

**Commission for Environmental Cooperation (CEC) of North America
North American Pollutant Release and Transfer Register (PRTR) Project**



Issue Papers on Enhancing Comparability Among PRTRs in North America

Issue Paper #1: Reporting Thresholds

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Introduction

The Commission for Environmental Cooperation (CEC) is preparing a series of issue papers on comparability of reporting under the Pollutant Release and Transfer Register (PRTR) programs in the three North American countries: Canada's National Pollutant Release Inventory (NPRI), Mexico's *Registro de Emisiones y Transferencias de Contaminantes* (RETC) which includes data on individual chemicals from Section 5 of the annual certificate of operation, the *Cédula de Operación Anual* (COA), and the United States' Toxics Release Inventory (TRI).

The three governments have been working to enhance the comparability of their national PRTRs through the CEC's PRTR project. In June 1997, the CEC Council, comprised of the top environmental officials in the three North American countries, signed Council Resolution 97-04: Promoting Comparability of Pollutant Release and Transfer Registers. In response to this Resolution, the CEC and representatives of the three governments have developed an *Action Plan to Enhance Comparability Among PRTRs in North America*, which was adopted through Council Resolution 02-05 in June 2002. This issue paper, and others in the series, describes some important areas that are dissimilar among the three countries' PRTRs with the aim to identify actions that could be taken to increase comparability.

Status of Comparability Among Reporting Thresholds

This issue paper discusses reporting thresholds used by each national PRTR. Reporting thresholds are applied to determine whether a facility has to report for a particular chemical. There are thresholds relating to the number of employees at the facility and thresholds relating to the amount of the chemical (see [Table 1](#)).

Table 1. Types of Reporting Thresholds				
Type of Threshold	TRI	NPRI	RETC	Comments
EMPLOYEE THRESHOLD				
Number of Employees	10 or more	10 or more (for most chemicals)	No employee threshold limit	Can compare by excluding NPRI and RETC facilities with less than 10 employees
CHEMICAL THRESHOLDS				
Manufacture,	All chemicals	Most chemicals	X	Requires that facility use

Type of Threshold	TRI	NPRI	RETC	Comments
Process, Otherwise Use (MPO)				monitoring data collected pursuant to other laws or, if that is not available, use reasonable estimates
Releases and Transfers	X	Applies to polycyclic aromatic compounds	X	Used by NPRI for chemicals that are primarily by-products of the production process; not comparable to MPO or to On-site Releases thresholds
On-site Releases	X	X	All chemicals	Not comparable to MPO or to Releases and Transfers thresholds. In 2003 Mexico will work on the development of a Mexican Official Standard which will include the substance selection criteria, the list of substances and their reporting thresholds.
No Threshold	X	Hexachlorobenzene and dioxins/furans	X	Applies to certain industrial activities; not comparable to other threshold types

Employee Threshold

Both TRI and NPRI require reporting for facilities employing the equivalent of 10 full-time employees during the year. This threshold has been removed for certain NPRI facilities (municipal solid waste incinerators, hazardous waste incinerators, sewage sludge incinerators, and biomedical incinerators). RETC does not have an employee threshold.

NPRI and RETC facilities report the number of employees so facilities with fewer less than 10 could be excluded from the matched data set, in order to allow for a match-up with TRI.

Chemical Thresholds

Currently, there are three different types of chemicals thresholds used by TRI, NPRI and/or RETC: (1) amount manufactured, processed or otherwise used (MPO), (2) amount released and/or transferred, and (3) amount of on-site releases (see Table 1).

Manufactured, Processed, Otherwise Used (MPO) Threshold

TRI and NPRI have a chemical threshold based on the amount “manufactured, processed or otherwise used” for all chemicals, except for some of the chemicals added to NPRI for the 2000 reporting year.

The “manufactured, processed or otherwise used” threshold is a throughput or activity threshold meant to exclude smaller users of the chemical. The MPO threshold means that the facility manufactured, processed or otherwise used more than a specified amount in the reporting year. The MPO threshold for NPRI is 10 tonnes. Under TRI, facilities must report if they manufactured or processed 25,000 lbs (11,338 kg) or if they otherwise used 10,000 lbs (4,535

kg) or more of the substance during the calendar year. While not identical, these thresholds are considered equivalent for purposes of comparing data from NPRI and TRI.

For some TRI chemicals added for the 2000 reporting year, the thresholds have been lowered. For certain persistent bioaccumulative toxic (PBT) chemicals, thresholds have been lowered to either 100 pounds or 10 pounds, depending on the substance, and to 0.1 gram in the case of dioxin and dioxin-like compounds. As for other TRI chemicals, these thresholds remain based on amounts manufactured, processed or otherwise used (see [Table 2](#)).

Released and/or Transferred Threshold

For some NPRI chemicals added for the 2000 reporting year, alternate thresholds based on amounts released and/or transferred were established. The alternate thresholds are based on the amount of the chemical that was released and/or transferred to disposal of the substance incidentally manufactured. NPRI established the alternate “release/transfer” thresholds for substances that are primarily by-products, including the PBT chemicals, and maintained the “manufactured, processed or otherwise used” threshold for commercial chemicals or products. Beginning with the 2000 reporting year, the release/transfer threshold applies to polycyclic aromatic compounds (a list of 34 substances). The reporting threshold applies to the total releases and transfers of the 34 substances combined, but the actual releases and transfers are reported for each substance individually (see [Table 2](#)).

On-site Releases Threshold

Under the current RETC reporting scheme, the thresholds are based on the amount of the chemical released on-site during the reporting year, i.e. “release” thresholds. The thresholds vary from 1 kg to 1,000 kg per year, depending on the substance (see [Table 2](#)). The amount that the facility might have transferred off-site is not included when calculating whether the threshold has been met.

No Thresholds

In addition, NPRI has no threshold for amount released or transferred for two chemicals: hexachlorobenzene and dioxins/furans group. Instead, certain activities (such as various types of incineration and metals smelting and combustion of fossil fuel) must report all releases and transfers. Also, for the polycyclic aromatic compounds, any substance released or transferred from a wood preservation process using creosote must be reported.

Table 2. Reporting Thresholds for Some Chemicals added to or changed in NPRI and/or TRI for Reporting Year 2000

CAS Number	Chemical	On PRTR List			Threshold			Comments on Thresholds
		NPRI	TRI	RETC	NPRI (MPO is manufactured, processed or otherwise used)	TRI	RETC	
MANUFACTURE, PROCESS, OTHERWISE USE THRESHOLD								
107-02-8	Acrolein	X	X	X	10,000 kg MPO	4,500 kg and 11,340 kg MPO	100 kg released on-site	RETC not comparable
--	Mercury (and its compounds)	X	X	X	5 kg MPO	4.5 kg MPO	1 kg released on-site	RETC not comparable
--	Xylene (and pure isomers)	X	X		10,000 kg MPO	4,500 kg and 11,340 kg MPO	--	
9016-87-9	Polymeric diphenylmethane diisocyanate	X	X		10,000 kg MPO	4,500 kg and 11,340 kg MPO	--	Reported as part of Diisocyanate group in TRI. NPRI/TRI not comparable since substances within the group not the same.
7440-62-2	Vanadium (except when contained in alloy)	X	X		10,000 kg MPO	4,500 kg and 11,340 kg MPO	--	
--	Vanadium compounds	X	X		10,000 kg MPO	4,500 kg and 11,340 kg MPO	--	
309-00-2	Aldrin		X	X	--	45.4 kg MPO	100 kg released on-site	TRI/RETC not comparable
57-74-9	Chlordane		X	X	--	4.5 kg MPO	100 kg released on-site	TRI/RETC not comparable
76-44-8	Heptachlor		X	X	--	4.5 kg MPO	100 kg released on-site	TRI/RETC not comparable
RELEASE/TRANSFER THRESHOLD IN NPRI								
118-74-1	Hexachlorobenzene	X	X	X	0 kg, but only certain industrial processes	4.5 kg MPO	1,000 kg released on-site	NPRI/TRI/RETC not comparable
--	Polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans	X	X	X	0 kg (TEQ reported, only certain industrial processes)	0.1 gram	0 kg (released on-site)	Thresholds and reporting definitions not comparable
--	Polycyclic aromatic compounds (PAC/PAHs)	X	X		50 kg released or transferred (total for all PAHs)	45.4 kg MPO (total for all PAHs)	--	TRI reports PAHs as a group and NPRI does not. TRI/NPRI not comparable since substances within the group not the same

Considerations in Establishing Thresholds

For the 2000 reporting year additions to the chemical list, NPRI laid out considerations to be applied in establishing the type of reporting thresholds:

1. ability of setting reasonable reporting thresholds based on available information
2. resource impacts on the NPRI program of collecting the specified information
3. capability of reporting facilities of providing the required information, using available data

With regard to the first and third considerations, when the “manufactured, processed or otherwise used” threshold is used the data needed are readily available at a facility without additional measurements or estimations. On the other hand, under the “release/transfer” or the “release” types of thresholds, a facility may have to make most of the calculations for reporting or complete the reporting process to determine if reporting is actually required. This is usually a much larger and more complex task requiring the generation of new data.

With regard to the second consideration, when the data are readily available, it is simpler for the governmental entity enforcing the reporting requirements to determine compliance. The amount manufactured is readily available, whereas the amount released may have to be estimated or measured and may not be readily available for government inspectors.

Implications for Matching Data based on Chemical Thresholds Among North American PRTRs

The three types of chemical thresholds—MPO versus “release/transfer” versus “release”—fundamentally differ, and thus are not equivalent for data comparison purposes.

If only those chemicals reported under the MPO threshold (for example, TRI facilities) that are released above the “release” threshold are included, those facilities that manufacture less than the MPO threshold (and, therefore, are not required to report to TRI) but do release more than the “release” threshold would be missed.

On the other side, for the chemicals reported under the “release” threshold (for example, RETC facilities) those that manufacture over the MPO threshold but release less than the “release” threshold would be missed. Also, substances would be included whose manufacture was less than the MPO threshold but are being reported because of the release threshold.

For RETC, facilities report “annual consumption”. If this is equivalent to an amount that is manufactured, processed and otherwise used, then it may be possible to exclude those RETC facilities that do not meet the MPO thresholds (although still missing would be those not reporting because of the “release” threshold while still manufacturing over the MPO threshold).

NPRI does not report the amount consumed so it would not be possible to remove those facilities that would fall below TRI's MPO threshold.

In its Resolution 02-05, Council encouraged the use of the activity-based MPO thresholds by “agree(ing) to focus, as a matter of priority, on: . . . exploring the adoption, where appropriate and in light of national priority substances, of activity-based reporting thresholds under the Mexican *Registro de Emisiones y Transferencia de Contaminantes* (RETC) as an important step towards enhancing trilateral comparability of the national PRTRs.” For most chemicals listed on NPRI and for all chemicals on TRI, MPO thresholds are already in use in the Canadian and US PRTR systems.