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Convention on Access to Information,
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Access to Justice in Environmental Matters

Working Group on Pollutant Release and Transfer Registers
(Second meeting, Geneva, 13-15 April 2005)

II. SCOPE OF THE PROTOCOL [*/]

1. The PRTR Protocol covers 64 activities and 86 substances and categories of substances. Although it follows closely the European Union's system under the Integrated Pollution Prevention and Control (IPPC) Directive, the Protocol covers more activities and substances covered. This chapter reviews the scope of the Protocol in terms of activities, substances and types of releases. It then describes in further detail the reporting of releases and transfers.

2. Article 6 of the Protocol, on the scope of the register, provides that its Parties can review reporting requirements on the basis of the experience gained in implementation and revise the lists of activities, pollutants and thresholds in its annexes.

A. Activities

3. The PRTR Protocol covers 64 activities grouped by sectors (energy, metal production and processing, mineral industry, chemical industry, waste and waste-water management, paper/wood processing industries, intensive livestock and aquaculture, animal and vegetable products and others). Table 1 below lists the key activities.

[*/] This document was submitted late due to the need to hold in-depth consultations over the text with a number of leading experts on the topic of pollution registers.

4. Annex I to the PRTR Protocol lists the activities covered. The list is based largely on annex I to the IPPC Directive and incorporates its capacity thresholds.[1] However, annex I to the PRTR Protocol contains some additional activities, including mining, municipal waste-water treatment, aquaculture and shipbuilding.

Oil and gas refineries	Paper and board plants
Power stations	Wood preservation plants
Metal and steel works	Intensive pig and sow rearing
Underground and opencast mining	Intensive aquaculture facilities
Cement and lime clinker	Slaughterhouses
Asbestos works	Some food and beverage processing
Glass and ceramic works	Textile treatment
Chemicals production	Tanneries
Fertilizer production	Surface treatment facilities using organic solvents
Pesticides production	Carbon and electrographite production
Pharmaceuticals production	Large shipyards
Explosives and pyrotechnics	Oil and gas refineries
Incinerators and landfills	
Large municipal waste-water treatment plants	

Table 1: Key activities included in annex I

5. The IPPC Directive's list 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 European Union, 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 Protocol, were responsible for about 90% of industrial pollution. Thus information on releases from the facilities carrying out annex I activities should provide a country's citizens 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. Information on diffuse sources, also required under the Protocol, completes the information on releases (pollution) for a targeted area.

6. In deciding which facilities carrying out activities listed in annex I to the PRTR Protocol will be subject to reporting requirements, it will be necessary to choose between the EU and the North American systems for establishing reporting thresholds. Both systems are aimed at focusing reporting requirements on the larger facilities that are responsible for most polluting emissions, but each system uses a different reporting threshold for determining which facilities must report. The EU uses reporting thresholds based on the capacity of the facility (annex I, column 1, to the PRTR Protocol) and emissions (annex II, column 1). Canada and the United States use reporting thresholds based on number of employees (annex I, column 2) and manufacture, process or use (MPU) thresholds (annex II, column 3). Both systems have advantages and disadvantages.

7. Under the MPU system, facilities that meet the threshold will have to report even the smallest releases, whereas under the capacity threshold system releases will have to be reported only when they are above a specific threshold for a specific substance. However, in many cases there is no release threshold. Similarly, facilities that do not meet the MPU threshold do not have to report any releases. In practice, the results from selecting either of the systems are quite similar and there are no large differences.

B. Substances

8. Annex II to the PRTR Protocol lists 86 polluting substances and categories of substances. Lists of substances regulated by a number of international instruments were used to develop annex II, including:

(a) The IPPC/European Pollutant Emission Register (EPER) list of substances;
(b) The EU Water Framework Directive list of priority substances;
(c) The principal substances regulated under the United Nations Framework Convention on Climate Change; and
(d) Substances regulated under the Stockholm Convention on Persistent Organic Pollutants (POPs), the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the Convention for the Protection of the Marine Environment of the North-East Atlantic, the International Convention for the Prevention of Pollution from Ships and the UNECE Convention on Long-Range Transboundary Air Pollution.[2]

9. These lists were considered to cover key pollutants. The negotiators also aimed to avoid overlaps and duplication of reporting among these instruments. In the end, 86 substances and categories of substances were agreed upon, including greenhouse gases, ozone-depleting substances, heavy metals, pesticides, acidification precursors and persistent organic pollutants (see table 2).

10. The emphasis of the Protocol is on the amount of pollution. The Protocol tries to find a balance between the reporting burden and the relevance of the information provided. Instead of covering a broad number of pollutants, the Protocol concentrates on releases of a limited number of specific pollutants and pollutant categories in order to present an overall picture of the amount of pollution. This is one of the differences between the PRTR and the Toxics Release Inventory (TRI) system, which is mainly based on chemical safety concerns and which specifies hundreds of individual pollutants.

11. The PRTR Protocol instead identifies a number of important groups of substances, such as COD, AOX, phenols, PM_{10}, dioxins, PAHs, cyanides, fluorides, NMVOCs, PFCs and HCFCs, as well as key individual pollutants. These groups cover potentially thousands of single substances.

Methane (CH4)	1,2,3,4,5,6-hexachlorocyclohexane (HCH)
Carbon monoxide (CO)	Lindane
Carbon dioxide (CO_2)	Mirex
Hydrofluorocarbons (HFCs)	PCDD +PCDF (dioxins +furans) (as Teq)
Nitrous oxide (N_2O)	Pentachlorobenzene
Ammonia (NH_3)	Pentachlorophenol
Non-methane volatile organic compounds (NMVOC)	Polychlorinated biphenyls (PCBs)
Nitrogen oxides (NO_x/NO_2)	Simazine
Perfluorocarbons (PFCs)	Tetrachloroethylene (PER)
Sulphur hexafluoride (SF_6)	Tetrachloromethane (TCM)
Sulphur oxides (SO_x/SO_2)	Trichlorobenzenes (TCBs)
Total nitrogen	1,1,1-trichloroethane
Total phosphorus	1,1,2,2-tetrachloroethane
	Trichloroethylene

Hydrochlorofluorocarbons (HCFCs)	Trichloromethane
Chlorofluorocarbons (CFCs)	Toxaphene
Halons	Vinyl chloride
Arsenic and compounds (as As)	Anthracene
Cadmium and compounds (as Cd)	Benzene
Chromium and compounds (as Cr)	Brominated diphenylethers (PBDE)
Copper and compounds (as Cu)	Nonylphenol ethoxylates (NP/NPEs) and related substances
Mercury and compounds (as Hg)	Ethyl benzene
Nickel and compounds (as Ni)	Ethylene oxide
Lead and compounds (as Pb)	Isoproturon
Zinc and compounds (as Zn)	Naphthalene
Alachlor	Organotin compounds (as total Sn)
Aldrin	Di-(2-ethyl hexyl) phthalate (DEHP)
Atrazine	Phenols (as total C)
Chlordane	Polycyclic aromatic hydrocarbons (PAHs)
Chlordecone	Toluene
Chlorfenvinphos	Tributyltin and compounds
Chloro-alkanes, C_{10}-C_{13}	Triphenyltin and compounds
Chlorpyrifos	Total organic carbon (TOC) (as total C or COD/3)
DDT	Trifluralin
1,2-dichloroethane (EDC)	Xylenes
Dichloromethane (DCM)	Chlorides (as total Cl)
Dieldrin	Chlorine and inorganic compounds (as HCl)
Diuron	Asbestos
Endosulphan	Cyanides (as total CN)
Endrin	Fluorides (as total F)
Halogenated organic compounds (as AOX)	Fluorine and inorganic compounds (as HF)
Heptachlor	Hydrogen cyanide (HCN)
Hexachlorobenzene (HCB)	Particulate matter (PM_{10})
Hexachlorobutadiene (HCBD)	

Table 2: Substances listed in annex I to the PRTR Protocol

12. Many of the substances included in annex I are severely restricted, banned or being phased out under international agreements. They are included in the PRTR Protocol for the sake of completeness, even though in most cases their use and thus their reporting will be limited.

13. Parties may include additional substances in their national PRTRs if considered appropriate.

C. Releases

Article 2, paragraph 7
"Release" means any introduction of pollutants into the environment as a result of any human activity, whether deliberate or accidental, routine or not routine, including spilling, emitting, discharging, injecting, disposing or dumping, or through sewer systems without final waste-water treatment.

Box 1: Article 2, paragraph 7

14. The term "releases" used in the PRTR Protocol covers a number of terms used in different countries to refer to the introduction of pollutants into the environment, such as:

(a) Emissions (often used to refer to the introduction of pollutants into the environment from point sources);
(b) Immissions (used in some countries to refer to the introduction of pollutants into the environment from diffuse sources); and
(c) Discharges (used to refer to the introduction of pollutants into water).

15. The PRTR Protocol's definition is broad in that it covers both routine releases and non-routine ones, such as accidental releases. The definition itself has three main elements.
(a) Introduction of pollutants: the Protocol does not link the definition of releases to the specific pollutants listed in annex I, thereby providing a dynamic approach that does not limit which pollutants can be included in PRTRs;
(b) Into the environment: the PRTR Protocol refers to the environment in general but nonetheless takes a medium-specific approach in requiring reporting of releases to air, water and land;
(c) As a result of a human activity: only releases that are directly (point sources) or indirectly (diffuse sources, including agriculture and traffic) the result of a human activity have to be reported.

16. Releases that are the result of natural phenomena, such as a volcanic eruption, do not have to be reported. Accidental releases from facilities due to a natural phenomenon, such as flooding, should be reported as the pollutants arise from human activity.

1. Accidental releases

Article 7, paragraph 6
The information referred to in paragraph 5 (c) to (e) shall include information on releases and transfers resulting from routine and from extraordinary events.

Box 2: Article 7, paragraph 6

17. The PRTR Protocol refers to releases that are both "routine and non-routine" and either "deliberate or accidental" (art. 2). Article 7, paragraph 6 emphasizes the obligation for operators to report releases in all cases. It refers to non-routine and accidental releases as "extraordinary events". For example, releases resulting from an accidental explosion should be reported. In conclusion, operators have to report all releases.

18. There is no obligation to indicate in the report whether releases or part of them are due to an accident or other extraordinary event. The general public, health authorities and environmental NGOs will likely be interested in including this information in the PRTR. Parties may want to consider whether to request this detail and to provide the information in PRTR publications and web sites.

2. Diffuse sources

19. Reporting on diffuse sources is a core element of PRTRs under the Protocol (art. 4, para. (b)) and will discussed in a chapter III of the guidance.

D. Off-site transfers

Article 2, paragraph 8
"Off-site transfer" means the movement beyond the boundaries of the facility of either pollutants or waste destined for disposal or recovery and of pollutants in waste water destined for waste-water treatment

Box 3: Article 2, paragraph 8

20. Whereas the concept of "releases" is generally understood to cover situations where pollutants are emitted or introduced into the environment from a facility or other sources, the concept of "transfers" applies instead to movement of pollutants within or between facilities.

21. The PRTR Protocol in its current version covers only "off-site" transfers.

22. The facility is the point of reference when deciding whether the movement has to be reported for being an "off-site transfer", and the boundaries of a facility have to be clearly defined. The PRTR Protocol's definition of facility is therefore essential: it can include one or more "installations" on the same or adjoining "sites" (see annex I). Thus, movements of pollutants/waste between two installations of the same facility on the same site or adjoining sites will be an on-site transfer, and therefore not subject to reporting. For example, if one installation disposes of waste in another installation, such as an incinerator that is part of the same facility, then the disposal of waste need not be reported, as it is considered to be an "on-site transfer". However, releases of emissions from the incineration will need to be reported as releases to air and any solid or liquid waste remaining from combustion and air pollution control sent off-site for disposal will need to be reported.

1. The pollutant-specific and the waste-specific approaches

23. Under the Protocol, each Party has to choose between the pollutant-specific ("North American") approach and the waste-specific ("EU") approach for reporting off-site transfers of waste.

24. If the pollutant-specific approach is chosen, each facility in the country will need to report the quantities of specific pollutants transferred off-site. The applicable thresholds are those set forth in annex II, column 2, to the PRTR Protocol (art. 7, para. 1 (a) (ii)). This will require the facility to indicate the amount of each pollutant contained in the waste, distinguishing between the amounts destined for recovery and the amounts destined for disposal (annex III to the Protocol identifies the specific operations for recovery and for disposal), as well as the name and address of the facility receiving the transfer (art. 7, para. 5 (d) (i)).

25. If the waste-specific approach is chosen, then each facility has to indicate the amount of waste transferred (without specifying the pollutants), whether the transferred waste is

"hazardous" or "other" waste, and whether it is destined for recovery or disposal. The thresholds are set in article 7, paragraph 1 (a) (iii). If the transferred waste is hazardous, within the meaning of the Protocol, the threshold is 2 tons per year. If it is other waste (waste that is not hazardous), the threshold is 2,000 tons per year. Chapter III provides further detail on the determination of hazardous versus other waste.

26. In addition, for movement of hazardous waste to another country (transboundary movement of hazardous waste), the facility will, under the waste-specific approach, have to indicate the name and address of the recovery or disposal operator and the actual recovery or disposal site receiving the transfer (art. 7, para. 5 (d) (ii)).

2. Comparing the pollutant- and waste-specific approaches

27. Each approach has its advantages and disadvantages. In the European Union, reporting obligations for transfers of waste refer to the amount of waste disposed of or recovered, differentiating between hazardous or non hazardous waste.[3] The Basel Convention on the Control of Transboundary Movements of Wastes and their Disposal also follows this approach. Thus, adopting the waste-specific approach will in many cases be less onerous on companies, as they should already have in place systems to carry out the reporting. This approach will enhance convergence with EU systems. While less detail will be reported, in many cases the identification of waste transferred as hazardous indicates at least the dangerous nature of the pollutants contained.

28. The disadvantage of the waste-specific approach is that it does not provide the same pollutant-specific detail as the reporting on releases and, therefore, does not facilitate an integrated approach to the facility's reporting. Citizens and other PRTR users will not have information on the specific pollutants contained in the waste (e.g., if the waste is hazardous because it contains x tons of heavy metals or y tons of PCBs). Furthermore, since pollutant concentrations in the waste stream may vary, reporting only the total amounts of waste could lead to a misleading impression of the total quantity of the pollutant transferred.

29. The pollutant-specific approach can provide better information about the content of the waste and a more accurate vision of facility activities and their environmental impact. However, this approach has the disadvantage of potentially increasing the reporting burden and, therefore, the costs for facilities. Furthermore, it is not always easy to identify the pollutant content of facility waste.

3. Off-site transfers of waste water

30. The Protocol sets forth a specific regime for waste water. Transfers of waste water will always be reported following the pollutant-specific approach (art. 7, paras. 1 (a) (iv) and 5 (e)). The applicable thresholds are set in annex II, column 1b. Facilities that release waste water directly to a water body, whether first treated at a facility waste-water plant or not, will report the release as a release to water, using the pollutant-specific approach.

4. Releases to land or off-site transfers?

31. Certain disposal and recovery operations can be considered releases to land instead of off-site transfers of waste. In fact, the term "disposal" appears in the definitions of both "release" and "off-site transfers". The reference to disposal via transfer covers situations where the pollutant is transferred to an intermediary body which then carries out the disposal, whereas when the facility directly disposes of waste to the environment, this would be a release.

32. This difference will be important for Parties adopting the waste-specific approach for reporting off-site transfers of waste, since the resulting releases to land must be reported following the pollutant-specific approach, with reporting thresholds that are different from those for off-site transfers.

33. In the case of underground injection of waste, the PRTR Protocol clarifies in article 7, paragraph 5 (c), that these are always to be reported as a release to land, using, therefore, the pollutant-specific approach.

34. The issue is important also because there could be a double counting in some cases and for certain activities, as pollutants transferred might later become releases which have an impact on the environment and health. This is the case for landfills. Landfills are included in annex I to the Protocol, and thus they must report their pollution releases. It is possible to interpret the Protocol to require that the operator of a landfill report, as a release to land, waste received and then deposited in the landfill. However, this would lead to a duplication of reporting, as the facilities transferring waste to the landfill would already have to report the movement as an off-site transfer. In the absence of an agreement among the Parties for this type of activity, each Party should clarify this issue at national level to avoid overlap and duplicate reporting.[4]

E. Working towards convergence

35. Article 17, paragraph 3, of the PRTR Protocol calls for convergence between the pollutant- and waste-specific types of PRTR. During negotiations, different countries indicated their interest in ensuring that reporting of off-site transfers included both the amount of waste transferred, indicating whether hazardous or non-hazardous and whether for recovery or disposal, as well as the amount of each specific pollutant. As mentioned above, the PRTR Protocol reached convergence in the reporting of waste water and underground injection.

36. A Party may want to reach convergence between the two systems for certain cases where the pollutant-specific approach is feasible for reporting off-site transfers of waste. This could be, as was already mentioned during the negotiations, the adoption, together with the waste-specific approach, of a pollutant-specific approach for those substances for which quantification in waste streams is feasible and important because of their persistence or relevance. These could include heavy metals as well as substances that are banned or severely restricted and being phased out or strictly controlled, such as PCB/Polychlorinated terphenyls (PCTs) and other POPs.

[1] The IPPC Directive is also the basis of annex I to the Aarhus Convention.

[2] See CEP/WG.5/AC.2/2001/7.

[3] The EU legislation setting out this approach includes the Waste Framework Directive and the Waste Statistics Directive.

[4] The landfill operator should in any case report any air emissions or leachate to surface waters, as well as any off-site transfers of waste water that result from landfill activities.