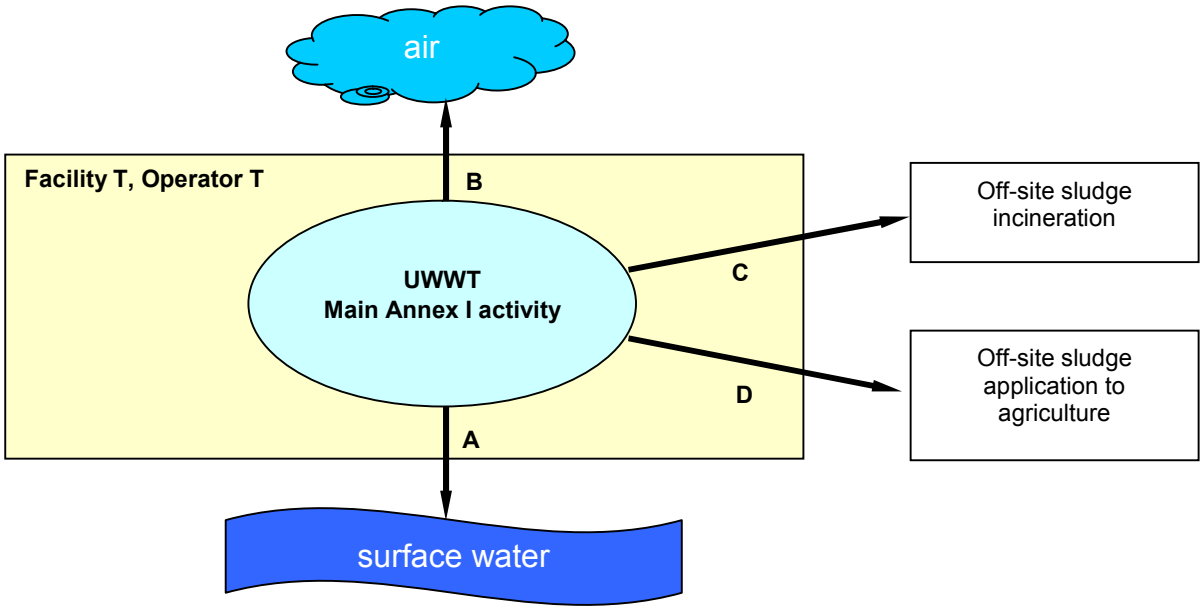

Figure 6: Example for an urban waste water treatment plant including anaerobic treatment; a share of the sludge is transferred off-site to an external sludge incineration and to agriculture for land treatment resulting in benefits to agriculture

[134] According to Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment '1 p.e. (population equivalent)' means the organic biodegradable load having a five-day biochemical oxygen demand (BOD5) of 60 g of oxygen per day

Table 26 shows the reporting requirements for facility T.

Reporting facility	Activity	Release/ Off-site transfer	Reporting requirements	Comments
Facility T	Urban waste-water treatment plants (activity 5(f))	A	To be reported as release to water	
		B	To be reported as release to air	
		C	To be reported as off-site transfer of non hazardous waste for disposal (D)	
		D	To be reported as off-site transfer of non hazardous waste for recovery (R)	

Table 37: Reporting requirements for facility T

The coding of the activities and the reporting of releases and off-site transfers has to be done in the same way as that described in the previous examples.

Appendix 7: References

- E-PRTR Regulation: Regulation (EC) No 166/2006 of the European Parliament and of the Council concerning the establishment of a European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC
- IPPC Directive: Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control
- Public Access Directive: Directive 2003/4/EC of the European Parliament and of the Council of 28 January 2003 on public access to environmental information and repealing Council Directive 90/313/EEC
- Council Directive 91/689/EEC on hazardous waste of 12 December 1991
- Council Directive 75/442/EEC on waste of 15 July 1975
- Guidance Document for EPER implementation: European Commission, Brussels, November 2000, accessible on EPER website: http://eper.ec.europa.eu/
- EPER Review report: European Commission, Brussels, June 2004, accessible on EPER website http://eper.ec.europa.eu/
- PRTR Protocol: UN-ECE PRTR protocol signed by the European Community and 23 Member States 21 May 2003 in Kiev based to the Aarhus Convention 1998 (Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters)
- UN-ECE PRTR Guidance Document: accessible on UN-ECE website: http://www.unece.org/env/pp/prtr.docs.htm