

# ENVIRONMENT AND CLIMATE REGIONAL ACCESSION NETWORK (ECRAN)

Introductions and special subjects  
Ike van der Putte



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## SPECIAL SUBJECTS

**FROM EPER TO PRTR**



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**WG 4 ECENA****FROM EPER TO PRTR**

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**Accidents & chemicals**

Minamata -MeHg

Bhopal- MIC

Seveso- TCP/Dioxins

Basel (Sandoz)- pesticides

US/Europe/World - DES



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*The European Pollutant Release and Transfer Register (European PRTR) has been adopted on 18 January 2006 and laid down in [Regulation \(EC\) No 166/2006](#). The PRTR's first edition has been published in the autumn of 2009 and includes data for the first reporting year 2007. The European PRTR implements the [UNECE PRTR Protocol](#), which was signed in May 2003 in Kiev; it further replaces the existing European Pollutant Emission Register (EPER).*



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### Structure of the E-PRTR Guidance Document

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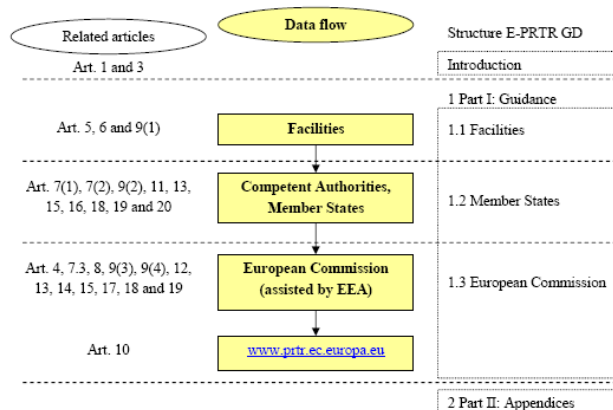


Figure 1: Data flow under the European PRTR; structure of the E-PRTR Guidance Document and related articles in the E-PRTR Regulation



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## EPER $\Rightarrow$ PRTR

- + releases to land
- + off-site transfers of waste and wastewater
- + emissions by accidents
- + diffuse sources
- + public participation in decision-making



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## EPER and PRTR comparisons

EPER: release to air and water

50 substances

56 industrial activities

PRTR: release to air, water and land

91 substances

65 industrial activities

*with reporting of emissions by accidents, diffuse sources, off-site transfers of waste and wastewater*



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## EPER and PRTR comparisons

### “new activities” in PRTR

- 1(e) Coal rolling mills with a capacity of 1 tonne per hour;
- 1(f) Manufacture of coal products and solid smokeless fuel;
- 3(a) Underground mining and related operations;
- 3(b) Opencast mining and quarrying ref. 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<sup>3</sup> per day;



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## EPER and PRTR comparisons

### “new activities” in PRTR

- 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<sup>3</sup> 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.



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## EPER and PRTR comparisons

### The allocation of new codes to the activities

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 EPRTR code 1(d) (“Coke ovens” in the “energy sector”).



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## EPER and PRTR comparisons

### In PRTR:

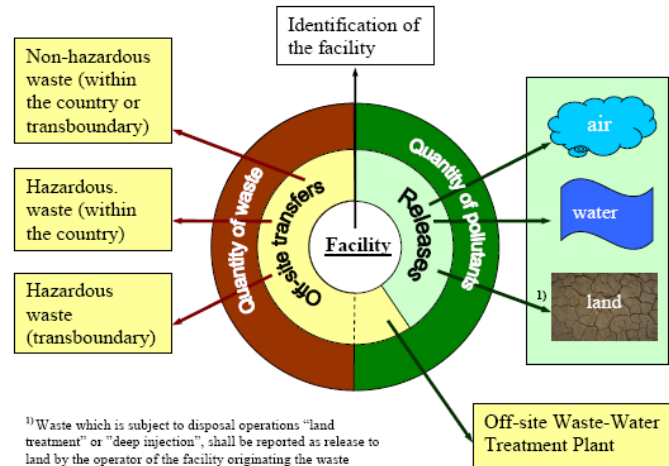
Off-site transfers of waste with threshold values of 2 tonnes per year for hazardous waste and 2,000 tonnes per year for non-hazardous waste

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: dioxins and furans) 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.



tium

## Overview on the reporting requirements for facilities under the E-PRTR



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## Recommendations on change of identification numbers of Facilities

- (1) Identification numbers should not be changed unless there is an overriding need;
- (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.



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## Data provision: management and transfer

(Operators of) Facilities are obliged to report to the competent authorities in the Member States.



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.



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.

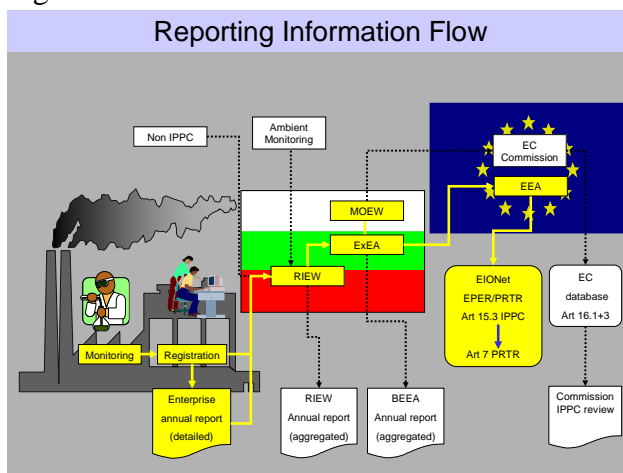


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### Example Bulgaria



RIEW: Regional Inspectorate for Environment and Water

MOEW: Ministry of Environment and Water

ExEA: Executive Environment Agency; EEA: European Environment Agency



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## Timelines for the reporting of Member States

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	
2011	**	31 March 2013	30 April 2013	31 October 2014
2012	**	31 March 2014	30 April 2014	



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## 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.



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## Impact of Accidental Releases



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Opacity Monitors or Transmissometers

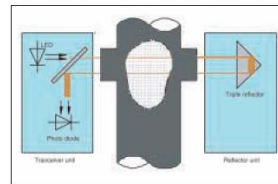


Figure 7. Dual beam particulate monitor (courtesy of DRC Consultancy Services)

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## Specifics of reporting

Releases		Quantity <sup>1</sup>	M/C/E <sup>3</sup>	Method used <sup>4</sup>		
	to air	kg/year <sup>2</sup>	X	X		
	to water	kg/year <sup>2</sup>	X	X		
	to land	kg/year <sup>2</sup>	X	X		
Off site transfers of:		Quantity <sup>1</sup>	M/C/E <sup>3</sup>	Method used <sup>4</sup>	Name and address of recoverer/disposer	Address of actual recovery/disposal site receiving the transfer
Pollutants in wastewater <sup>5</sup>		kg/year <sup>2</sup>	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**



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## Specifics of reporting

“rounding to three significant digits”

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



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

- M** = measured using standardised or accepted methods (*direct monitoring results*) *CEN and ISO*;
- C** = based on nationally or internationally accepted estimation methods (*using activity data (fuel used, production rate, etc.) and emission factors or mass balances (ETS/IPCC/CORINAIR)*);
- E** = based on non-standardised estimations or expert guesses



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## Monitoring techniques

- fixed, in-situ, on-line continuous reading instruments;
- portable discontinuous reading instruments;
- laboratory analysis of samples taken by fixed, in-situ, on-line time or flow proportional samplers;
- laboratory analysis of spot samples;
- calculations based on surrogate measurements of flow-rates, raw material contaminants, temperature, pressure and the like;
- check lists of operation and maintenance of monitoring and other relevant equipment.

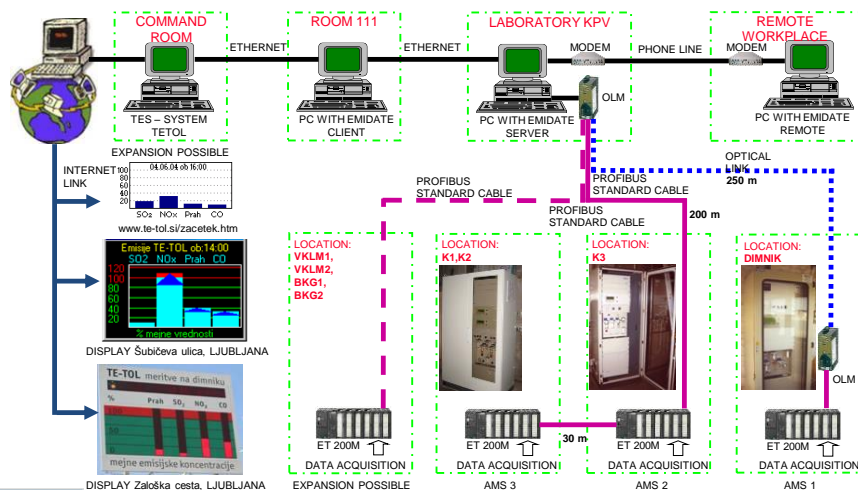


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## CEMS SYSTEM IN TE-TOL, SLOVENIA TERMOELEKTRARNA TOPLARNA LJUBLJANA



Ref. Dr. Jurij Čretnik RACI d.o.o. SLOVENIA  
Energy Community Treaty to SEE Kosovo Seminar 2006



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## Quality assurance

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

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- completeness,
- consistency
- credibility

E-PRTR data inclusion in  
EMAS or ISO 14001 is possible

Competent authorities have to assess quality and  
Commission coordinates quality assurance and  
assessment

Validation  
Tool ?

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

<http://www.eionet.europa.eu/schemas/eprtr/EPTRTRUserManual.pdf>



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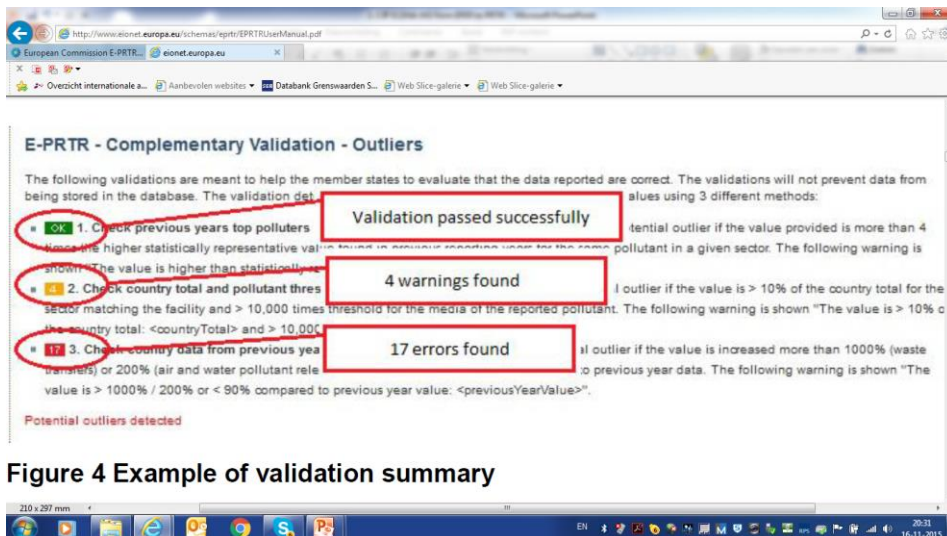


Figure 4 Example of validation summary



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## DATA VERIFICATION/Validation/Management



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## DATA VERIFICATION/Validation/Management



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## Design and Structure of the E-PRTR

[www.prtr.ec.europa.eu](http://www.prtr.ec.europa.eu)

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



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The screenshot shows the E-PRTR web application. The main search area includes fields for Country (All Reporting States for E-PRTR), Year (2010), and Region (River basin district). There are also checkboxes for Pollutant releases (Chlorinated organic substances, Brominated diphenylethers (PBDE)), Releases to (Air, Water, Soil), and Activity (Not included, Expand to include). A map of Europe is displayed on the right. The sidebar on the left contains navigation links such as Home, About E-PRTR, Search E-PRTR data, Facility Level, Industrial Activity, Area Overview, Pollutant Releases, Pollutant Transfers, Waste Transfers, Map Search, Search EPER Data, Time Series, Releases Diffuse Sources, Questions to E-PRTR, Download, Links, Library, and Feedback.



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## Example reporting format for releases to air

Releases to air						
No. Annex II	Pollutant Name	M/C/E	Method		Quantity	
			Code	Method used Designation or description	T (total) (kg/year)	A (accidental) kg/year
1	CH <sub>4</sub>	C	NRB	regional binding measurement methodology using specific gas chromatography	125,000	-
3	CO <sub>2</sub>	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



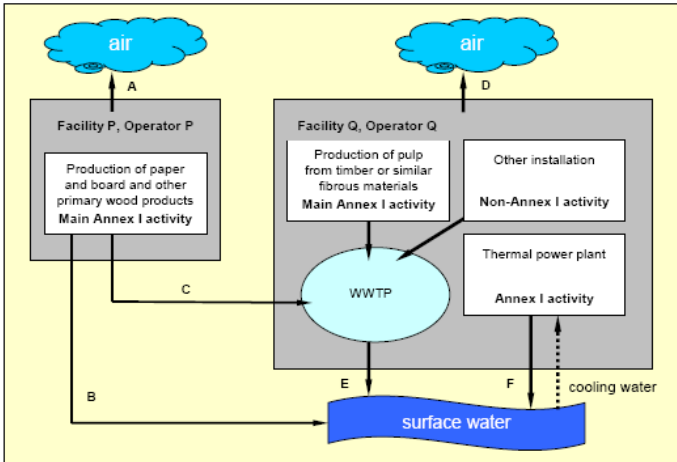
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## Example 1. Industrial site with two facilities



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## 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	To be reported as release to air	
		B	To be reported as release to water	
		C	To be reported as off-site transfer <sup>12</sup> of pollutants in waste water	
Facility Q	Production of pulp from timber or similar fibrous materials	D	Sum of releases to be reported as release to air	Background loads may be subtracted from releases via cooling water (Release F)
	Thermal power station	F	Sum of all releases (E+F) to be reported as release to water	
	Waste-water treatment plant	E		Non-Annex I activities may be excluded <sup>13</sup>
	Other installation (non-Annex I)			

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

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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 <sub>x</sub> )	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**



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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

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**



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## Example 2 Off-site transfers of waste and release to land

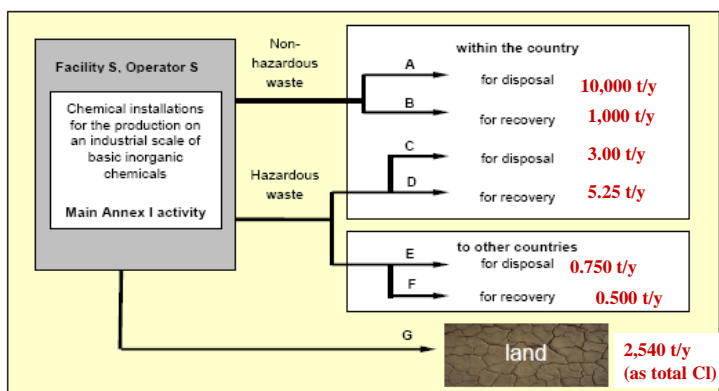


Figure 4: Example for a facility which transfers off-site hazardous and non-hazardous waste and releases to land



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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

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



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Off-site transfer of non-haz. waste	Quantity (t/year)	Waste treatment operation	M/C/E	Method used
-----				

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



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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	-----						
to other countries							

Reporting of off-site transfers of hazardous waste by facility S



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releases to land					
Pollutant		Method		Quantity	
no. A II	Name	M/C/E	Method used	T (total) kg/year	A (accidental) kg/year

### Reporting of releases to land by facility S



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## Example 3 Industrial complex

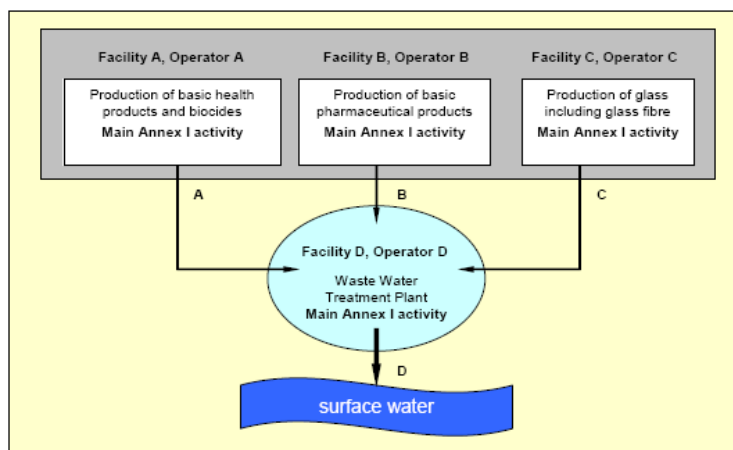


Figure 5: Industrial complex with three facilities and an independently operated WWTP



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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**

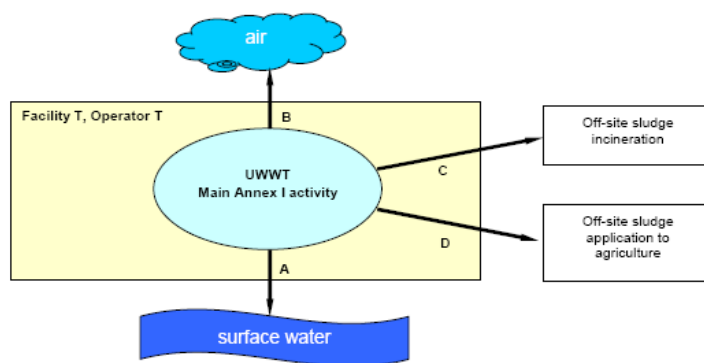


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## Example 5 urban wastewater treatment



**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



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Table 37 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.



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