



Implementation of the Swedish Pollutant Release and Transfer Register (PRTR)

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SMED utgör en förkortning för Svenska MiljöEmissionsData, som är ett samarbete mellan IVL, SCB, SLU och SMHI. Samarbetet inom SMED inleddes 2001 med syftet att långsiktigt samla och utveckla den svenska kompetensen inom emissionsstatistik kopplat till åtgärdsarbete inom olika områden, bland annat som ett svar på Naturvårdsverkets behov av expertstöd för Sveriges internationella rapportering avseende utsläpp till luft och vatten, avfall samt farliga ämnen. Målsättningen med SMED-samarbetet är främst att utveckla och driva nationella emissionsdatabaser, och att tillhandahålla olika tjänster relaterade till dessa för nationella, regionala och lokala myndigheter, luft- och vattenvårdsförbund, näringsliv m fl. Mer information finns på SMEDs hemsida www.smed.se.

Preface

This report has been prepared by SMED (Swedish Environmental Emissions Data) on behalf of the Swedish Environmental Protection Agency. Great thanks to Ingrid Ededahl, Kristina Oliviusson, Annmari Blom Wohlgemuth, Tord Wikström, Monika Magnusson and Niklas Ricklund at the Swedish EPA for contributing with valuable comments during the work.

Contents

PREFACE	2
CONTENTS	3
SAMMANFATTNING	5
SUMMARY	6
1 INTRODUCTION	7
1.1 Aim	8
2 REGULATIONS	9
2.1 Aarhus Convention	9
2.2 Protocol on PRTR	11
2.3 European Pollutant Release and Transfer Register (E-PRTR)	14
2.4 IPPC Directive	16
3 PUBLIC ACCESS TO INFORMATION AND SECRECY ACT	18
4 SWEDISH ENVIRONMENTAL CODE AND ENVIRONMENTAL HAZARDOUS ACTIVITIES	19
4.1 Environmental Code	19
4.2 Environmentally Hazardous Activities	20
4.2.1 The environmental permit system	21
4.2.2 Inspection and enforcement authorities	22
4.2.3 Connection between permit and supervision	23
5 LEGAL FOUNDATION OF THE NATIONAL PRTR SYSTEM	24
5.1 Environmental reporting system	25
5.1.1 ENVIRONMENTAL CODE	25
5.1.2 ORDINANCE ON ENVIRONMENTALLY HAZARDOUS ACTIVITIES	25
5.1.3 REGULATION ON ENVIRONMENTAL REPORTS (NFS 2006:9)	26
5.2 Penalties	27
5.2.1 ENVIRONMENTAL CODE, SFS 1998:808	27
5.2.2 ORDINANCE ON ENVIRONMENTAL SANCTION CHARGES, SFS 1998:950	27
6 ELECTRONIC REPORTING TOOL, SMP	29
6.1.2 System Requirements	30
6.1.3 Technical solution	30
6.1.4 SMP support	30
6.1.5 Links to useful information	30
6.1.6 SMP management organisation	30
6.1.7 Quality assurance and quality control of data in SMP	31

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

7 PRTR REPORTING PROCESS	34
7.1 Data flow	34
7.2 Reporting by operators	36
7.2.1 Requirements for operators	36
7.2.2 Reporting difficulties for operators	40
7.3 Data quality and responsibilities	41
7.3.1 Identification of facilities	41
7.3.2 Data review	42
7.4 Reporting by the government	43
7.4.1 The Swedish PRTR	43
7.4.2 Reporting to EU	49
8 PUBLIC PARTICIPATION	53
8.1.1 Response from the public	53
9 LESSONS LEARNED FROM THE IMPLEMENTATION OF THE SWEDISH PRTR	55
9.1 Legal implementation	55
9.2 SMP	55
9.3 Reporting process	56
9.3.1 Reporting by operators	56
9.3.2 Data quality and responsibilities	57
9.3.3 Reporting by the government	57
9.4 Public Participation	58
10 CONCLUSIONS	59
11 REFERENCES	60
11.1 References available on the internet	60
11.2 Personal communications	63
APPENDIX 1.	64

Sammanfattning

I föreliggande rapport beskrivs de bakomliggande kraven till varför Sverige har åtagit sig att implementera ett PRTR-system, hur Sveriges PRTR-system har implementerats i lagstiftning och praktiskt samt erfarenheter från implementeringsprocessen.

Sverige ratificerade UNECE Protokollat avseende Pollutant Release and Transfer Register (PRTR) hösten 2008. PRTR-protokollat syftar till att införa ett register innehållande utsläpp av föroreningar till luft, vatten och mark samt överföringar av föroreningar via avloppsvatten och överföringar av avfallsmängder, för att underlätta allmänhetens deltagande i beslutsfattandet om miljöfrågor och att bidra till att hindra och minska nedsmutsningen av miljön. Även EU har ratificerat protokollet och för att klara sina åtaganden har EU upprättat en förordning avseende införande av ett europeiskt PRTR (E-PRTR). Det gör att Sverige, som medlem av EU, omfattas dels av rapporteringskrav avseende PRTR-protokollat och EG förordningen avseende E-PRTR. I rapporten beskrivs bakgrunden för dessa bakomliggande krav, samt hur de avviker från varandra.

En kortfattad beskrivning av Sekretesslagen, Miljöbalken och vad som gäller för miljöfarliga verksamheter i Sverige ges. Vidare ges en detaljerad beskrivning av hur kraven enligt PRTR-protokollat och EG förordningen avseende E-PRTR implementerats i den svenska lagstiftningen via integrering av miljörapportssystemet. Hur kraven för berörda verksamhetsutövers rapportering avviker från kraven enligt PRTR-protokollat och EG förordningen avseende E-PRTR illustreras.

Vidare beskrivs i rapporten rapporteringsprocessen innehållande verksamhetsutövarnas elektroniska rapportering via den Svenska Miljörapportering Portalen (SMP), ansvar avseende kvalitet i rapporterade data, granskning av data, Utsläpp i Siffror d.v.s. Sveriges rapportering enligt PRTR-protokollat och rapportering av data till EU avseende E-PRTR, och svårigheter diskuteras. Vidare redovisas synpunkter från allmänheten avseende Utsläpp i Siffror.

Slutligen diskuteras övergripande erfarenheter från implementeringsprocessen av Sveriges PRTR (Utsläpp i Siffror).

Summary

The present report describes the underlying requirements to why Sweden has undertaken to implement a Pollutant Release and Transfer Register (PRTR), how Sweden's PRTR-system has been implemented both from legislative and practical point of view, as well as lessons learned from the implementation process.

Sweden ratified the UNECE Protocol on PRTR in autumn 2008. The PRTR Protocol aims at introducing a register of pollutant releases to air, water and land, as well as off-site transfers of wastewater and waste, in order to facilitate public participation in environment decision-making as well as contribute to the prevention and reduction of pollution of the environment. The EU has also ratified the Protocol and to meet its commitments, the EU has established a regulation concerning the introduction of a European-PRTR (E-PRTR). This means that Sweden, as a member of the EU, is covered both by reporting requirements relating to the PRTR Protocol and the E-PRTR Regulation concerning E-PRTR. The report describes the background to these underlying requirements and how they differ from each other.

A brief description of the Secrecy Act, the Environmental Code and on what is applicable to environmentally hazardous activities in Sweden is given. Also a detailed description is provided on how the requirements of the PRTR Protocol and the E-PRTR Regulation are implemented in Swedish legislation through the integration of the environmental reporting system. Further, it is illustrated how the requirements concerning the operators reporting differ from the requirements of the PRTR Protocol and the E-PRTR Regulation.

The reporting process is described in detail and specific problems are discussed. The reporting process includes the following steps; the operators electronic reporting via the Swedish Portal for Environmental Reporting (SMP), responsibility for the quality of reported data, data review, Swedish PRTR (i.e. Sweden's reporting according to PRTR Protocol) and reporting of data to the EU concerning E-PRTR. Furthermore, it is discussed how public participation is handled within the system.

Finally, the overall experience from the implementation process of the Swedish PRTR is discussed.

1 Introduction

The overall aim for developing a Pollutant Release and Transfer Register (PRTR) is to make environmental data accessible to the public in order to achieve an improved environment through public impact on authorities, policy makers and operators. This idea is based on principle 10 of the Rio Declaration which states that "environmental issues are best handled with participation of all concerned citizens"¹.

A PRTR is an environmental database of potentially harmful releases to air, water and land, as well as off-site transfers of wastewater and waste. When certain thresholds for certain pollutants are exceeded, facilities report periodically on what was released, how much, and to which environmental media. The register includes releases and transfers from both point sources and diffusive sources. All data are made available to the public on the internet.

A PRTR gives companies an opportunity to compare themselves with each other and consumer pressure can lead to that companies of their own accord choose to reduce their releases and transfers. The idea is that an informed public will influence businesses to reduce their releases. This works if the registers are known to and used by the public.

A PRTR can be an important tool in the overall environmental policy of a government encouraging companies to reduce pollution and engendering broad public support for government environmental policies. Indeed, governments may wish to set forth long-term national environmental objectives to promote sustainable development and then use PRTR as an important tool to objectively examine how well these objectives are being met.

The Swedish Parliament has adopted 16 environmental objectives. The objectives describe the quality and the state for Sweden's environmental, natural and cultural resources that is environmentally sustainable in the long term. A follow-up of the environmental objectives is published annually, which contains statistics and data and a dissemination of the progress in achieving the objectives.

To improve the environment, it is important that there is access to information about things that affect the environment. It presupposes the existence of data and statistics in order to be able to follow up on measures taken and to be able to present basis for development of new policy proposals².

The vision for the Swedish PRTR is that it shall meet some of the elements needed for the monitoring of environmental measures. Another, equally important objec-

¹ <http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163>

² <http://naturvardsverket.se/Documents/publikationer/978-91-620-8481-3.pdf>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

tive is to present data and statistics for a wider audience. There is a great challenge in reaching out to a wider public and awaken an interest in issues of pollutant impacts on the environment and health, and not least to give an insight into the role of each individual's own consumption in this respect.

1.1 Aim

The aim of the project is to describe Sweden's PRTR, how the register has been implemented in Sweden, as well as lessons learned from the implementation process.

The report contains, inter alia information about underlying requirements, the national legislations implementing the system, the reporting process, the presentation of data to the public and the public reactions and further involvement.

2 Regulations

In the following chapter a background of the different international conventions, protocols, E-PRTR Regulations and EC Directives concerning PRTR is given. Figure 1 illustrates the different legal instruments concerning PRTR and how they are connected to each other. The different Parties and their PRTRs are illustrated as well.

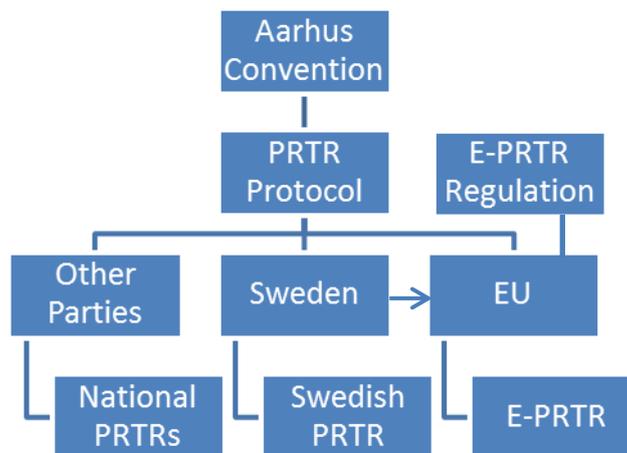


Figure 1. Illustration of the legal instruments concerning PRTR and different available PRTR's.

2.1 Aarhus Convention

In the framework of the third Ministerial Conference “Environment for Europe” held in Sofia Bulgaria in 1995, it was agreed on guidelines, i.e. the Sofia Guidelines, for a greater influence from the public in matters that concern the environment. The guidelines were developed by a working group of United Nations Economic Commission for Europe (UNECE) and were partly based on principle 10 of the Rio Declaration that was agreed upon at the United Nations Conference on Environment and in Rio de Janeiro in 1992. The 10th principle states that "environmental issues are best handled with participation of all concerned citizens"³.

At the Ministerial Conference held in Sofia, it was decided that a legally binding document should be developed based on the Sofia Guidelines. This was the starting point of the Aarhus Convention. UNECE committed to establish a Secretariat for the Convention. The Convention was opened for signature in June 1998 at the ministerial meeting in Aarhus and entered into force in 2001. Both Sweden and the EU

³ <http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

ratified the Convention in 2005⁴. The Convention is legally binding to those states that have chosen to become Parties to it.

The overall objective of the Convention is to “contribute to the protection of every person of present and future generations to live in an environment adequate to his or her health and wellbeing”. In order to protect this right, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters in accordance with the provisions of the Convention. Environmental organizations are also given these rights⁵. The Convention's three pillars are illustrated in Figure 2 below.

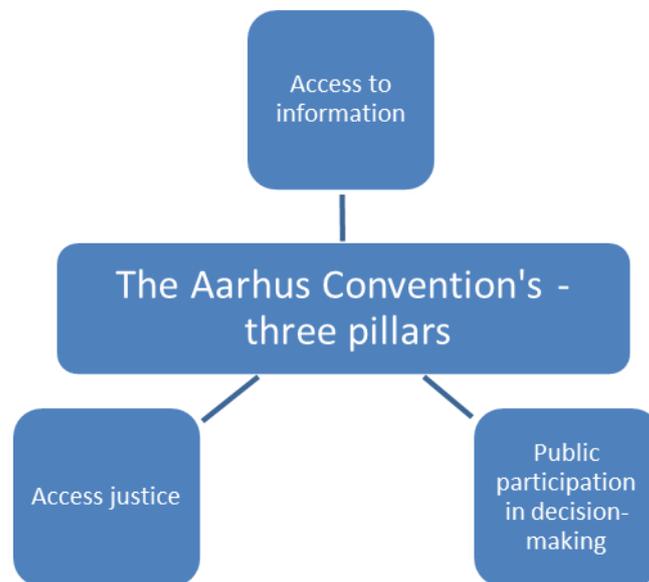


Figure 2. The three pillars of the Aarhus Convention.

The Convention is consequently based on the understanding that environmental measures must be anchored in the public and that it can be improved through public impact on authorities and policy makers. This requires in turn that the public is aware of the environment and have entries to participate in decisions that have environmental significance.

Article 5, §9 states that:

“Each Party shall take steps to establish progressively, taking into account international processes where appropriate, a coherent, nationwide system of pollution inventories or registers on a structured, computerized and publicly accessible database compiled through standardized reporting. Such a system may include inputs, releases and transfers of a specified range of substances and products, including

⁴ <http://www.regeringen.se/content/1/c6/09/19/90/b645286e.pdf>

⁵ <http://www.unece.org/fileadmin/DAM/env/pp/acig.pdf>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

water, energy and resource use, from a specified range of activities to environmental media and to on-site and off-site treatment and disposal sites”.⁶

Article 10, §2e states that protocols to the Convention shall be prepared if it is necessary⁷.

In order to achieve the provisions stated in article 5, §9 the Protocol on Pollutant Release and Transfer Registers (PRTR Protocol) has been developed.

2.2 Protocol on PRTR

The UNECE Protocol on Pollutant Release and Transfer Registers (PRTR) was adopted at an extraordinary meeting of the Parties to the Aarhus Convention on 21 May 2003. The meeting took place in the framework of the fifth Ministerial Conference “Environment for Europe”. The Protocol was signed by 36 states, including Sweden and the EU⁸. Sweden ratified the Protocol in October 2008 and the Protocol entered into force in October 2009.

The Protocol is regulated by the documents:

- Protocol on Pollutant Release and Transfer Register⁹
- Guidance on Implementation of the Protocol on Pollutant Release and Transfer Registers¹⁰

The objective of the Protocol is that each Party shall establish and maintain a nationwide register of pollutant releases and transfers, in order to facilitate public participation in environment decision-making as well as contribute to the prevention and reduction of pollution of the environment¹¹. The register shall contain information on both point sources and diffuse sources. Examples of diffusive sources are road transport, shipping, agriculture, small and medium-size enterprises, and domestic heating. There is no defined reporting format on how data should be presented, but the Protocol states that each Party is required to maintain a national easily accessible register containing the information requested by the Protocol.

The activities listed in Annex I to the IPPC Directive (see section 2.4) was used for the Protocol, first of all for the practical reason that many UNECE countries already were or were to become members of the EU, and thus already had systems in place to control polluting emissions from the facilities carrying out these activities. A second reason was that these activities, together with the additional ones in the

⁶ <http://www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf>

⁷ <http://www.unece.org/fileadmin/DAM/env/pp/documents/cep43e.pdf>

⁸ <http://www.unece.org/env/pp/prtrhome.html>

⁹ http://www.unece.org/fileadmin/DAM/env/pp/prtr/Protocol%20texts/PRTR_Protocol_e.pdf

¹⁰ http://www.unece.org/fileadmin/DAM/env/pp/prtr/guidance/PRTR_May_2008_for_CD.pdf

¹¹ http://www.unece.org/fileadmin/DAM/env/pp/prtr/Protocol%20texts/PRTR_Protocol_e.pdf

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Protocol, were responsible for about 90 % of industrial pollution. Thus, information on releases from the facilities carrying out Annex I activities should provide the public with a good overall picture of the level of pollution from its industrial installations. Other activities can be added at national level if the Party considers it appropriate. Consequently the activities listed in Annex I to the Protocol is based largely on Annex I to the IPPC Directive and incorporates its capacity thresholds¹². The Protocol covers 64 different economic activities grouped into 9 different sectors¹³:

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 Protocol states two different approaches to identify facilities to be reported i.e. either capacity thresholds or employee thresholds.

Annex II to the Protocol lists 86 different pollutants and categories of substances¹⁴. The substances are divided into different categories such as greenhouse gases, ozone-depleting substances, heavy-metals, pesticides, acidification precursors and persistent organic compounds. Lists of substances regulated by a number of international agreements have been used to develop Annex II, including¹⁵:

- United Nations Framework Convention on Climate Change (UNFCCC)¹⁶
- Commission decision 2000/479/EC on the implementation of a European Pollutant Emission Register (EPER) according to Article 15 of Council Directive 96/61/EC concerning integrated pollution prevention and control (IPPC)¹⁷
- The EU Water Framework Directive¹⁸
- The Stockholm Convention on POPs¹⁹
- The Rotterdam Convention²⁰
- Convention on Long-range Transboundary Air Pollution (CLRTAP)²¹

¹² http://www.unece.org/fileadmin/DAM/env/pp/prtr/guidance/PRTR_May_2008_for_CD.pdf

¹³ http://www.unece.org/fileadmin/DAM/env/pp/prtr/Protocol%20texts/PRTR_Protocol_e.pdf

¹⁴ http://www.unece.org/fileadmin/DAM/env/pp/prtr/Protocol%20texts/PRTR_Protocol_e.pdf

¹⁵ http://www.unece.org/fileadmin/DAM/env/pp/prtr/guidance/PRTR_May_2008_for_CD.pdf

¹⁶ <http://unfccc.int/resource/docs/convkp/conveng.pdf>

¹⁷ <http://rod.eionet.europa.eu/instruments/381>

¹⁸ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:327:0001:0072:EN:PDF>

¹⁹ <http://chm.pops.int/Convention/ConventionText/tabid/2232/Default.aspx>

²⁰ [http://www.pic.int/TheConvention/Overview/TextoftheConvention/tabid/1048/language/en-](http://www.pic.int/TheConvention/Overview/TextoftheConvention/tabid/1048/language/en-US/Default.aspx)

[US/Default.aspx](http://www.pic.int/TheConvention/Overview/TextoftheConvention/tabid/1048/language/en-US/Default.aspx)

²¹ <http://www.unece.org/fileadmin/DAM/env/lrtap/full%20text/1979.CLRTAP.e.pdf>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

- Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)²²
- The International Convention for the Prevention of Pollution for ships (MARPOL)²³

The register shall cover releases to air, water, land, and off-site transfers of pollutants through the wastewater and off-site transfers of waste. For waste transfers, the Protocol provides two different approaches to define the threshold above which waste transfers have to be reported; total amounts of waste transferred or total amounts of a specific pollutant transferred in the waste. For each pollutant given in Annex II to the PRTR and waste a threshold is set and if the applicable threshold is exceeded the amount of the pollutant must be reported per facility. The threshold values for discharges to water also apply to off-site transfers of pollutants in waste water to be purified.

The Parties may include additional pollutants and lower thresholds if they wish. The type of methodology used to derive the amount of the pollutant shall be reported indicating whether the information is based on measurement, calculation or estimation.

Information that identifies the facilities, such as facility name, street address, geographical location and activity, shall be included in the register.

The PRTR register must present the information on releases of pollutants from diffuse sources in an adequate spatial disaggregation, which can be done by using GIS. The Protocol categorizes the releases from diffuse sources as follows:

- “below-threshold facilities” for activities listed in Annex I to the Protocol
- releases and transfers from activities not listed in the Annex I to the Protocol²⁴

A Party implementing the Protocol should design a data transfer system to allow a smooth and possibly automated dataflow from individual facilities to the competent authorities and to a publically accessible PRTR published on a website. The register shall be designed for maximum ease of public access through electronic means, such as the Internet. The design shall allow that, under normal operating conditions, the information on the register is continuously and immediately available through electronic means. The register shall be expandable, i.e. it should be possible to add additional parameters, activities, etc. A structured relational database is preferable. A review tool should be developed to ensure the quality of the data presented²⁵.

²² http://www.ospar.org/html_documents/ospar/html/OSPAR_Convention_e_updated_text_2007.pdf

²³ <http://cil.nus.edu.sg/rp/il/pdf/1973%20Intl%20Convention%20for%20Prevention%20of%20Pollution%20from%20Ships%20as%20amended%20by%20Protocol%20of%201978-pdf.pdf>

²⁴ http://www.unece.org/fileadmin/DAM/env/pp/prtr/guidance/PRTR_May_2008_for_CD.pdf

²⁵ http://www.unece.org/fileadmin/DAM/env/pp/prtr/guidance/PRTR_May_2008_for_CD.pdf

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

The first release year to be reported according to the Protocol is 2010. The first report shall be published two years after the end of the first release year, i.e. last December 2012. Thereafter, reports should be compiled annually. The Swedish Environmental Protection Agency is designated as the competent authority of the Protocol in Sweden.

The Protocol states that information kept in the register could be covered by confidentiality, but it shall be used in a restrictive way.

According to the requirements given in the Protocol each Party shall ensure appropriate opportunities to the public participation in the development of its national PRTR.

2.3 European Pollutant Release and Transfer Register (E-PRTR)

EU ratified the PRTR Protocol in February 2006 and in order for the European Community to implement the PRTR Protocol, the European Pollutant Release and Transfer Register (E-PRTR) was established through Regulation (EC) No 166/2006, hereinafter referred to as the E-PRTR Regulation. E-PRTR replaced the previous European Pollutant Emission Register (EPER) under which data were reported for the years 2001 and 2004²⁶.

Data according to the E-PRTR Regulation is reported annually the 31st of March each year by EUs Member States as well as Iceland, Liechtenstein, Norway, Serbia and Switzerland.

E-PRTR is regulated by the documents:

- Regulation (EC) No 166/2006 concerning the establishment of a European Pollutant Release and Transfer Register²⁷
- Guidance Document for the implementation of the European PRTR²⁸

There is a strictly defined reporting format for E-PRTR because EU is a Party to the Protocol on PRTR and consequently is committed to maintain an easily accessible register containing the information requested by PRTR. The European register can only be created by a uniform reporting from EUs member states. Annex III of the E-PRTR Regulation states the reporting format for E-PRTR²⁹.

²⁶ <http://prtr.ec.europa.eu/pgFAQ.aspx#Q4>

²⁷ http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_033/l_03320060204en00010017.pdf

²⁸ http://prtr.ec.europa.eu/docs/EN_E-PRTR_fin.doc

²⁹ http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_033/l_03320060204en00010017.pdf

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

According to the E-PRTR Regulation the operators shall report the requested information to the competent authority. The member states shall deliver data electronically to the European Environmental Agency (EEA) as well as on a CD-ROM to the Commission. The Commission has developed a validation tool to be used by the Member States to validate E-PRTR data prior to upload³⁰. The validation tool comprises several automatic checks of the data in order to ensure specific data quality requirements. The reported information is stored and processed on EEA's ReportNet page³¹ and then and then made available to the public in May each year on the E-PRTR website³².

Every three years the Member States must report additional information to the Commission in order to evaluate the provisions stated in E-PRTR Regulation. The Commission has developed a questionnaire in order to facilitate reporting of this additional information³³.

The E-PRTR Regulation goes beyond the PRTR Protocol by requiring the reporting on:

- 5 additional pollutants
 - Octylphenols and Octylphenol ethoxylates
 - Fluoranthene
 - Isodrin
 - Hexabromobiphenyl
 - Benzo(g,h,i)perylene
- more stringent thresholds for 6 pollutants;
 - PCDD (dioxins) + PCDF (furans)
 - tetrachloroethylene
 - tetrachloromethane
 - trichlorobenzene
 - trichloroethylene
 - trichloromethane
- The thresholds for off-site transfers of waste water defined in the E-PRTR Regulation are for a large number of pollutants more stringent compared to the thresholds in the PRTR Protocol.
- The Protocol includes two different approaches to define the facility scope; capacity thresholds or employee thresholds. In the E-PRTR Regulation the capacity threshold approach was chosen.
- For waste transfers, the Protocol provides two different approaches to define the threshold above which waste transfers have to be reported; total amounts of waste transferred or total amounts of a specific pollutant transferred in the waste. In E-PRTR the mass-based approach (threshold based on the total amount of waste transferred) has been chosen.³⁴

³⁰ <http://www.eionet.europa.eu/schemas/eptr/EPTRUserManual.pdf>

³¹ <http://www.eionet.europa.eu/reportnet>

³² http://prtr.ec.europa.eu/docs/EN_E-PRTR_fin.doc

³³ http://prtr.ec.europa.eu/docs/EN_E-PRTR_fin.doc

³⁴ <http://prtr.ec.europa.eu/pgFAQ.aspx>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

- E-PRTR defines a reporting format whereas PRTR does not.
- 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. Each Party to the Protocol shall include information on releases from diffuse sources in the national PRTR.
- E-PRTR includes more stringent requirements concerning reporting on methodology, i.e. method type codes and method designation.

2.4 IPPC Directive

IPPC stands for Integrated Pollution Prevention and Control. IPPC is regulated by EC Directive 2008/1/EC³⁵.

The IPPC Directive aims at reducing emissions and the impact on the environment as a whole from various point sources throughout the European Union. All installations covered by IPPC Directive Annex I needs permission from the authorities in each EU Member State to operate. Permits should contain Emission Limit Values (ELVs) based on Best Available Techniques (BAT) for all relevant pollutants with possibility to take into account technical characteristics, geographical location and local environmental conditions. Each Member State may have stricter rules in their national legislation. The IPPC Directive has been transposed into Swedish legislation through the introduction of the Environmental Code³⁶.

The IPPC Directive together with six other directives concerning industrial emissions have been subject to a review process. The review resulted in a new overall legislation concerning industrial emissions. The Directive on industrial emissions 2010/75/EU³⁷ (IED) was adopted on 24 November 2010. It entered into force on 6 January 2011 and has to be transposed into national legislation by Member States by 7 January 2013. The IED replaces the IPPC Directive as of 7 January 2014³⁸.

³⁵ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32008L0001:EN:NOT>

³⁶ <http://www.naturvardsverket.se/sv/Start/Verksamheter-med-miljopaverkan/Industrier/Regler-och-vagledning-for-industrier/Basta-mojliga-och-basta-tillgangliga-teknik/BAT-enligt-IPPC-direktivet-och-BMT-enligt--miljobalken/>

³⁷ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:334:0017:0119:EN:PDF>

³⁸ <http://ec.europa.eu/environment/air/pollutants/stationary/index.htm>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Most facilities reporting under PRTR carry out activities which fall under the scope of the IPPC Directive. However, some PRTR activities are only partially or not at all covered by the IPPC Directive, for instance the activities mentioned below (the code used referred to the number used in Annex I of the E-PRTR Regulation):

- 1(e) Coal rolling mills
- 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
- 5(f) Urban waste-water treatment plants
- 5(g) Independently operated industrial waste-water treatment plants
- 6(b) Industrial plants for the production of paper, board and other primary wood products (such as chipboard, fibreboard and plywood)
- 6(c) Industrial plants for the preservation of wood and wood products with chemicals
- 7(b) Intensive aquaculture
- 9(e) Installations for the building of ships, and painting or removal of paint from ships

A full comparison between IPPC activities and E-PRTR activities is available in Appendix 2 of the E-PRTR Guidance document³⁹.

³⁹ <http://prtr.ec.europa.eu/pgDownloadGuidance.aspx>

3 Public Access to Information and Secrecy Act

The Public Access to Information and Secrecy Act (SFS 2009:400), entered into force on 30 June 2009 and it contains provisions that supplement the provisions contained in the Freedom of the Press Act (SFS 1949:105) on the right to obtain official documents⁴⁰. This means that anyone is entitled to contact a public authority or agency in Sweden and request access to an official document, such as a decision made by a public authority or agency⁴¹.

The principle of public access means that the general public and the mass media – e.g. newspapers, radio and television - are to be guaranteed an unimpeded view of activities pursued by the governmental and local authorities. The principle of public access manifests itself in various ways for example as:

- everyone is allowed to read public documents held by public authorities (public access to official documents)

However, this right is subject to two restrictions:

- the general public is entitled to read only those official documents that are classified as public documents
- some public documents are secret⁴²

A document is public if it is held by a public authority and is considered in the light of certain special rules to have been officially received or drawn up by that authority. Anyone who wishes to study a particular public document can address themselves to the relevant authority⁴³.

In certain cases, public documents may be kept secret. In order to protect the following interests secrecy can be needed:

- the security of the realm or its relations with another sovereign state or international organisation
- national fiscal, monetary or currency policy
- inspection, control and other supervisory operations carried out by public authorities
- the prevention or prosecution of crimes
- the economic interests of the general public
- protection of the personal and economic position of private individuals
- protection of animal or plant species⁴⁴

⁴⁰ <http://www.sweden.gov.se/sb/d/11929/a/131397>

⁴¹ http://www.riksdagen.se/templates/R_Page_____8908.aspx

⁴² <http://www.sweden.gov.se/sb/d/2184/a/15521>

⁴³ <http://www.sweden.gov.se/sb/d/2184/a/15521>

⁴⁴ <http://www.sweden.gov.se/sb/d/2184/a/15521>

4 Swedish Environmental Code and Environmental Hazardous Activities

This chapter gives a brief introduction to the structure of the Swedish environmental legislation and how environmental hazardous activities are handled. A detailed description of the legal measures that establish the national PRTR system can be found in section 5 Legal measures establishing the national PRTR.

4.1 Environmental Code

The Swedish environmental legislation is mainly concentrated in the Environmental Code (SFS 1998:808)⁴⁵.

The Environmental Code entered into force 1st of January 1999. It is built on the environmental provisions of 15 different acts that were reviewed and merged into one single law. As a result, the regulation has:

- 1) a broad application, in principle it covers every activity with a potential harmful impact on the environment,
- 2) a broad legal content; it contains provisions for most parts of environmental protection, including general principles of environmental law, rules on procedure and competences for authorities, penal provisions and provisions for civil liability⁴⁶.

The aim of the Environmental Code is to promote sustainable development in order to guarantee a healthy and good environment for present and future generations. Sustainable development is based on the insight that nature is worthy of protection and that humankind's right to modify and utilise nature also involves a responsibility. The Environmental Code is applicable to all citizens and economic operators who undertake measures that conflict with the aim of the regulation. The rules apply to all activities potentially detrimental to human health or the environment damage to the natural or cultural environment and the built environment and to all other places to which the public has access⁴⁷.

The Environmental Code constitutes of 33 chapters and approximately 500 sections. Being a framework law, the provisions of the regulation do not specify limits for various operations. Instead, more detailed provisions are laid down in ordinances issued by the Government or in regulations issued by authorities commissioned by the Government, e.g. the Swedish Environmental Protection Agency⁴⁸.

⁴⁵ <http://www.notisum.se/rnp/sls/lag/19980808.HTM>

⁴⁶ <http://naturvardsverket.se/Documents/publikationer/978-91-620-5966-8.pdf>

⁴⁷ <http://naturvardsverket.se/Documents/publikationer/978-91-620-5966-8.pdf>

⁴⁸ <http://www.naturvardsverket.se/sv/Start/Lagar-och-styrning/Lag-och-ratt/Miljobalken/>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

The general rules of consideration are described in chapter 2 of the Environmental Code (SFS 1998:808)⁴⁹. The fundamental rules apply, in principle, to all human activities that may harm the environment. All general rules of consideration relate back to Precautionary Principle, which requires anyone who pursues an activity to take all necessary environmental precautions in order to limit the impact on human health and the environment. Thus, when one of the objectives of the Environmental Code is endangered, the rules become applicable⁵⁰.

The general rules of consideration are:

- The Precautionary Principle
- The Proportionality Principles
- The Burden of Proof Principle
- The Best Possible Technology (similar to BAT) Principle
- The Polluter Pays Principle
- The Appropriate Location Principle
- The Resource Management and Ecocycle Principles
- The Product Choice Principle
- The Knowledge Requirement Principle

The general rules of consideration constitute fundamental principles for the application of the Environmental Code to matters of e.g. permit requirements, environmental inspection and enforcement.

4.2 Environmentally Hazardous Activities

According to chapter 9 of the Environmental Code permits must be obtained for the establishment, operation and in some cases modification of environmentally hazardous activities on a certain scale. The structures and operations for which permits must be obtained are covered by a separate ordinance - Ordinance on Environmentally Hazardous Activities and the Protection of Public Health (SFS 1998:899)⁵¹.

Rules on the operator's responsibility for self-monitoring and environmental reports are given in chapter 26 of the Environmental Code. All operations regulated by permit must return an annual environmental report. All activities and measures that require permission or notification are subject to the Ordinance on Operators' self-monitoring (SFS 1998:901). The requirements concerning environmental reports are given in the regulation on environmental reports (NFS 2006:9) issued by the Swedish Environmental Protection Agency (Swedish EPA). The environmental reporting system is essential to the credibility of the self-monitoring. The authority

⁴⁹ <http://www.notisum.se/rnp/sls/lag/19980808.HTM>

⁵⁰ <http://www.sweden.gov.se/sb/d/3704/a/21606>

⁵¹ <http://www.notisum.se/rnp/sls/lag/19980899.HTM>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

checks the operator performance, asks for additional measures and monitoring. The operator is obliged to keep himself informed about the activity's impact on the environment. This is done by initiating studies and measurements, or by other means. The operator should also have routines for responding to new knowledge and new information, e.g. by taking appropriate counter-measures.

4.2.1 The environmental permit system

Environmental Courts (EC) or Environmental Permitting Committees (EPC) at the County Administrative Boards (CAB) consider permit applications for activities classified as A and B in the Annex to Ordinance on Environmentally Hazardous Activities and the Protection of Public Health (SFS 1998:899) (see Figure 3). There are 21 EPCs, one in each county, and five Environmental Courts in Sweden. The operator must apply for a permit to the EC for activities that entail a significant environmental impact (classed as A-activities in the annex to SFS 1998:899). For activities with less impact on the environment (classed as B-activities in the annex SFS 1998:899) the operator must apply for a permit to the EPC at the CAB. Approximately 6900 facilities require a permit in Sweden and out of these about 400 facilities is classified as A-activities and consequently 6500 as B-activities⁵².

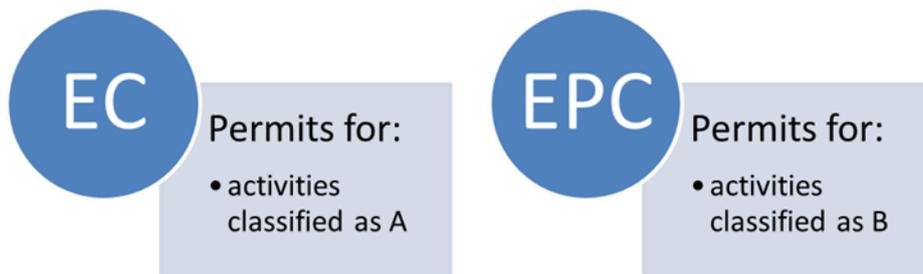


Figure 3. Illustration of the different permit authorities for activities classified as A and B in the Annex to SFS 1998:899. Environmental courts = EC and Environmental Permitting Committees = EPC.

The activities or operations listed in the Annex to SFS 1998:899⁵³ may not be initiated until a competent authority or EC has examined if it is permissible under the Environmental Code. Conditions in the permit are based on the application of the rules of consideration (see section 4.1). Permits must in some cases contain some

⁵² Personal comment made by Tord Wiklund at the Swedish EPA (2012-01-12)

⁵³ [http://62.95.69.15/cgi-](http://62.95.69.15/cgi-bin/thw?%24%7BHTML%7D=sfst_lst&%24%7BOHTML%7D=sfst_dok&%24%7BSNHTML%7D=sfst_err&%24%7BBASE%7D=SFST&%24%7BTRIPSHOW%7D=format%3DTHW&BET=1998%3A899%24)

[bin/thw?%24%7BHTML%7D=sfst_lst&%24%7BOHTML%7D=sfst_dok&%24%7BSNHTML%7D=sfst_err&%24%7BBASE%7D=SFST&%24%7BTRIPSHOW%7D=format%3DTHW&BET=1998%3A899%24](http://62.95.69.15/cgi-bin/thw?%24%7BHTML%7D=sfst_lst&%24%7BOHTML%7D=sfst_dok&%24%7BSNHTML%7D=sfst_err&%24%7BBASE%7D=SFST&%24%7BTRIPSHOW%7D=format%3DTHW&BET=1998%3A899%24)

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

specified types of conditions, e.g. conditions on how to monitor emissions. Examples of such cases are permits that regulate activities under the IPPC-directive (see section 2.4) adopted by the European Community. As a result of this examination, an official permit may state the conditions under which the activity may be carried out⁵⁴.

SFS 1998:899 also identifies activities that are not subject to permit requirements, but to a mandatory Notification Regime (C-activities). This means that the operator must notify the local Environmental and Public Health Committee (EPHC), within the relevant municipality before the activity in question is commenced. The EPHC may, within a period of six weeks, decide and notify the operator of precautionary measures to be taken in the specific case⁵⁵.

4.2.2 Inspection and enforcement authorities

Inspection and enforcement responsibilities lie at three levels, national, regional and local. The Swedish EPA is the main central environmental authority responsible for supervision. The supervisory tasks of the Swedish EPA are generally conducted as guidance and coordination of regional and local authorities. For example, the Swedish EPA issues general guidelines for inspection and enforcement.

Environmental inspection and enforcement concerning installations and other activities is mostly planned and carried out at the regional and local levels by the CABs or the local Environmental and Public Health Committees (EPHC). The CABs are generally responsible for supervision of A-activities and compliance with legislation based on EC-directives. The responsibility can be delegated to the local EPCHs according to a special procedure. The EPHC has a general supervisory function for environmental and health protection in the municipality and for the use and handling of chemicals and waste within the municipality⁵⁶.

4.2.2.1 SUPERVISION

All environmentally hazardous activities and other operations under the Environmental Code are subject to supervision by the competent authorities. The authorities are obliged to continuously plan and carry out inspections⁵⁷.

Inspections may also be the result of complaints from individuals, the general public or from information provided by the operator. The annual environmental reports provided by the operators are used as a basis for assessing the need for inspection. The authority shall carry out supervision in order to support self-control.

⁵⁴ <http://www.naturvardsverket.se/Documents/publikationer/978-91-620-5966-8.pdf>

⁵⁵ <http://www.naturvardsverket.se/Documents/publikationer/978-91-620-5966-8.pdf>

⁵⁶ <http://www.naturvardsverket.se/Documents/publikationer/978-91-620-5966-8.pdf>

⁵⁷ <http://www.naturvardsverket.se/Documents/publikationer/978-91-620-5966-8.pdf>

4.2.3 Connection between permit and supervision

The inspection and enforcement authorities cannot regularly scrutinise all the thousands of activities, installations, operations and processes to which the Environmental Code apply, especially not all the various parameters set out in conditions of integrated permits.

Besides the practical aspects, the Environmental Code also stipulates that everyone must take on the responsibility for doing what is possible to minimize their environmental impact and to have knowledge of the environmental consequences of the operation of their activities. It is therefore mandatory for an operator to have a self-monitoring system. In this way, the Environmental Code very clearly allocates the responsibility for monitoring on the operators⁵⁸.

⁵⁸ <http://www.naturvardsverket.se/Documents/publikationer/978-91-620-5966-8.pdf>

5 Legal foundation of the national PRTR system

The E-PRTR Regulation states that in order “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”⁵⁹.

An EC-Regulation applies directly without the need to be incorporated into Swedish law. However, in order to avoid that the operators must report twice, it has been considered as appropriate to coordinate the reporting under the E-PRTR Regulation with environmental reporting system. The environmental reporting system only regulates environmental hazardous activities that require a permit. However, there are activities listed in Annex I that do not require a permit but requires a mandatory notification regime according to SFS 1999:899. Therefore it was decided that the requirements given in the Regulation on environmental reports should apply to all operators that perform an Annex I activity.

The PRTR-system is implemented in Sweden through four different legislations (see Figure 4).

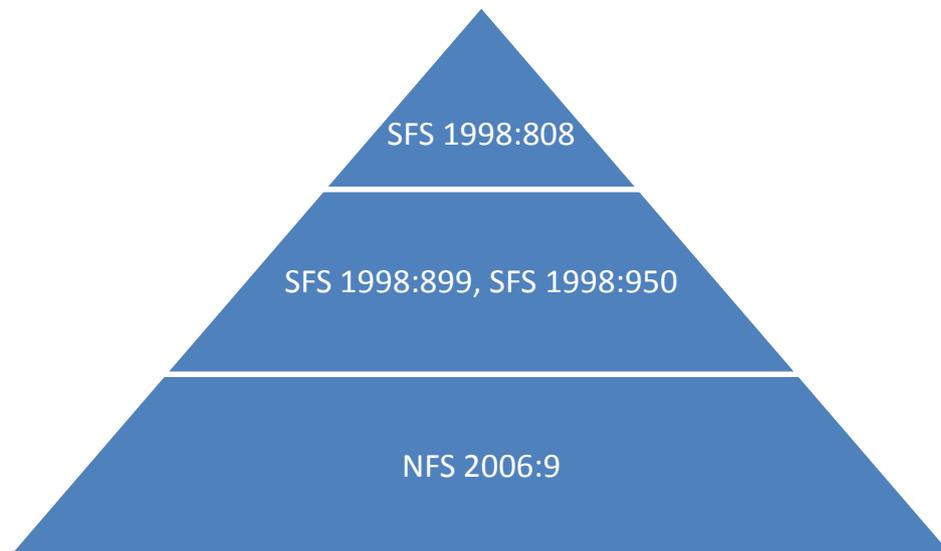


Figure 4. Swedish legal implementation of PRTR. Environmental Code = SFS 1998:808, Ordinance on Environmentally Hazardous Activities and the Protection of Public Health = SFS 1998:899, Ordinance on Environmental Sanction Charges = SFS 1998:950 and Regulation on Environmental Reports = NFS 2006:9.

⁵⁹ http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_033/l_03320060204en00010017.pdf

5.1 Environmental reporting system

5.1.1 ENVIRONMENTAL CODE

The Environmental Code, SFS 1998:808⁶⁰, regulates permits and notification requirements for environmentally hazardous activities, and stipulates that such activities shall present an annual report to the supervisory authority.

Chapter 26 20§ states that:

- If a permit is required for an environmentally hazardous activity pursuant to chapter 9 6§ first subparagraph, the operator shall present an annual report (environmental report) to the supervisory authority. This shall also apply to a person who is ordered to apply for a permit pursuant to chapter 9 6§ second subparagraph. The environmental report shall contain a statement of the measures taken to comply with the conditions laid down in a decision granting a permit and of the results of these measures.
- The Government or the authority appointed by the Government may stipulate that an environmental report shall contain a description of the environmental impact of the activity, including aspects other than those set out in the conditions attached to the decision granting the permit. Other information relating to the area of application of this Code and its objectives may also be required.
- Even when a permit is not required for an activity, the operator may be required to submit an environmental report.

5.1.2 ORDINANCE ON ENVIRONMENTALLY HAZARDOUS ACTIVITIES

The Ordinance (SFS 1998:899) on Environmentally Hazardous Activities and the Protection of Public Health⁶¹, allows the Swedish Environmental Protection Agency to issue regulations on how the information in an environmental report shall be presented.

31§ An environmental report shall contain:

- information of the operator's name and organisation number, and
- information in other respect that follows of regulations that the Swedish Environmental Protection Agency has announced with the support of §47a.

⁶⁰ <http://www.notisum.se/rnp/sls/lag/19980808.HTM>

⁶¹ <http://www.notisum.se/rnp/sls/lag/19980899.HTM>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Authorities for the Swedish Environmental Protection Agency are given in §47a. The paragraph states that the Swedish Environmental Protection Agency may:

- regarding activities that are subject to permit requirements, or of an injunction to apply for a permit under this regulation, prescribe that an environmental report shall include a statement of the environmental impact in other respects than those covered by the terms of the permit decision and any other information related to the Environmental Codes scope and objectives;
- regarding activities that are not subject to permit requirements according to the Annex of SFS 1998:899 (list of activities that require permits (A, B) or notification(C)), issue regulations about that in an environmental report shall be submitted such data on release and transfer of pollutants as follows the European Parliament and the E-PRTR Regulation,
- issue regulations on how data in an environmental report shall be presented.

5.1.3 REGULATION ON ENVIRONMENTAL REPORTS (NFS 2006:9)⁶²

The Swedish Environmental Protection Agency has issued a regulation concerning environmental reports. The legislation is designed to meet the reporting requirements given in article 5 in the European Parliament and the E-PRTR Regulation, as well as the national requirements given in the Environmental Code (SFS 1998:808)⁶³ and the Ordinance on Environmentally Hazardous Activities (SFS 1998:899)⁶⁴.

The regulations state that operators of an installation that requires a permit, or installations that do not require a permit but is included in Annex 1 to the E-PRTR Regulation, shall submit an annual environmental report. The environmental report consists of three different parts:

- a basic part with administrative information (identification of the facility)
- a text part describing the activity and its environmental impact
- an emission declaration

§3 concerns information to be reported in the basic part and §5 concerns information to be reported in the emission declaration.

According to §6 an environmental report shall be submitted to the supervisory authority no later than 31 March of the year following the year that the environmental report concerns. The operators shall submit the environmental report electronically via the Swedish Portal for Environmental Reporting (SMP). Under certain circumstances the supervisory authority may grant a one-month respite for the submission of the environmental report. Under certain circumstances the Swedish

⁶² http://www.naturvardsverket.se/Documents/foreskrifter/nfs2006/nfs_2006_9k.pdf

⁶³ <http://www.notisum.se/rnp/sls/lag/19980808.HTM>

⁶⁴ <http://www.notisum.se/rnp/sls/lag/19980899.HTM>

Environmental Protection Agency may issue a dispensation from the rules in this legislation.

§8 include rules on environmental sanction charges for non-delivery or late submission of an environmental report as given in the Ordinance on Environmental Sanction Charges (SFS 1998:950).

5.2 Penalties

5.2.1 ENVIRONMENTAL CODE, SFS 1998:808

The Environmental Code Chapter 30 regulates the Environmental Sanction Charges⁶⁵. The Government shall issue rules concerning infringements for which environmental sanction charges are payable and the amounts to be paid for various infringements. The amounts shall be determined in relation to the seriousness of the infringement and the importance of the provision to which the infringement relates. The Code states that the Environmental Sanction Charges shall accrue to the Swedish state and that the supervisory authority decides on it.

5.2.2 ORDINANCE ON ENVIRONMENTAL SANCTION CHARGES, SFS 1998:950

A separate ordinance, Ordinance on Environmental Sanction Charges (SFS 1998:950)⁶⁶, specifies the infringements for which supervisory authorities can impose environmental penalty charges, as well as the respective amounts. The charges are always imposed immediately following infringement of a rule. It makes no difference whether the infringement is intentional or due to negligence or whether it damaged the environment or human health or benefited the operator in any way. However, environmental sanction charges must not be imposed where this is manifestly unreasonable. Before the supervisory authority concerned decides to impose a sanction charge, an investigation must be carried out and the operator given the opportunity to make a statement. Decisions are appealable.

Ordinance on Environmental Sanction Charges (SFS 1998:950), Annex 2.2.1 states that an infringement of §6 Regulation on Environmental Report (NFS 2006:9) due to a late submission of an environmental report results in the following charges:

- a) 2000 SEK (approximately 215 EUR), if the activity according to Annex to Ordinance (1998:899) concerning Environmentally Hazardous Activities has the designation A, and
- b) 1000 SEK (approximately 110 EUR), if the activity according to Ordinance (1998:899) concerning Environmentally Hazardous Activities has the designation B.

⁶⁵ <http://www.notisum.se/rnp/sls/lag/19980808.HTM>

⁶⁶ <http://www.notisum.se/rnp/sls/lag/19980950.HTM>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

In Table 1 the number of decisions concerning environmental sanction charges for reporting year 2007 to 2009 is shown. The data shows that there is almost a duplication of the number of environmental sanction charges associated with late submission or non-delivery of environmental reports for reporting year 2009 compared to reporting years 2007 and 2008.

Table 1. Number of decisions concerning environmental sanction charges for reporting year 2007 to 2009.

Total number of	2007	2008	2009
Environmental Sanction Charges	925	1730	2158
Environmental Sanction Charges concerning Environmental Reports	125	125	211

6 Electronic reporting tool, SMP

The Swedish EPA has developed a fully electronic reporting system, Swedish Portal for Environmental Reporting (SMP), for submitting environmental reports. The system was launched in 2007. SMP is a web application which is owned by the Swedish EPA⁶⁷. The overall aim of the electronic reporting system is to facilitate and to accelerate the reporting process and to ensure the quality of the reported data.

Figure 5 shows the different stakeholders of data from SMP and what data are used, e.g. international reporting (such as the commitments made under PRTR Protocol and the E-PRTR Regulation), monitoring of environmental objectives (national, regional and local level) and supervision.

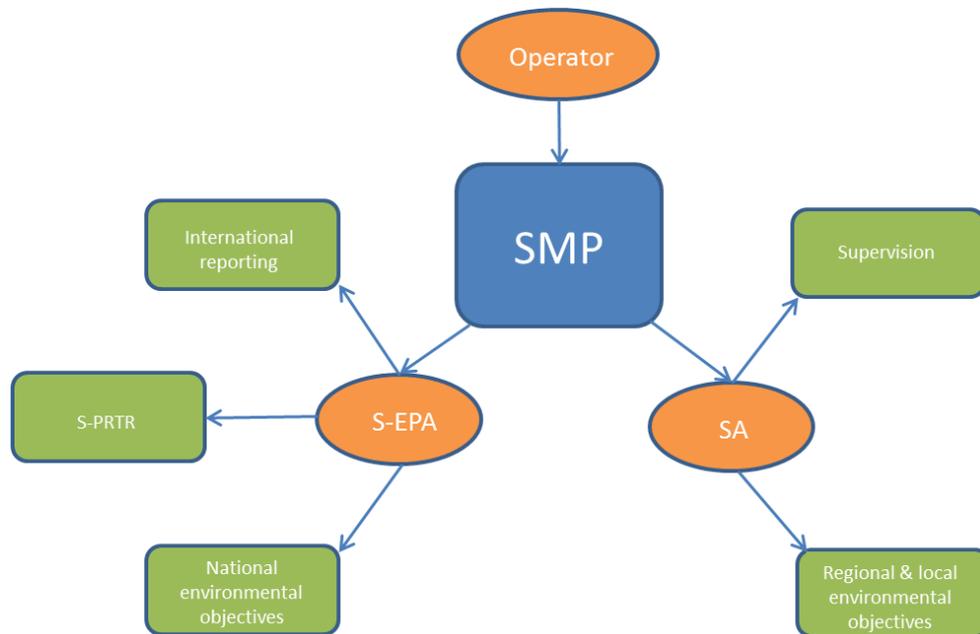


Figure 5. Illustration of the different stakeholders of SMP-data and what data is used for⁶⁸. SMP=Swedish Portal for Environmental Reporting, S-PRTR=Swedish PRTR, SA=Supervisory Authority, S-EPA= Swedish EPA.

The total cost of the development of SMP is between 12.5 to 20 million SEK (1.38 to 2.125 million EUR)⁶⁹.

⁶⁷ <https://smp2.naturvardsverket.se/Information/AboutSystem.aspx>

⁶⁸ <https://smp2.naturvardsverket.se/Information/About.aspx>

⁶⁹ Personal comment made by Tord Wikström at the Swedish EPA 2012-01-23

6.1.2 System Requirements

The SMP is a so called a server application, which means that all time-consuming operations are performed on a server. SMP is designed and tested with the browsers Firefox and Internet Explorer (version 7.0 or later) and Acrobat Reader is recommended⁷⁰.

6.1.3 Technical solution

The application is built on the Microsoft .NET platform and data is stored in a MS SQL Server database at the Swedish EPA⁷¹.

6.1.4 SMP support

A support function has been set up in order to help the users of the system with technical questions, passwords and to collect suggestions for improvement. The support is opened and available both on Internet and telephone during weekdays between 09:00-15:00. The support also contains a FAQ function.

6.1.5 Links to useful information

Within the system there are links to useful information such as:

- Regulation on environmental reports (NFS 2006:9)
- Guidelines on the Regulation of environmental reports

6.1.6 SMP management organisation

A management organisation has been set up for SMP in order to achieve the goals for the system. To ensure that the Swedish EPA meets international reporting requirements and to ensure that these requirements are compatible with the requirements supervisory authorities, a Strategic Reference Group and a User Panel has been established within the framework of the management organisation. The Strategic Reference Group manages issues on overall characters such as coordination between SMP and MiljöReda, concerning development efforts, resource issues, and demands for the extension of SMP to include data collected using other legislation, larger technical and organisational changes. The User Panel handles changes in the system of concern to the operators, supervisory authorities and the Swedish EPA. Within the forum questions related to amendments that have been submitted to the support are discussed. In order to collect and follow up comments from different users (operators and supervisory authorities) on how the system works, an annually survey is carried out. The management gives direct response to all comments made in the annual survey⁷². Most comments concerns usability of SMP and improvements of the reporting guidelines on the Regulation on environmental reports.

⁷⁰ <https://smp2.naturvardsverket.se/Information/AboutSystem.aspx>

⁷¹ <https://smp2.naturvardsverket.se/Information/AboutSystem.aspx>

⁷² Personal comment made by Tord Wikström at the Swedish EPA 2012-01-20

6.1.7 Quality assurance and quality control of data in SMP

In SMP input of data is enhanced by specific features for the different parts of the environmental report:

- Basic part, text part, emission declaration
 - Data from last report are automatically inserted when a new version of a report is generated
- Basic part
 - Current administrative information for the installation/facility is obtained from the supervisory authorities every year
- Emission declaration
 - Data reported the previous year is visible in the entry form

The system performs a number of validations when the operator enters information into the different parts of the environmental report. The validations performed within the basic part and the emission declaration are listed below.

6.1.7.1 BASIC PART

The system performs the following validations⁷³:

- The telephone number to the operator is controlled if it is reported.
- The e-mail address is controlled if it is reported.
- Checking if the coordinates of the location is within country's borders.
- Checking if the company registration number is given in a correct format.

6.1.7.2 EMISSION DECLARATION

The system performs a thorough validation by checking if⁷⁴:

- The pollutant code, release media/transfer code, unit code and method code used are valid.
- The measurement point is reported or not, and is the name of the measurement point correctly given.
- A value is missing for an entered parameter.
- The number of characters is exceeding the limit of characters in the comment field.
- The coordinates of the location of the measurement point are within country's borders for releases to water.
- The name and address of the recoverer or the disposer of the waste and the actual recovery or disposal site are reported for transboundary movements of hazardous waste.
- Method used reported as “weigh” is only used for transboundary movements of hazardous waste and non-hazardous waste.
- A reported value has changed considerably (+/- 50%) compared to the reported value for last year. If this is the case, then a comment needs to be inserted in the comment field of the form.

⁷³ Personal comment made by Tord Wikström at the Swedish EPA 2012-01-12.

⁷⁴ Personal comment made by Tord Wikström at the Swedish EPA 2012-01-12.

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

- A partial-flow is reported. If this is the case then it is controlled that it is combined with a correct code for release media or transfer.
- A valid combination is used for designation of method and measurements and calculations.

6.1.7.3 CONFIDENTIALITY IN SMP

The main rule is that the information given in environmental reports is considered public and should be available to everyone. The supervisory authority can, however, in connection with the disclosure of environmental reports classify information provided by the operator as confidential if it concerns business or operating conditions, inventions or research results. This applies only if it can be assumed that individuals will suffer injury if the information is communicated⁷⁵.

If the operator considers that there is information in the environmental report that should be covered by confidentiality according to the Public Access to Information and Secrecy Act (see chapter 3), this information should be presented in SMP separated from other text (in attachments to the text part of the environmental report). For each installation, specifying what information that has been considered as confidential and what harm they may suffer if the data is being disclosed. Only the supervisory authorities have access to this information.

The data uploaded by the operator to SMP is handled in the following way:

- All communication between the operator's computer and SMP is encrypted.
- All environmental reports are stored in SMP.
- Working versions of environmental reports are available to the registered user of respective operator and only a registered user can delete a report.
- Changes (new versions) of the environmental reports can only be made by a registered user of respective operator.
- Submitted versions of environmental reports are available to view for registered users of the respective operator.
- The Swedish EPA, SMP administration, country administrative boards and municipalities can view all environmental reports in SMP, except attachments indicated as confidential.
- After submission of the environmental report in SMP the supervisory authority will immediately receive an e-mail containing the report with annexes, except for parts that have been indicated as confidential. Confidential parts are instead sent as links to attachments in and it is necessary to log into SMP to gain access to the links.
- The information in the emission declaration is automatically transferred from SMP to MiljöReda.

⁷⁵ <http://www.notisum.se/rnp/sls/lag/20090400.htm#>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

- Any revisions of the basic part of the environmental report shall be sent by a separate mail to the supervisory authority for control and possible updating of the MiljöReda.

7 PRTR reporting process

As previously mentioned, an operator of an installation that requires a permit or an activity that is included in Annex I to Regulation on environmental reports (NFS 2006:9) is obliged to submit an environmental report. The operators shall use the Swedish Portal for Environmental Reporting (SMP) when submitting the environmental report electronically to the supervisory authority. The guidance document to the Regulation on environmental reports includes detailed information on how reporting in SMP shall be performed⁷⁶. The environmental report is considered as a public document and therefore data can be published directly on the national PRTR website, i.e. without a separate permission from the operator. If certain information in the environmental report is regarded as confidential, the operator may apply for this information not being published on the national PRTR website.

7.1 Data flow

The flow of Swedish PRTR data can be seen in Figure 6.

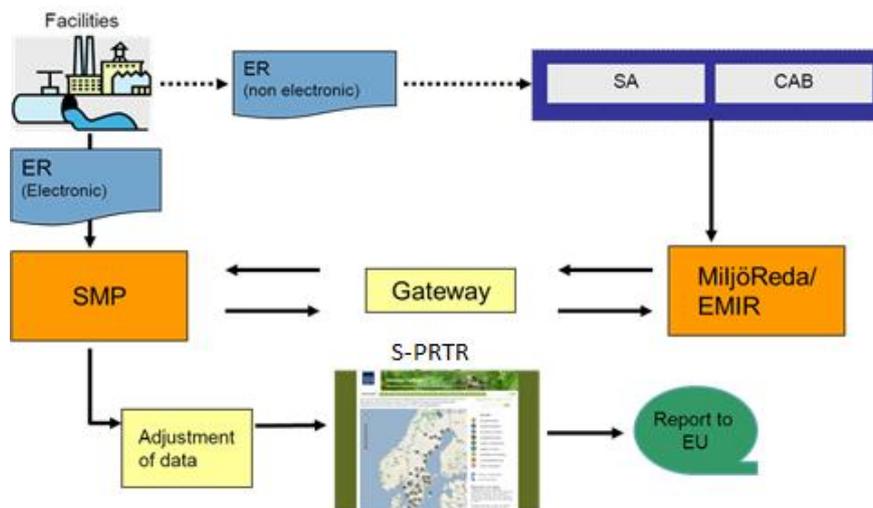


Figure 6. The Swedish PRTR data flow. SMP=Swedish Portal for Environmental Reporting and database, hosted by the Swedish EPA, S-PRTR = Sweden's PRTR and database, hosted by the Swedish EPA, ER=Environmental Report, CAB=Country Administrative Boards, SA=any other Supervisory Authority than CAB, MiljöReda/EMIR=database hosted Country Administrative Boards database.

The operators shall submit their annual environmental report for any given year no later than 31st of March the following year. The reporting process is facilitated due to that the operators themselves enter the data into SMP. Only authorized persons

⁷⁶

http://www.naturvardsverket.se/upload/03_lagar_och_andra_styrmedel/tillsyn_och egenkontroll/Egenkontroll/Miljorapportering/vagledning_miljorapportering.pdf

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

at each facility have the right to modify the information stored in the database. All data reported into SMP is stored at one place, easily accessible and possible to update at any time during the year.

The supervisory authorities review and approve the reports within the system as part of their supervision work. The review performed by the supervisory authorities is mainly focused on whether the stipulations in the permit are met or not, the completeness of the environmental report and whether it has been submitted on time. The Swedish EPA allowed for a transition period for reporting years 2007-2009, during which it was not mandatory to use SMP for submission of the environmental reports. Instead the operators could submit a hard copy of the environmental report to the supervisory authorities, which entered the necessary information into their system. In Table 2 the proportion of electronic reporting compared to data delivered as hard copy can be seen.

Table 2. Proportion of electronic reporting compared to data delivered as hard copy.

Reporting	2007	2008	2009
Electronic	89 %	99 %	100 %
Paper	11 %	1 %	0 %

During 2010 the country administrative boards changed database system from the former entitled EMIR to the new entitled MiljöReda. This means that EMIR was used for reporting year 2007 and 2008 and MiljöReda for reporting year 2009 and onwards. EMIR did not include information on E-PRTR Annex I activity code, street address and postal code. Such information is on the other hand included in MiljöReda.

The two databases SMP and EMIR/MiljöReda communicate with each other through a gateway and information is transferred between the databases every four hours. Most of the administrative information is transferred from EMIR/MiljöReda to SMP. During the change of database system, from EMIR to MiljöReda, problems related to compatibility were experienced. The problems were however solved during a transitional period of a couple of weeks with the gateway open between all three databases, to ensure that no data would be lost.

The Swedish PRTR is updated once a day with data from SMP after some adjustments. The XML-file used for the EU reporting according to European PRTR can be generated directly from the website by any authorised person. Data is reported twice a year to EU (the 31st of March and 30th of September). The reporting to EU is described in section 7.4.2.

7.2 Reporting by operators

7.2.1 Requirements for operators

The reporting requirements for operators are given in the regulation on environmental reports (NFS 2006:9) as mentioned above in section 5.1.3. In order to clarify the reporting requirements given in the regulation the Swedish EPA has developed a guidance document on compiling environmental reports - "Vägledning om Naturvårdsverkets föreskrifter om miljörapport"⁷⁷. §5 of the regulation states that operators performing an activity according to the Annex I of the regulation shall submit an emission declaration.

The reporting requirements given in §5 (including Annex I and II) NFS 2006:9, concerning information to be reported in the emission declaration, meet the requirements given in Article 7 in the Protocol and Article 5 in the E-PRTR Regulation with a few exceptions discussed below.

7.2.1.1 ACTIVITIES

The Protocol includes two different approaches to define the facility scope; capacity thresholds or employee thresholds. Sweden, as an EU member state, has chosen the capacity threshold approach in order to be consistent with the requirements given in the E-PRTR Regulation.

Annex I to the Regulation on environmental reports (NFS 2006:9) lists the different activities that require reporting. The activities listed in Annex I are identical to the activities required by Annex I to the PRTR Protocol and the E-PRTR Regulation.

7.2.1.2 POLLUTANTS

The Swedish system is consistent with the requirements given in the PRTR Protocol and the E-PRTR Regulation concerning the issue that the operators shall report both the total release of a certain pollutant, and any release by accident.

Many of the substances that are included in Annex II of the Protocol and E-PRTR Regulation are severely restricted, banned or are being phased out under international agreements. They are included in the PRTR Protocol for the sake of completeness, even though the usage and thus reporting is very limited⁷⁸.

Annex II of the Regulation on environmental reports (NFS 2006:9) lists the different pollutants that are required to be reported. The Swedish requirements are not consistent with the pollutants requested by the PRTR Protocol and the E-PRTR Regulation. Annex II of the Regulation on environmental reports (NFS 2006:9)

77

http://www.naturvardsverket.se/upload/03_lagar_och_andra_styrmedel/tillsyn_och_egenkontroll/Egenkontroll/Miljorapportering/vagledning_miljorapportering.pdf

⁷⁸ http://www.unece.org/fileadmin/DAM/env/pp/prtr/guidance/PRTR_May_2008_for_CD.pdf

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

includes 26 fewer parameters than the corresponding annex in the PRTR Protocol and the E-PRTR Regulation (see Table 3). These substances have been banned or phased out for a long time in Sweden. However, some of the banned substances may be formed unintentionally, e.g. HCB and PCP, for example during combustion. If any of these substances nevertheless are emitted in such quantities that the thresholds laid down in Annex II of the E-PRTR Regulation are exceeded, they shall be reported.

7.2.1.2.1 CO₂

Both the Protocol and the E-PRTR Regulation require reporting of total carbon dioxide (CO₂) emissions, as sum of the biogenic and fossil amount of CO₂. On a voluntary basis CO₂ excluding biomass can be reported to the European PRTR.

The Swedish Regulation requires separate reporting of the fossil fraction and the biogenic fraction of carbon dioxide emissions as well as the total CO₂ emissions⁷⁹. This is due to the needs of the Swedish greenhouse gas inventory and reporting to the UNFCCC and the EU Monitoring Mechanism Decision (Decision No 280/2004/EC).

7.2.1.3 RELEASE MEDIA AND OFF-SITE TRANSFERS

The Swedish system is consistent with the requirements given in the PRTR Protocol and the E-PRTR Regulation concerning releases to air, water and off-site transfers of waste water.

However, both the Protocol and the E-PRTR Regulation include requirements for reporting of releases to land. The reporting on releases to land according to the Protocol applies when a facility directly disposes waste to the environment or when landfills is lacking of suitable technical measures to prevent polluting of soil and/or ground water. The E-PRTR Regulation only includes the disposal operations “land treatment” or “deep injection” as releases to land. A group of experts at the Swedish EPA come to the conclusion that releases to land, according to the above mentioned definitions, do not exist in Sweden and consequently this requirement is not included in the Swedish regulation⁸⁰. It is important to mention that according to the Protocol and the E-PRTR Regulation, spreading of sludge and manure on land are considered as recovery operations and therefore not reported as releases to land. Reporting of accidental releases of pollutants into the soil on the site of a facility (for example spillages) is not required by the EC-Regulation⁸¹.

⁷⁹ http://www.naturvardsverket.se/Documents/foreskrifter/nfs2006/nfs_2006_9k.pdf

⁸⁰ Personal comments made by Monica Magnusson at the Swedish EPA 2011-11-15

⁸¹ http://prtr.ec.europa.eu/docs/EN_E-PRTR_fin.doc

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Table 3. Pollutants excluded in NFS 2006:9 that are requested in the Protocol (PRTR) and the E-PRTR Regulation (E-PRTR). Releases to air (A) and water (W).

No.	CAS-no.	Pollutant	Swedish Prohibition	NFS 2006:9	E-PRTR	PRTR
25	15972-60-8	Alachlor	Banned (1978)	-	W	W
26	309-00-2	Aldrin	Banned (1970)	-	A, W	A, W
27	1912-24-9	Atrazine	Banned (1989)	-	W	W
28	57-74-9	Chlordane	Banned (1971)	-	A, W	A, W
29	143-50-0	Chlordecone	Banned (1978)	-	A, W	A, W
30	470-90-6	Chlorfenvinphos	Banned (2001)	-	W	W
32	2921-88-2	Chlorpyrifos	Limited use	-	W	W
33	50-29-3	DDT	Banned (1975)	-	A, W	A, W
36	60-57-1	Dieldrin	Banned (1970)	-	A, W	A, W
37	330-54-1	Diuron	Banned (1993)	-	W	W
38	115-29-7	Endosulphan	Banned (1996)	-	W	W
39	72-20-8	Endrin	Banned (1966)	-	A, W	A, W
41	76-44-8	Heptachlor	Banned	-	A, W	A, W
42	118-74-1	Hexachlorobenzene (HCB)	Banned (1980)	-	A, W	A, W
44	608-73-1	1,2,3,4,5,6- hexachlorocyclohexane(HCH)	Banned	-	A, W	A, W
45	58-89-9	Lindane	Banned (1989)	-	A, W	A, W
46	2385-85-5	Mirex	Banned (1968)	-	A, W	A, W
48	608-93-5	Pentachlorobenzene		-	A, W	A, W
49	87-86-5	Pentachlorophenol (PCP)	Banned (1978)	-	A, W	A, W
50	1336-36-3	Polychlorinated biphenyls (PCBs)	Banned (1995)	-	A, W	A, W
51	122-34-9	Simazine	Banned (1995)	-		W
59	8001-35-2	Toxaphene	Banned	-	A, W	A, W
66	75-21-8	Ethylene oxide	Banned (1991)	-	A, W	A, W
67	34123-59-6	Isoproturon	Limited use	-	W	W
74		Tributyltin and compounds	Limited use	-	W	W
77	1582-09-8	Trifluralin	Banned (1990)	-	W	W

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Sweden, as an EU member state, uses the waste-specific approach in order to meet the requirements given in the E-PRTR Regulation, see further chapter 2.3. The approach implies that each facility has to indicate the amount of waste transferred, if the waste is classified as hazardous or as other waste and whether it is destined for recovery or disposal.

7.2.1.4 THRESHOLDS

The provisions of the Protocol and the E-PRTR Regulation do not affect the right of Member States to maintain or introduce a more extensive pollutant release and transfer register than required by the Protocol and the E-PRTR Regulation. In Annex II of the Regulation on environmental reports (NFS 2006:9) lower thresholds are set for approximately half the number of the pollutants in Annex II of the Protocol and the EC-Regulation (see Appendix 1.).

The preparation process of the former Regulation on environmental reports (NFS 2000:13)⁸² was preceded by a discussion between experts at the Swedish EPA concerning thresholds for different pollutants, based on the thresholds given in Annex AI of the EPER decision⁸³. For almost all pollutants classified as a chemical⁸⁴ in NFS 2000:13 the Swedish EPA decided that the release threshold should be 1 kg.

During the preparatory work of the current Regulation on Environmental Reports (NFS 2006:9) the pollutant thresholds were discussed again. It was finally decided by the Swedish EPA to retain the thresholds stated in NFS 2000:13 and for the parameters that were added due to the Protocol and the EC-Regulation that the thresholds applicable according to the EC-Regulation should be used⁸⁴.

7.2.1.5 METHODS

The Swedish requirements for methods concerning measurement, calculation or estimation are identical to the requirements given in the E-PRTR Regulation and the accompanying guidance document.

⁸² http://www.naturvardsverket.se/Documents/foreskrifter/upphavda/2000/NFS2000_13k.pdf

⁸⁴ Personal comment made by Monika Magnusson at the Swedish EPA 2012-01-16

7.2.2 Reporting difficulties for operators

The main difficulties for the operators regarding reporting, for 2007-2009, have been the following:

- E-PRTR activity classification of the facility
- Method type codes and method designation
- Information on addresses for facilities with off-site transfer of hazardous waste to other countries
- Pollutants reported both as single substances and as compounds
- kg as reporting unit

Some operators have had difficulties with the E-PRTR activity classification of the facility according to Annex I. Some operators have provided an incorrect E-PRTR-activity code to their facility, or have not given the information at all - mainly because they have missed the information in the guidance document stating that classification should be performed.

The operators have furthermore had difficulties to understand the reporting guidelines concerning method type codes and method designations. They find it difficult to understand what method code that is applicable to the method they use. They have also expressed a need for additional internationally approved measuring methods in SMP. The internationally approved methods that at present can be found in SMP are based on Appendix III in the EU Guidance Document for the implementation of the European PRTR.

Several of the operators handling off-site transfer of hazardous waste to other countries have expressed that they found it hard to understand how to report the address information for the disposer and the disposal site in accordance with the guidelines.

Many operators are concerned that data are reported twice when pollutants in Annex II are supposed to be reported both as single substances and as compounds, for example benzene and NMVOC released to air.

In former national reporting the unit varied for different pollutants, e.g. the reporting unit for CO₂ was previously tonnes, whereas in current reporting the unit is kg for all pollutants. The operators found this change confusing during the reporting of 2007, and as a consequence many operators reported emission data with unit errors (i.e. a factor of 1000 above or below the true value).

7.3 Data quality and responsibilities

According to the Protocol the operators of the facilities shall assure the quality of the data that they report. The competent authorities shall ensure that the information in the national register is complete, consistent and credible⁸⁵. The Swedish EPA is designated as the competent authority for reporting of PRTR data in Sweden.

In Table 4 the involved institutions in the PRTR data collection and their responsibilities in the validation process are given.

Table 4. Institutions involved in the PRTR data collection and validation, and their responsibilities.

Institution	Pathway	Validation by this institution
Facility	Data input into SMP	Responsible for the assurance of the quality of the reported data. Validation of reported data.
Local Authority		Responsible for the validation and approval of the operators' environmental reports. Checks if the environmental report is submitted in time.
Regional Authority	Transfer of administrative information concerning the facilities and release data from environmental reports (hard copies) from EMIR/MiljöReda to SMP (2007-2009)	Responsible for the validation and approval of the operators' environmental reports. Checks if the environmental report is submitted in time.
National Authority	Transfer of data from SMP to the national PRTR and the XML-file used for reporting to EU.	Responsible for the overall validation concerning completeness, consistency and credibility of the reported data.
Ministry of the Environment	-	No validation is performed at this level. The responsibility is delegated to the Swedish EPA.

7.3.1 Identification of facilities

The IPPC activity code is set by the supervisory authorities according to the IPPC Directive⁸⁶. Prior to the first reporting according to the E-PRTR Regulation an automatic transfer from IPPC activity code to E-PRTR activity code was performed. The transfer was made according to the EU Guidance Document for the implementation of the European PRTR, Appendix II - Comparison of IPPC and E-PRTR activities⁸⁷, and it was only performed in those cases where there was a one-

⁸⁵ http://www.unece.org/fileadmin/DAM/env/pp/prtr/Protocol%20texts/PRTR_Protocol_e.pdf

⁸⁶ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:024:0008:0029:EN:PDF>

⁸⁷ <http://prtr.ec.europa.eu/pgDownloadGuidance.aspx>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

to-one relationship between IPPC- and E-PRTR-activity codes. The greatest number of facilities was identified using this method, but new E-PRTR-activities compared to IPPC-activities remained unclassified. Therefore it was decided by the Swedish EPA that the operators themselves should perform the E-PRTR classification of their facilities when submitting the environmental report. This was made possible by introducing a dedicated reporting field in the basic part of the environmental report in SMP. The assessment of the operators was meant to be based on information in Annex I to the NFS 2006:9 and the accompanying guidance document. However, the operators have had some difficulties with the classification (see section 7.2.2). Consequently, the Swedish EPA initiated a discussion with the country administrative boards concerning the responsibility for identification of the E-PRTR facilities and in May 2010 it was decided by the Strategic Reference Group for SMP that the Swedish EPA should develop a translation key of the activity codes given in the Annex to SFS 1998:899 and the E-PRTR-activity codes given in Annex I. Further, it was also decided due to practical reason that the supervisory authorities should be responsible for the on-going update of the E-PRTR activity codes. As a consequence the operators' right to enter the E-PRTR activity code in SMP was removed.

7.3.2 Data review

In addition to the initial quality check carried out automatically in SMP a manual review of emission data is performed. The review and correction process is illustrated in Figure 7. The manual data review is performed by SMED (Swedish Environmental Emissions Data – <http://www.smed.se>) on one occasion per year. The review work is coordinated with review of data that can be found in SMP that shall be reported according to other international requirements such as:

- LCP Directive⁸⁸
- PLC Annual⁸⁹
- OSPAR RID⁹⁰
- WISE-SoE: TCM⁹¹
- Sewage Sludge Directive⁹²

The review implies that data is examined in detail before it is reported to the EU according to the Regulation on E-PRTR. Administrative information about the facility, e.g.name, address, e-mail etc., is however not included in the review. Neither is waste included in the review after emission year 2009. The Swedish EPA has considered it not meaningful due to the large variations of generated amounts of waste between years. The manual review is performed through time series analysis and comparisons with the Annex I activities. From the review a list (Excel) is generated containing suspected errors. The list is communicated by e-mail by the

⁸⁸ http://eur-lex.europa.eu/LexUriServ/site/en/oj/2001/l_309/l_30920011127en00010021.pdf

⁸⁹ http://www.helcom.fi/groups/monas/en_GB/plcwaterguide/

⁹⁰ http://www.ospar.org/content/content.asp?menu=00920301420000_000000_000000

⁹¹ <http://dd.eionet.europa.eu/datasets/latest/Marine>

⁹² <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31986L0278:EN:HTML>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Swedish EPA to the concerned operators, with courtesy copy to its supervisory authority of concern. Then operators perform correction of data in SMP and provide optional comments to the Swedish EPA. Unfortunately, not all operators consider the review comments and since only the operators have access to change their own data, incorrect data may occur in the system.

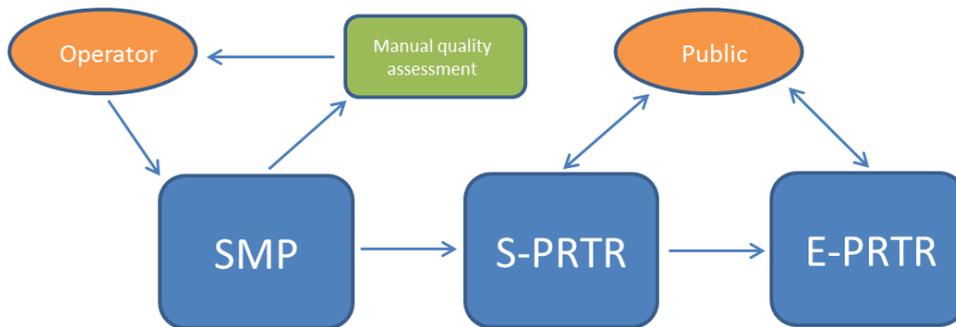


Figure 7. The data flow together with the review and the correction process.

7.4 Reporting by the government

7.4.1 The Swedish PRTR

The Swedish Pollutant Release and Transfer Register can be found on the website: <http://utslappisiffror.naturvardsverket.se/en/>

Information about approximately 1100 facilities can be found in the register. It includes information from year 2007 and onwards. Activities classified according to Annex I NFS 2006:9 that report any of the pollutants given in Annex II of NFS 2006:9, as well as hazardous- and non-hazardous waste, regardless of the threshold can be found on the website⁹³.

Data on emissions to air from diffuse sources are only partly presented on the website. The register includes a special entrance for emissions to air (see section 7.4.1.4.4) based on the Swedish official reporting according to United Nations Framework Convention on Climate Change (UNFCCC) and Convention on Long-Range Transboundary Air Pollution (CLRTAP), which require national totals for defined sectors and subcategories. However, this information is not connected to the reporting of the individual point sources in the PRTR register. Consequently releases for a single facility cannot be identified in the national report according to UNFCCC and CLRTAP that are presented on the map that is included in the tab “emissions to air”. However, emissions from some sectors and subcategories (for example road transport, shipping, agriculture and domestic heating), can be considered as strictly diffusive emissions.

⁹³ Personal comment made by Kristina Oliviusson at the Swedish EPA 2012-01-30.

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

The website is available both in Swedish and in English. The vision for the website is that it should be a pedagogical instrument where the visitors easily can find the information they are interested in. The total cost of the development of the website was approximately 3 million SEK⁹⁴.

7.4.1.1 LAUNCH OF THE SYSTEM

The system was launched in November 2009. Prior to the launch a seminar was arranged by the Swedish EPA for both operators and supervisory authorities. At the seminar the participants were informed about:

- The underlying requirements for setting up a PRTR system
- Demonstration of international PRTRs and the national PRTR
- Communication strategy for the launch
- Data quality and review of data
- The Regulation on environmental reports (NFS 2006:9)
- SMP

The seminar was filmed and made available on the website. Notes were taken and questions from the participants were documented and also made available on the website.

7.4.1.2 SYSTEM REQUIREMENTS

The national PRTR is designed and tested with the browsers Mozilla Firefox 3.0+ and Microsoft Internet Explorer 7.0+. The user must have Javascript enabled in the browser. Both browsers default settings allow both Javascript and ActiveX and no settings are needed locally.

7.4.1.3 TECHNICAL SOLUTION

The software's used for the national PRTR are given by Table 5.

Table 5. The technical solution for the national PRTR.

Software	Version/SP
Microsoft Internet Information Server	IIS6
Windows Server 2003	SP2
NET Framework 3.5	SP1
EpiServer CMS 5 R2	SP1
Microsoft SQL Server 2005 32-bits with SSIS	Standard, SP2

Google Maps API 2.0 is used to display geographic information about facilities. Vizzit is used as a statistical tool. SiteSeeker (from Euroling) is used for manage indexing and the search function of the website.

⁹⁴ Personal comment made by Ingrid Ededahl at the Swedish EPA 2012-01-23.

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

7.4.1.4 INFORMATION INCLUDED

The information and functions that can be found under the different tabs are briefly described below.

7.4.1.4.1 Homepage

The homepage of the Swedish PRTR webpage can be seen in Figure 8. An interactive map (Google map) over Sweden is shown in order to help the visitor to find information about the polluters in the area of interests. The map is easy to zoom in and out. If the visitor knows the exact name of the facility of interest the quick search function can be used. The nine different activity sectors requested according to Annex I of the Protocol (see section 2.2) are illustrated by a symbol and by clicking on the link all facilities within the sector are shown on the map. The site is linked to Google Earth.



Figure 8. Homepage of the Swedish PRTR.

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

7.4.1.4.2 Search

The page includes forms for queries in the database. Both a simple search (see Figure 9) and an advanced search function are included. The following information about the facility is shown (see Figure 10):

- Administrative information about the facility.
- The location of the facility is shown on a map (Google Map) and there is also a link to Google Earth.
- Data concerning releases (emissions to air, discharges to water) and off-site transfers (discharges to waste-water treatment plants and waste) are shown. The information can be opened in Excel and graphs can be generated using the Google tool “Motion chart”.

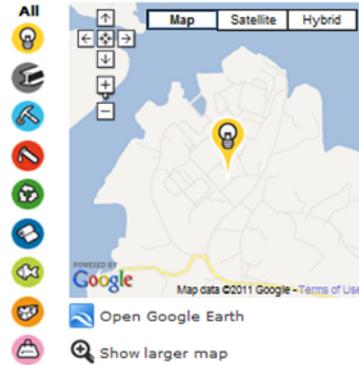
The screenshot shows the 'Search' page of the PRTR website. At the top, there is a navigation bar with tabs for 'Home', 'Search', 'Substances', 'Emissions to Air', 'More data', 'About PRTR', and 'Your assistance'. The 'Search' tab is active. Below the navigation bar, the page title is 'Search' and there are links for 'Simple search' and 'Advanced search'. The main content area is divided into two columns. The left column contains a search form with the following sections: 'Area' (with 'County' and 'Municipality' dropdown menus), 'Activity' (with 'Area of activities' and 'Subsidiary activity' dropdown menus), and 'Select' (with radio buttons for 'Facility', 'Substance', and 'Waste*', and a dropdown menu for 'All facilities'). A green 'Search' button is located at the bottom right of the form. The right column contains informational text: 'What can I find?' (describing the register's scope), 'How do I search?' (explaining simple and advanced search methods), and 'Advanced search' (providing a numbered list of steps).

Figure 9. The simple search function.

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Preemraff, Lysekil

Activity (PRTR) 1.(a) Mineral oil and gas refineries
 Activity (FNH) 23.30 Stenkol, petroleum, kärnbränsle
 County Västra Götalands län
 Municipality Lysekil
 Parent company name Preem AB
 Organization ID No. 556072-6977
 Property reference Aspedalen 2:9, sjöbol 2:1 och 2:5, Slättna 2:31
 Supervisory agency Länsstyrelsen i Västra Götalands län



Emissions

Substance	2009	2008	2007	Emissions to air (kg)	Method	Emissions to water (kg)	Method	Emissions to wastewater treatment plants (kg)	Method
As	-	-	-	-	-	4.1	M	-	-
Benzene	-	38000	-	-	C	-	-	-	-
BOD7	-	-	-	-	-	6700	M	-	-
CO2 biofuels	-	0	M	-	-	-	-	-	-
CO2 fossil fuels	-	1672800000	-	-	M	-	-	-	-
CO2 Total	-	1673000000	-	-	M	-	-	-	-
COD-cr	-	-	-	-	-	85200	M	-	-
Hg	-	-	-	-	-	0.2	M	-	-
NMVOG	-	3570000	-	-	C	-	-	-	-
NOx/NO2	-	577000	-	-	M	-	-	-	-
Phenols	-	-	-	-	-	140	M	-	-
PM10	-	86000	-	-	C	-	-	-	-
SOx	-	520000	-	-	M	-	-	-	-
Toluene	-	184000	-	-	C	-	-	-	-
Total N	-	-	-	-	-	4000	M	-	-
Total P	-	-	-	-	-	300	M	-	-
Xylenes	-	226000	-	-	M	-	-	-	-
Zn	-	-	-	-	-	46.5	M	-	-

Hazardous waste

Treatment method	Quantity (tonnes)	Method
Disposal in Sweden	431.8	M
Recycling in Sweden	1.83	M
Recycling abroad	650	M

Non-hazardous waste, for treatment in and outside Sweden

Treatment method	Quantity (tonnes)	Method
Disposal	2481.6	M
Recycling	455.36	M

Figure 10. Information about the facilities that can be found within the national PRTR-system.

7.4.1.4.3 Substances

The tab includes information about the different pollutants included in the Swedish system. The system includes information about approximately 70 different pollutants or substance groups⁹⁵. Information about characteristics, the main use, main emission sources and impacts on human health and the environment of the different substances can be found. The pollutants are divided in the following categories:

- Greenhouse gases
- Other gases
- Heavy metals
- Pesticides
- Chlorinated organic substances
- Other organic substances
- Inorganic substances

⁹⁵ <http://utslappisiffror.naturvardsverket.se/en/Substances/>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

7.4.1.4.4 Emissions to air

The tab includes Swedish official air emission data reported according to UNFCCC and CLRTAP as national totals. Hence, the presentation includes emissions both from diffuse sources, such as road transport, and from point sources (some of these might be listed in Annex I and they may be both above and below the thresholds given in Annex II). As mentioned in section 7.4.1 the information on the map is not linked to the information that can be found in tabs named “homepage” and “search”. The information is shown by using a GIS-tool, named “Airviro”, which has been developed by the Swedish Metrological and Hydrological Institute (SMHI). The emissions are shown by county or municipality as tonnes per km². They are classified according to a grid in which every square measures 1x1 km⁹⁶. In Figure 11 the emission of NO_x from the transport sector in Västra Götaland county in year 2009 can be seen.

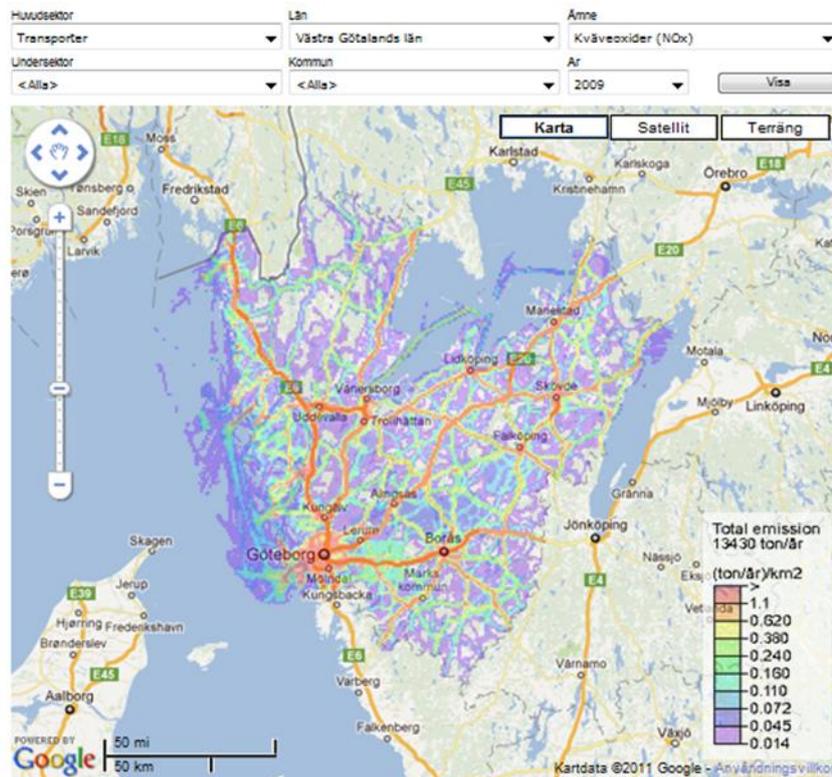


Figure 11. Emissions of NO_x from transport sector in Västra Götaland county in year 2009.

7.4.1.4.5 More data

The tab includes links to other websites with useful information related to the PRTR register, such as links to the national environmental objectives, official statistics and illustrations of usage and environmental effects of some toxic pollutants⁹⁷.

⁹⁶ <http://utslappisiffror.naturvardsverket.se/en/Emissions-to-Air/>

⁹⁷ <http://utslappisiffror.naturvardsverket.se/en/More-data/>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

7.4.1.4.6 About PRTR

The tab gives the visitor a background on why the PRTR system has been established and the different underlying requirements. There are links to the Aarhus Convention and the Protocol on PRTR. There is also a function for FAQ⁹⁸.

7.4.1.4.7 Your assistance

In order to meet the requirements given in the Protocol about, concerning the issue giving the public the opportunity to participate in the development of the national PRTR, the tab includes a web form in which the visitors are invited to submit their comments or suggestions to improve the website.

The tab also includes several suggestions on what visitors can do to get involved in environmental issues. The site refers to established Swedish non-governmental environmental organizations that welcome new members.

7.4.2 Reporting to EU

Data is submitted on an annual basis to the European Commission and the European Environment Agency on the 31st of March using ReportNet⁹⁹. Detailed information on the reporting procedures and content is available in the E-PRTR Guidance Document. In case errors are found after data has been submitted to EU, reporting countries have the possibility to correct the reported data before 30th of September.

The reporting to EU includes facilities that are classified according to Annex I and exceed the thresholds given in Annex II of the E-PRTR Regulation. The number of facilities reported to EU for reporting year 2007 to 2009 can be seen in Table 6.

Table 6. Total number of reported facilities to EU for reporting year 2007-2009.

Total number of	2007	2008	2009
facilities with Annex-I-Activity	456	518	552

7.4.2.1 XML-FILE

The XML-file used for the reporting to EU can be generated directly from the national PRTR website by any authorised person. However, it requires some manual correction before the XML-file can be validated using the “E-PRTR validation tool”¹⁰⁰ and the validated XML-file is then reported to EU. Examples of the manual intervention are:

- adding of NACE-code for new facilities compared to previous reporting,
- adding of facilities with confidential information and then adjust the data with regard to confidentiality and
- exclusion of method designations made in Swedish.

⁹⁸ <http://utslappisiffror.naturvardsverket.se/en/About-PRTR/>

⁹⁹ <http://www.eionet.europa.eu/reportnet>

¹⁰⁰ <http://www.eionet.europa.eu/schemas/eptrtr/conversiontool>

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

7.4.2.2 QUALITY ASSESSMENT

During the first three reporting years there were some difficulties with the completeness of data provided by the operators, especially concerning operators performing intensive livestock production activities. The Swedish EPA has made efforts in clarifying the guidance document for this activity and hopefully the clarifications will improve the completeness.

As mentioned in section 7.2.2, the completeness has also been affected by the fact that operators have had difficulties with the E-PRTR activity classification of the facilities. Operators have reported wrong code or no code at all. For instance, many urban waste-water treatment plants were not reported in 2007 and 2008, i.e. in the reports to EU in 2009 and 2010, respectively. These facilities were however included in the report to EU in March 2011. Data were also missing in the report to EU in 2009, i.e. data from 2007 were incomplete regarding disposed and recovered quantities exceeding the thresholds for non-hazardous- and hazardous waste, but the values were included in the 2010 report.

The automatic validation in SMP has been improved continuously since the first report to EU in 2009. At that time there was no validation of the combination of pollutants and the type media the pollutants were released into. Therefore it was possible to make mistakes as for instance report an emission of methane as a release to water. This problem has later been taken care of, but there are still inconsistencies within the system that remain to be solved, e.g. some operators incorrectly report off-site transfer destined for waste-water-treatment as a release to water.

7.4.2.3 CONFIDENTIALITY

Quantity data of off-site transfer of hazardous waste to other countries are subject to confidentiality in Sweden. The main reason given for confidential claim is according to exception (d) given in Article 4(2) of Directive 2003/4/EC. Exception (d) states that:

- 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.

The decision of which data that should be confidential has been taken by the responsible supervisory authority after discussions with the Swedish EPA and the operator. The decision was taken for reporting year 2007 and the decision has not been reassessed since then.

The number of facilities per Annex-I-Activity with confidential data and the total number of reporting facility per Annex-I-Activity can be seen in Table 7. One facility with Annex-I-Activity 5.a has confidential data.

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Table 7. Number of Annex I facilities with confidential data compared the total number of Annex-I-Activity facilities.

	2007	2008	2009
Number of facilities with confidential data. Annex I activity 5.a	1	1	1
Number of facilities with Annex I activity 5.a	10	19	22
Total number of facilities with Annex-I-Activity	456	518	552

As there is only one facility within the E-PRTR population that has claimed confidentiality the practical experiences is limited. Normally, all types of information, e.g. facility data on emissions or environmental impact, provided to an authority are available to the public, pursuant to the Swedish Constitution. However, if the information concerns business interests, for example detailed chemical recipes, it might be confidential. The authority decides whether the information is confidential or not pursuant to the Swedish Public Access to Information and Secrecy Act. It is possible to appeal against authority decisions.

7.4.2.4 DIFFICULTIES FOR THE COMPETENT AUTHORITY

The main difficulties for the competent authority have been:

- Ambiguities in the guidelines “EUs Guidance Document for the implementation of the European PRTR“ and “User manual for E-PRTR Validation”, which have affected the development of both SMP and the XML-reporting-file.
- Reporting of waste.

It has been difficult to explain to the operators what they should report. This particularly concerns the method type codes and the method designations. The guidance was clarified in 2010, but there is still some unclearness concerning the mandatory reporting on method designations for method type codes ETS, IPCC and UNECE/EMEP. In Sweden the operators are not involved in the reporting of data according to UNFCCC and CLRTAP and therefore it has been difficult for them to report an accompanying method designation. It has also resulted in time demanding manual work for the Swedish EPA when preparing the XML-reporting-file, since all designations made in Swedish have been deleted and then reported as “-“ in the XML-file.

During the development of the XML-file according to the valid XML-scheme there have been difficulties in understanding which elements that can be omitted in the XML-file. The validation tool has responded to things that have not been clear in the guidance document and the user manual. Consequently, Sweden has reported a hyphen (“-“) for elements where no information is needed according to the validation tool.

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

In SMP the parameters for waste are non-hazardous waste and hazardous waste. Whether the waste is disposed or recovered should be indicated by four different codes: disposal – external; disposal – export; recovery – external; recovery – export.

According to the guidelines, data on non-hazardous waste and hazardous waste should be reported if the thresholds are exceeded irrespective of whether it is treated within the country or it is transferred to another country, or whether it is disposed of or recovered. This rule was missed during the first E-PRTR reporting to the EU and therefore the check of if the threshold were exceeded or not was not done as the sum of the different activities but on individual activities (i.e. disposal – external, disposal – export, recovery – external and recovery – export). This resulted in an incomplete reporting of emission year 2007 to the EU when data were submitted in 2009. This matter was taken care of manually when resubmitting the 2007 year data in 2010 and from 2011 this is automatically handle in the code that generates the XML-file.

7.4.2.5 REPORTING DEADLINES TO EU

Since the operators use the electronic reporting tool SMP when submitting the environmental reports, the Swedish EPA has access to PRTR data as soon as it is submitted. This means that the Swedish EPA beneficially is not depending on any other institution in the reporting of PRTR data. In addition, the national PRTR website is updated one time per day with data from SMP. The XML-file report is then easily generated from the PRTR-website. For these primarily reasons there have been no difficulties in meeting the reporting deadlines.

8 Public participation

At all Swedish libraries there are public computers and since the Swedish PRTR is web-based it is easily accessible to the public. The public can get in contact with an operator of interest via the national PRTR webpage through a link to the homepage of a company in the administrative information about the facility. As mentioned in section 7.4.1.4.7 the public can get in contact with the webmaster of the national PRTR website in order to submit their comments or suggestions on how the website can be improved.

The website attracted attention in the national press when it was launched. Apart from a link to the Swedish PRTR website from the Swedish EPA's website and from the electronic reporting system SMP, no direct marketing efforts for the website have been made. General information about PRTR can be found on the website of the Swedish EPA. The website has approximately 150 000 visitors per month and the PRTR site has approximately 500 national visitors per month. The visitors' statistics is used in order to develop the website.

8.1.1 Response from the public

During 2010 the Swedish EPA conducted a survey on how the public and other target groups perceive the transparency and the usability of the national PRTR website and how to move forward. 35 different people, of different target groups, participated in the study. The people were divided into the following different target groups:

- Environmentally interested public
- Students at secondary and higher education
- Environmental journalists
- Environmental scientists

One major conclusion made in the survey is that it is hard to find the web-site if you are not aware of its exact name or the entrance from the Swedish EPA website.

The first impression of the homepage with the map varied between the different target-groups. People in the younger target groups tended to like the homepage with the map more than the older people. The latter group tended to miss an explanatory text on how the homepage is thought to be used. Some made comments on that it is hard to understand from the headings of the different tabs what kind of information that can be found on the website. Almost all people that participated in the survey thought that it is difficult to assimilate the information due to lack of comparative data. They also thought it difficult to understand differences between the presentations that can be found in the tabs "homepage/search" and "emissions to air".

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Furthermore, participants in the survey made the following comments:

- links in tables, for example concerning substances, are unclear,
- it is hard to use the generated excel files in the given format
- it is hard to understand the Google motion chart function

The Swedish EPA utilizes the results from the survey in future efforts to make environmental data and statistics available and presented digitally via the web. Consequently, usability and increased understanding of presented data, e.g. by using comparative data, will be prioritized¹⁰¹.

Based on the results from the survey objectives for future development work have been formulated. Environmental data and environmental information produced by the Swedish EPA serves as a basis for decisions in society as a whole. It puts great demands on that users can easily find and understand the information that is communicated, and that it corresponds to their needs. The Swedish EPA has set up goals for future efforts to make environmental data and statistics available and presented digitally on the internet. The Swedish EPA wants:

- users to easily find and understand the information that is communicated.
- to develop a visual solution that is easily comprehensible, user-friendly, digitally available and in a modern way clearly presents which environmental data that are available.
- the user to easily get an overview of the available information and the importance of it, by means of e.g. figures, tables and charts
- the information to be comparable to other data and/or related to an established objective, and progress should be possible to follow over time¹⁰².

¹⁰¹ Personal comment made by Annmari Blom Wohlgemuth at the Swedish EPA 2012-01-17.

¹⁰² Personal comment made by Annmari Blom Wohlgemuth at the Swedish EPA 2012-01-17.

9 Lessons learned from the implementation of the Swedish PRTR

It is very important that work on reporting systems are preceded by a comprehensive inventory of existing international agreements and legislations in order to determine whether there are joint requirements stated in the documents. This should be done in order to identify where there are synergies and to avoid similar separate systems developed in parallel. Also by doing this the costs for development of IT-tools can be limited.

One overall conclusion from the implementation process of the national PRTR-system is that it is important from the beginning to think of the dataflow as a whole and as an integrated system including legislation, data input, review and output, otherwise you may end up with the development of separate systems. It is important to designate a reference group at an early stage in order to establish a forum where various interests can be discussed and made visible. It is important at an early stage to define what the system, or parts of the system, shall support.

9.1 Legal implementation

One major experience concerning the legal implementation process is that it is important at an early stage to clarify what information that can be redrawn from existing systems and what information is needed to fulfil the requirements according to the Protocol. It is important at an early stage to involve different stakeholders, for example people who know the requirements both on national and international level and IT-developers, in the development of the PRTR-system.

The integration process of the PRTR requirements with the environmental reporting system (see chapter 5) has been accompanied with some difficulties due to the fact that several interests, national and EC-directives, should be met and coordinated into the Regulation on environmental reports (NFS 2006:9) and the accompanying guidance document. There has been a great challenge in designing the two documents in order to make it comprehensible to operators what requirements they are subject to and how the required data are to be reported. Both documents have continuously been developed to become more user-friendly.

9.2 SMP

As mentioned in section 6, SMP should satisfy a number of different stakeholders' use of data. Therefore it has been important to set up a management organisation where all the main users are represented in order to make all interests visible, this is

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

done by setting up a User Panel and a Strategic Reference Group. A survey is sent annually to the operators and the supervisory authorities in order to collect their comments (see section 9.3.1). It is important to follow up and to give feedback of comments and requests from users and stakeholders to achieve a good acceptance of the reporting tool.

It is preferable to working with agile development of the system (see section 9.3) and to have enough time for testing the system before implementation. SMP took about 4 years to develop, including two years testing of a pilot version of the system. Because of time constraints the project had to focus on the input stage instead to ensure the entire reporting process, which came to influence the subsequent steps in the reporting process in a negative way.

It is a long process to develop a functional system and it is important not to keep the system static but continuously evolving in order to achieve an acceptable quality level of the reported data.

The key of achieving good quality of reported data is to prevent incorrect data from being imported into the system. Therefore it is extremely important that the guidance document on reporting as well as the help text within the system is transparent and understandable. It is also important that the system perform automatic validation of data when it is imported to the system.

9.3 Reporting process

During the development process of the IT-system it is important to be patient and not be set to make everything work out at once. It is preferable to use agile software development, methodology based on iterative and incremental development where requirements and solutions evolve through collaboration, since the full picture may not be clear from the beginning. It is also important to test the intended outcome on the intended user in an early stage, preferable in the “paper-stage”. Then it becomes not so costly to implement changes.

9.3.1 Reporting by operators

There is a great challenge in getting a single operator to understand the reporting requirements the facility is subject to, and how the information should be reported. The key to a successful reporting by the operators is to give clear instructions in the reporting guidance document and being open to amend issues that the operators experience as difficult. There is therefore important to establish a function to collect operators’ feedback on reporting issues. In Sweden this is done by sending an annual survey to all operators and supervisory authorities that use SMP in order to collect their opinions and experiences. Most comments concerns usability of SMP and improvements of the reporting guidelines on the Regulation on environmental reports. There have also been recurring comments from the operators that reporting

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

would be facilitated if there were industry-specific templates available in the system. The Swedish EPA has discussed the issue several times during the years, but concluded that most industries are so heterogeneous that such adjustment would not provide sufficient benefits to users. Furthermore, the support function of SMP has been developed to help the operators solve difficulties concerning technical issues of the reporting process.

9.3.2 Data quality and responsibilities

It is important at an early stage to clarify who is responsible of what activity within the system (operator and authorities on different levels), otherwise the quality of the reported data will be suffering. As mentioned above, the responsibility concerning E-PRTR-activity codes has changed over time (see section 7.3.1) due to the fact that the quality of the reported data was incomplete or incorrect (see section 7.2.2 and 7.4.2.2). This could have been avoided if the liability issue had been investigated properly from the beginning.

From the quality aspect, it turned out to be a very good initiative to invite operators to the seminar held in conjunction with the launch of the national PRTR website (see section 7.4.1.1) because then the operators became aware of that their data would be displayed publicly and consequently it became important to them that the reported data is accurate.

9.3.2.1 DATA REVIEW

It is important to include the review work in the reporting process and not seeing it as a separate activity. If the review work is handled integrated with the reporting system communication with the operators can be facilitated. If the operator can see the review comments in the reporting view it will be easier for them to understand the comments and consequently this will have a positive effect on data quality.

The actual time of data review is important. It is preferable that it is performed in direct connection to the operators' annual reporting activities. Otherwise it may be confusing what year the comments refer to if the review process is not integrated with the reporting tool.

It is preferable if comparison of data on a national level could be performed between the various international reporting's, for example UNFCCC, CLRTAP and LCP. This control could improve the quality of the reported data for the different requirements.

9.3.3 Reporting by the government

9.3.3.1 THE SWEDISH PRTR

It is preferable to working with agile development of the system (see section 9.2) and to have enough time for implementation. The national PRTR took about 1.5 years to develop.

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

For various reasons, the input system was given a higher priority than the output system during the development of SMP. In 2008 it resulted in a rushed development of SMP in order to manage the first report according to E-PRTR to the EU. In addition, it more than doubled the costs for the development of the Swedish PRTR website due to that it became necessary to make several previously unidentified technical adaptations. This could have been avoided if the dataflow had been seen as a whole and as an integrated system including data input, review and output from the beginning.

It is important to focus on producing good and functional use cases in order to test data. Many of the persons that participated in the testing work felt that the use cases were lacking in order to test the interface, and to guarantee the quality of data. It is very important that the logic of the system is working properly before the test work according to the designed use cases begins, otherwise confusion will arise among those who carry out testing and unnecessary time will be wasted.

Both the guidance to the Protocol and “EUs Guidance Document for the implementation of the European PRTR“ gives a clear instruction on what information that shall be included in the website. Both documents have been a tremendous help in the development of the Swedish PRTR website. Instead the challenge in developing a national PRTR website rather lies in how the data shall be presented to the user in order to make it understandable and interesting.

9.3.3.2 REPORTING TO EU

The reporting to EU is very straight forward and the overall impression of both guidance documents “EUs Guidance Document for the implementation of the European PRTR“ and “E-PRTR Validation Tool User Manual”¹⁰³ is that they are very informative and easy to understand. However, as mentioned in section 7.4.2.4 some issues has been difficult to understand during development of the XML-scheme.

9.4 Public Participation

It is necessary to put efforts in marketing of the PRTR website for it to become known and used. The website also requires regular management and development of resources to maintain its relevance and interest among users.

The purpose of the website and its content is not obvious to all users. From the survey on responses from the public it was indicated that the usefulness to the public of the PRTR website could increase if more educational information was added. Such information could for instance be interpretative support, e.g. data for comparisons of emissions

¹⁰³ <http://www.eionet.europa.eu/schemas/eptr/EPTRUserManual.pdf>

10 Conclusions

Work on reporting systems should be preceded by a comprehensive inventory of existing international agreements and legislations in order to determine whether there are joint requirements. This should be done in order to identify where there are synergies and to avoid similar separate systems developed in parallel. Also by doing this the costs for development of IT-tools can be limited.

One overall conclusion from the implementation process of the national PRTR-system is that it is important from the beginning to think of the dataflow as a whole and as an integrated system including legislation, data input, review and output, otherwise you may end up with the development of separate systems. It is important to designate a reference group at an early stage in order to establish a forum where various interests can be discussed and made visible. It is important at an early stage to define what the system, or parts of the system, shall support.

During the development process of the IT-system it is important to be patient and not be set to make everything work out at once. It is preferable to use agile software development, methodology based on iterative and incremental development where requirements and solutions evolve through collaboration, since the full picture may not be clear from the beginning. It is also important to test the intended outcome on the intended user in an early stage, preferable in the “paper-stage”, since it then becomes less costly to implement changes.

One of the greatest challenges in producing a functional PRTR system is the educational level. This is due to the fact that it is crucial that the operator understands what data requires reporting and how it shall be reported, and how data is presented to the public in an understandable and interesting way.

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NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

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NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

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NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

http://www.unece.org/fileadmin/DAM/env/pp/prtr/guidance/PRTR_May_2008_for_CD.pdf

http://www.unece.org/fileadmin/DAM/env/pp/prtr/Protocol%20texts/PRTR_Protocol_e.pdf

<http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163>

<https://smp2.naturvardsverket.se/Information/About.aspx>

<https://smp2.naturvardsverket.se/Information/AboutSystem.aspx>

11.2 Personal communications

Annmari Blom Wohlgemuth at the Swedish EPA 2012-01-17

Ingrid Ededahl at the Swedish EPA 2012-01-23

Kristina Oliviusson at the Swedish EPA 2012-01-30

Monika Magnusson at the Swedish EPA 2012-01-16

Monica Magnusson at the Swedish EPA 2011-11-15

Tord Wiklund at the Swedish EPA 2012-01-12

Tord Wikström at the Swedish EPA 2012-01-13

Tord Wikström at the Swedish EPA 2012-01-20

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NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

Appendix 1.

Table 8. Pollutants with lower thresholds in NFS 2006:9 compared to Annex II of the Protocol on PRTR and the E-PRTR Regulation.

No.	CAS-no.	Pollutants	Threshold for re-releases to air (kg/year) NFS 2006:9	Threshold for re-releases to air (kg/year) PRTR/E-PRTR	Threshold for re-releases to water (kg/year) NFS 2006:9	Threshold for re-releases to water (kg/year) PRTR/E-PRTR
6	7664-41-7	Ammonia (NH ₃)	1000	10000		
7		Non-methane volatile organic compounds (NMVOC)	5000	100000		
8		Nitrogen oxides (NO _x /NO ₂)	10000	100000		
12		Total nitrogen			6000	50000
13		Total phosphorus			100	5000
17		Arsenic and compounds (as As)	1	20	1	5
18		Cadmium and compounds (as Cd)	0.1	10	1	5
19		Chromium and compounds (as Cr)	10	100	20	50
20		Copper and compounds (as Cu)	10	100	20	50
21		Mercury and compounds (as Hg)	0.1	10	0.1	1
22		Nickel and compounds (as Ni)	10	50		
23		Lead and compounds (as Pb)	5	200	5	20
24		Zinc and compounds (as Zn)	100	200	20	100
31	85535-84-8	Chloro-alkanes, C10-C13	1	-		
34	107-06-2	1,2-dichloroethane (EDC)	1	1000	1	10
43	87-68-3	Hexachlorobutadiene (HCBd)	1	-		

NATURVÅRDSVERKET
Implementation of the
Swedish Pollutant Release and Transfer Register
(PRTR)

No.	CAS-no.	Pollutants	Threshold for re-leases to air (kg/year) NFS 2006:9	Threshold for re-leases to air (kg/year) PRTR/E-PRTR	Threshold for re-leases to water (kg/year) NFS 2006:9	Threshold for re-leases to water (kg/year) PRTR/E-PRTR
47		PCDD + PCDF (dioxins + furans) (as Teq)	0.000001	0.0001		
52	127-18-4	Tetrachloroethylene (PER)	1	2000	1	10
54	12002-48-1	Trichlorobenzenes (TCBs) (all isomers)	1	10		
57	1979-01-06	Trichloroethylene	1	2000	1	10
58	67-66-3	Trichloromethane	1	500	1	10
62	71-43-2	Benzene	100	1000	100 as BTEX	200 as BTEX
63		Brominated diphenylethers (PBDE)	1	-		
65	100-41-4	Ethyl benzene	100	-	100 as BTEX	200 as BTEX
70	117-81-7	Di-(2-ethyl hexyl) phthalate (DEHP)	1	10		
71	108-95-2	Phenols (as total C)	1	-	1	20
73	108-88-3	Toluene	100	-	100 as BTEX	200 as BTEX
74		Tributyltin and compounds	1	-	0.1	1
78	1330-20-7	Xylenes	100	-	100 as BTEX	200 as BTEX
87	1806-26-4	Octylphenols and Octylphenol ethoxylates	1	-		