Environment Canada Response to the Recommendations of the NPRI Multistakeholder Work Group on Substances for the 2000 Reporting Year

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1. Key Changes to the NPRI for 2000

This document outlines the changes to the National Pollutant Release Inventory (NPRI) reporting requirements for the 2000 reporting year. The key changes are outlined below.

1. Add 4 substances at current threshold (10 tonnes of the substance are manufactured, processed or otherwise used at the facility)

Substance Name	CAS Registry Number
Acrolein	107-02-8
Polymeric diphenylmethane diisocyanate	9016-87-9
4- <i>tert</i> -Octylphenol	140-66-9
Oxirane, methyl-, polymer with oxirane,	37251-69-7
mono(nonylphenyl)ether	

- 2. Lower the manufacture, process or otherwise use reporting threshold for mercury and its compounds to 5 kg per year
- 3. Remove the 1% concentration exemption for mercury and its compounds
- 4. Add 17 polycyclic aromatic hydrocarbons (PAHs) listed below, with a 50 kg releasebased reporting trigger calculated based on the total quantity of these PAHs:

Substance Name	CAS Registry Number
Benzo(a)anthracene	56-55-3
Benzo(a)phenanthrene	218-01-9
Benzo(a)pyrene	50-32-8
Benzo(b)fluoranthene	205-99-2
Benzo(e)pyrene	192-97-2
Benzo(g,h,i)perylene	191-24-2
Benzo(j)fluoranthene	205-82-3
Benzo(k)fluoranthene	207-08-9
Dibenz(a,j)acridine	224-42-0
Dibenzo(a,h)anthracene	53-70-3
Dibenzo(a,i)pyrene	189-55-9
7H-Dibenzo(c,g)carbazole	194-59-2
Fluoranthene	206-44-0
Indeno(1,2,3-c,d)pyrene	193-39-5
Perylene	198-55-0
Phenanthrene	85-01-8
Pyrene	129-00-0

6. For identified sources only, add polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans (PCDD/PCDF) as a single group comprised of the 17 most toxic congeners. A report is required by all identified sources, whether releasing or not. Facilities are required to report grams of toxicity equivalents (TEQ) released per year.

- 7. For identified sources only, add hexachlorobenzene. Report required by all identified sources, whether releasing or not.
- 8. Remove employee threshold for the following five sources:
- municipal solid waste incinerators,
- hazardous waste incinerators,
- sewage sludge incinerators,
- biomedical incinerators, and
- wood preserving facilities.

2. Background

In the latter half of 1997, Environment Canada (EC) held stakeholder consultations to gather input on priority issues for developing and improving the National Pollutant Release Inventory (NPRI). As part of its response to the input received, Environment Canada established a Multistakeholder Work Group on Substances (Work Group) in July 1998.

The NPRI Work Group on Substances includes active representation from 5 environmental organizations, 8 industry associations, 4 provincial governments, 3 other federal government departments, as well as from other organizations within Environment Canada. The Work Group was given a mandate to develop recommendations in three areas:

Objective 1: Additions and Deletions for the 1999 Reporting YearObjective 2: Alternate Reporting ThresholdsObjective 3: Future (Permanent) Process for Additions and Deletions.

The Work Group has met four times since August 1998, and has held three conference calls. The Work Group has also received input from stakeholders on all objectives, in large measure as a response to the solicitation of feedback on the First and Third Work Group Reports.

The Work Group's First Report touched on issues relevant to each of the three objectives, and set the ground for its recommendations, presented in the Second Report, on the addition of substances for the 1999 reporting year. Environment Canada has implemented almost all of those recommendations. The Work Group's Third and Fourth Report focused on Objective 2. The Third Work Group Report outlined broader considerations for additions at alternate thresholds, and was released for public consultation in September 1999. The Fourth Report focused on additions to the National Pollutant Release Inventory (NPRI) for the 2000 reporting year.

This report sets out Environment Canada's response to the recommendations made by the Work Group to Environment Canada in its Fourth Report. It also summarizes changes to the NPRI reporting requirements for the year 2000. A notice published in the *Canada Gazette* on December 25, 1999 sets out the NPRI reporting requirements for 2000.

The Work Group will continue to meet during 2000 to: discuss and develop recommendations on other candidate substances for addition at alternate thresholds (ATH); finalize recommendations on the future process; and address a number of additional issues identified by Work Group members.

3. Work Group Recommendations and Environment Canada's Response

3.1 GENERAL ISSUES PERTAINING TO SETTING ALTERNATE THRESHOLDS

3.1.1 Number of Thresholds

Work Group Recommendations

The Work Group recommends that in order to minimize complexity, the alternate threshold (ATH) for any given substance should be chosen from a limited set of alternate thresholds, covering a reasonable range of orders of magnitude.

Environment Canada's Response to the Work Group Recommendations

Environment Canada agrees that a limited number of alternate thresholds will be chosen. Environment Canada will wait to define a policy or scientific framework prior to determining what is appropriate, especially with regard to setting thresholds for non-PBT substances.

3.1.2 Definition of "Release Threshold"

Work Group Recommendations

The Work Group recommends that where a release threshold is used to trigger reporting, "release" in this context be interpreted as release or transfer to disposal of a substance generated in the manufacturing process, along with releases from defined or identified "processing and otherwise use" sources, determined on a substance-by-substance basis.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts the Work Group recommendation on the definition of "release".

3.1.3 Use of Release Thresholds Versus Manufactured, Processed or Otherwise Used Thresholds for Alternate Threshold Substances

Work Group Recommendations

In terms of ATH triggers for reporting, the Work Group recommends use of a "manufactured, processed or otherwise used" (M,P,O) threshold when the substance of

concern is primarily a commercial chemical or product, and use of a release threshold when the substance of concern is primarily a by-product. Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts the Work Group recommendation to use a "manufactured, processed or otherwise used" (M,P,O) threshold when the substance of concern is primarily a commercial chemical or product, and use of a release threshold when the substance of concern is primarily a by-product.

3.1.4 Treatment of "Measured" Versus "Estimated" Releases

Work Group Recommendations

The Work Group recommends that where a release threshold is used, the same threshold apply to both measured and estimated releases.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts the Work Group recommendation on applying the same thresholds for both measured and estimated releases.

3.1.5 Level of Quantification and Measured Releases

Work Group Recommendations

The Work Group recommends that no reporting be required for measured releases that are below the Level of Quantification (LoQ).

LoQ is defined in the *Canadian Environmental Protection Act* (CEPA, section 65) as "the lowest concentration that can be accurately measured using sensitive but routine sampling and analytical methods".

Environment Canada's Response to the Work Group Recommendations

Environment Canada does not accept the Work Group recommendation in the case of Track 1 substances targeted for virtual elimination under the *Canadian Environmental Protection Act* (CEPA) 1999. This information will aid in the: evaluation of sectors and facilities that need to be targeted to prepare virtual elimination plans under CEPA; implementation of management strategies; and immediate tracking of progress towards the long-term goal of virtual elimination. Environment Canada supports a reporting requirement linked to the Level of Quantification (LoQ) for all Track 1 substances. The ultimate objective of virtual elimination under the Toxic Substances Management Policy is to eliminate releases above the LoQ. Environment Canada plans to publish LoQ levels for releases to air, water and soil for all Track 1 substances. Environment Canada will provide guidance on how to determine if releases are below LoQ.

3.1.6 Concentration Exemption

Work Group Recommendations

No consensus was reached on whether the current 1% concentration exemption should be maintained or removed in the case of ATH substances.¹

ENGO members of the Work Group hold that removal of this exemption is necessary. Substances of sufficient concern to warrant an ATH should be reported on even if present in very low concentrations; and in fact, these substances are more likely to be present at such concentrations.

Industry members requested that EC examine a means to limit "due diligence" requirements in the *Canada Gazette* notice if the 1% concentration exemption was removed for mercury. Some draft wording was discussed at the November 1st, 1999 teleconference call.

Notwithstanding the proposed limiting of the *Canada Gazette* notice, most industry members ultimately opposed removal of the 1% concentration exemption.

Environment Canada's Response to the Work Group Recommendations

Environment Canada agrees with ENGO members of the Work Group that removal of the 1% concentration exemption for ATH substances will in most cases be necessary. For 10 tonne manufacture, process or otherwise use reporting criteria, Environment Canada does not believe that concentrations below 1% would result in quantities that would significantly contribute to threshold reporting criteria determinations.² Given that even minimal releases of these alternate threshold substances may result in significant adverse effects and can reasonably be expected to significantly contribute to exceeding the proposed lower thresholds Environment Canada decided to remove the 1% concentration exemption for substances added at alternate thresholds. Environment Canada also decided against limiting the *Canada Gazette* notice as discussed during the November 1, 1999 conference call, as no agreement could be reached. The *Canada Gazette* notice states as in previous years, that reporting is required for any person who possesses or may reasonably be expected to have access to the information.

¹ It is important to note that this recommendation applies to alternate threshold substances where a M,P,O trigger is used. The 1% concentration exemption is already irrelevant for substances for which a release trigger is used. (It is a general rule of the NPRI that the 1% concentration limit does not apply to by-products).

² In 2000 as in earlier years, once the reporting criteria have been met, all on-site releases and all off-site transfers must be reported regardless of the substance's concentration.

3.2 CONDITIONS RELATED TO REPORTING

3.2.1 Current Conditions

Work Group Recommendations

The Work Group recommends that Environment Canada review current reporting conditions (i.e., conditions that apply to substances triggered at the 10 tonne threshold) and where these are inappropriate for ATH substances, either remove them or propose alternatives.

Some reporting conditions for substances at the 10 tonne threshold are not appropriate for ATH substances. For example, no report is required for releases under 1 kg and no breakdown to media is required for releases under 1 tonne. NPRI proposes that there be no special reporting options for ATH substances: i.e., reporting of all ATH substances would have to be broken down into the three media.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts the Work Group recommendation and will elaborate on the reporting requirements for ATH substances in Guidance documents rather than the *Canada Gazette* notice, as is done for current NPRI substances.

3.2.2 Selective Removal of the Employee Threshold

Work Group Recommendations

Currently, only facilities with more than 10 employees are required to report to the NPRI. Work Group members agree on the need to maintain this employee threshold as a general rule, with necessary exceptions identified on a sector-specific basis.

Based on analysis indicating high proportionate releases of one or more of the ATH substances to be added the NPRI, the Work Group recommends removing the 10-employee threshold for the following specified types of facilities (estimated numbers of facilities are shown in brackets):

- Municipal solid waste incinerators, including small combustion units and teepee burners (89 facilities)
- Hazardous waste incinerators (5 facilities)
- Sewage sludge incinerators (9 facilities)
- Municipal waste-water treatment facilities (up to 1020 facilities -- see below)
- Biomedical incinerators (up to 160 facilities -- see below)

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts the Work Group recommendations. The employee threshold criteria is removed for these activities and they must report on all NPRI substances (not only for the ATH substances). However, Environment Canada has decided to defer the inclusion of one of these activities, the discharge of treated or untreated wastewater so that more work can be done with the Federation of Canadian Municipalities and the Canadian Water and Wastewater Association. Further work is required to provide adequate guidance to municipalities for reporting on all NPRI substances.

3.2.3 Implementation Issues for the First Round Of Alternate Threshold Substances

Work Group Recommendations

Work Group members differ in their opinions about the appropriate first reporting year for the ATH substances that are to be added in the December 1999 *Canada Gazette* (see Section 4). Many industry members hold that the first reporting year should be deferred to 2001. They are skeptical about the feasibility of reporters generating reliable and consistent data on new ATH substances for the 2000 reporting year. One industry member of the Work Group indicated his association's commitment to releasing only defensible estimates; and was concerned that even if the first-year guidance provided by NPRI is followed, it will not be sufficiently detailed or reliable to ensure that the data will meet internal quality standards.

The Work Group member representing the Canadian Pulp and Paper Association, as well as other industry members, also expressed concern about whether/how it would be possible to meet the added NPRI requirements, along with the number of other new initiatives (e.g., Canada Wide Standards, the Smog Plan) being implemented by the federal government in 2000. The need for prioritizing by Environment Canada was noted. Finally, one member suggested that with the removal of the employee threshold for some sectors, the reporting that will be required from a large number of new facilities also argues in favour of delaying the application of the changes to the 2001 reporting year.

ENGO members and NPRI pointed out that the same concerns existed when NPRI was first implemented. Improvement over time is a reality; and the best approach is learningby-doing. Holding off on implementation until 2001, or using intermediate measures such as pilot projects that involve selected sectors or facilities, are unlikely to change the picture in terms of the challenges of full implementation. It was also noted that the need to add the four priority substances to NPRI was identified from the start by the Multistakeholder Advisory Committee, so their addition does not come as a surprise. Differences in opinion about the timing of implementation are not fully reconciled. However, Work Group members agreed that NPRI/Environment Canada could take important steps to reduce the burden and enhance the accuracy of reporting for the year 2000, and to increase the likelihood that the experience gained in 2000 could be captured to improve reporting for 2001.

The Work Group recommends that Environment Canada undertake the following measures:

- Provide guidance for the proposed additions prior to the start of the first reporting year.
- Retain the Summary Report approach that was established for the 1999 additions i.e., in the first year of reporting, report on the newly added ATH substances in a separate section of the Summary Report, and do not rank facilities on releases of these substances.
- In the first year of reporting only, but prior to the filing deadline for the next reporting year, provide a notice to facilities in particular top releasers -- informing them where they rank on ATH substance releases, and what the highest release was.
- Review data collection and data quality problems before the next reporting year and amend guidance as necessary.
- Implement a WEB site where answers to questions submitted by NPRI reporters can be posted (but with an established cut-off date for application of the interpretations provided by Environment Canada).
- Host a guidance workshop for NPRI reporters.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts these Work Group recommendations on implementation issues.

3.3 PRIORITY SUBSTANCES TO ADD AT ALTERNATE THRESHOLDS

Note: Please refer to the Third Report of the Work Group (September 1, 1999) and the Fourth Report of the Work Group for additional detail in support of both the consensus recommendations and the non-consensus issues summarized here.

3.3.1 Polychlorinated Dibenzo-*p*-dioxins and Polychlorinated Dibenzofurans (PCDD/PCDF)

Work Group Recommendations

With respect to the addition of PCDD and PCDF, the Work Group recommends the following:

- Add PCDD and PCDF at an ATH.
- Use a release reporting trigger.
- Use TEQ.
- Use NPRI as the reporting mechanism for SOP-defined reporting requirements for the wood preservation sector.

Given the Work Group's recommended approach to defining "release", at a minimum, releases related to dioxins created during manufacture will be captured. Additional types of releases (i.e., not related to manufacture per se) may need to be captured. (Releases associated with wood preservation are one example, but are addressed in the above recommendations.) Some industry members hold that paper processors should be exempt regardless of how the rules are configured.

There was no Work Group consensus on the threshold for reporting. ENGOs support any release from specified sectors and processes. Industry supports a specified 1 g TEQ threshold universally applied, with ample guidance. The guidance should indicate which sectors and processes are likely to be required to report. An Environment Canada Work Group member noted that at the 1 g TEQ threshold, very few facilities would trigger reporting.

No consensus was reached on whether to require reporting on congeners as well as TEQ. Positions are unchanged since the previous report.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts these Work Group recommendations. Environment Canada is requiring all facilities engaged in identified activities known to release polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans to file a report. A report is required only for releases from the following identified activities:

- (i) base metals smelting using chlorinated plastics or other chlorinated substances in their feeds;
- (ii) biomedical or hospital incineration of 100 tonnes or more of waste per year;
- (iii) non hazardous solid waste incineration of 100 tonnes or more of waste per year, including small combustion units, teepee burners and beehive burners;
- (iv) hazardous waste incineration;
- (v) sewage sludge incineration;
- (vi) manufacturing of portland cement;
- (vii) production of chlorinated organic solvents or chlorinated monomers;
- (viii) generation of electric power using fossil fuel (by utilities);
- (ix) manufacturing of iron using a sintering process;

- (x) operation of electric arc furnaces in steel foundries;
- (xi) operation of electric arc furnaces in steel manufacturing;
- (xii) combustion of hog fuel originating from logs that were transported or stored in salt water in the pulp and paper sector;
- (xiii) combustion of fuel in kraft liquor boilers used in the pulp and paper sector;
- (xiv) smelting of secondary aluminum;
- (xv) smelting of secondary lead; or
- (xvi) production of magnesium.

There is no reporting trigger for PCDD/PCDF. Reporting of any release by all facilities with identified sources is necessary to allow Environment Canada to evaluate which sectors and which facilities need to be targeted to prepare virtual elimination plans under the *Canadian Environmental Protection Act*, to implement management strategies and to allow tracking of progress towards the long-term goal of virtual elimination. Reporting by limited sectors known to release these substances will result in capturing all significant releases while minimizing reporting burden by other reporting facilities.

The report filed with Environment Canada will indicate either:

- no data are available,
- no releases above Level of Quantification (LoQ), where known or;
- the quantity released or transferred.

Reporting will be required for the class of substances in units of toxicity equivalents and not individual congeners. Only the following congeners are to be reported:

Name of Congener	CAS Registry Number
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	40321–76–4
1,2,3,4,7,8-Hexachlorodibenzo- <i>p</i> -dioxin	39227–28–6
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	19408–74–3
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	57653-85-7
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9
Octachlorodibenzo-p-dioxin	3268-87-9
2,3,7,8-Tetrachlorodibenzofuran	51207–31–9
2,3,4,7,8-Pentachlorodibenzofuran	57117–31–4
1,2,3,7,8-Pentachlorodibenzofuran	57117–41–6
1,2,3,4,7,8-Hexachlorodibenzofuran	70648–26–9
1,2,3,7,8,9-Hexachlorodibenzofuran	72918–21–9
1,2,3,6,7,8-Hexachlorodibenzofuran	57117–44–9
2,3,4,6,7,8-Hexachlorodibenzofuran	60851–34–5
1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562–39–4
1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7
Octachlorodibenzofuran	39001–02–0

Environment Canada will provide emission factors where available in guidance documents. Environment Canada will also provide draft LoQ values for releases to air and water for PCDD/PCDF in guidance documents, and once available LoQ values for releases to land. TEF values for PCDD/PCDF congeners will also be provided in guidance documents.

3.3.2 Hexachlorobenzene (HCB)

Work Group Recommendations

With respect to the addition of hexachlorobenzene (HCB), the Work Group recommends the following:

- Add HCB at an ATH.
- Use a release reporting trigger.

No consensus was reached on the threshold for reporting. ENGO members support any release from specified sectors and processes. Industry members support a specified threshold, universally applied, with ample guidance. The guidance should indicate which sectors are likely to be required to report. Several industry members supported the position that once the range of thresholds that can be applied to ATH substances is agreed to, the threshold that is closest to 5 kg would be appropriate.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts these Work Group recommendations. Environment Canada is requiring facilities engaged in identified activities known to release hexachlorobenzene to file a report. The report is only for releases and transfers from the following identified activities:

- (i) base metals smelting using chlorinated plastics or other chlorinated substances in their feeds;
- (ii) biomedical or hospital incineration of 100 tonnes or more of waste per year;
- (iii) non hazardous solid waste incineration of 100 tonnes or more of waste per year, including small combustion units, teepee burners and beehive burners;
- (iv) hazardous waste incineration;
- (v) sewage sludge incineration;
- (vi) manufacturing of portland cement;
- (vii) production of chlorinated organic solvents or chlorinated monomers;
- (viii) generation of electric power using fossil fuel (by utilities);
- (ix) manufacturing of iron using a sintering process;
- (x) operation of electric arc furnaces in steel foundries;
- (xi) operation of electric arc furnaces in steel manufacturing;
- (xii) combustion of hog fuel originating from logs that were transported or stored in salt water in the pulp and paper sector;
- (xiii) combustion of fuel in kraft liquor boilers used in the pulp and paper sector;
- (xiv) smelting of secondary aluminum;
- (xv) smelting of secondary lead; or
- (xvi) production of magnesium.

There is no reporting trigger for HCB. Reporting by all facilities engaged in identified activities is necessary to allow Environment Canada to evaluate which sectors and which facilities need to be targeted to prepare virtual elimination plans under the *Canadian*

Environmental Protection Act, to implement management strategies and to immediately allow tracking of progress towards the long-term goal of virtual elimination.

Environment Canada will provide emission factors where available in guidance documents.

3.3.3 Polycyclic Aromatic Hydrocarbons (PAHs)

Work Group Recommendations

With respect to the addition of PAHs, the Work Group recommends the following:

- Add the PAHs on the UNECE POPs as a minimum.
- Use a release reporting trigger.
- Require individual reporting for the PAHs on the UNECE POPs (versus a total for the four).
- Treat phenanthrene in the same way as the other PAHs on the ARET A1 list.
- Exclude the two PAHs from the ARET A1 list for which no Canadian data were found.

Though consensus was achieved on the addition of the PAHs on the UNECE POPs, Work Group deliberations on the addition of PAHs at alternate thresholds were not conclusive in a number of other areas. Concerns about the addition of PAHs at ATH were expressed by many industry members. These concerns relate to the high volume of PAH releases (which, it was held, called into question the value of low thresholds), the high proportion of releases from non-reporting sources, and a perceived need for more information to identify PAHs and thresholds. One industry member of the Work Group supported the position taken by the Canadian Aluminum Association that PAHs are not PBT substances (specifically, they do not appreciably bioaccumulate), and should therefore be considered differently than the other candidate substances.

While there was consensus to add the PAHs on the UNECE POPs, there was no consensus on how to do this. Industry members support a 1 tonne threshold applicable to each PAH, with the option of lowering the threshold in future years if reporting results warrant this. Other members hold that this threshold is too high. As per the consensus recommendation indicated above, Work Group members agree that regardless of the threshold trigger, individual reporting on the UNECE POPs PAHs should be required.

There was no consensus on whether to add the remaining ARET A1 PAHs.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts these Work Group recommendations and adds an additional 13 ARET A1 substances. A total of 17 PAHs are therefore added to the NPRI:

Name	CAS Registry Number
Benzo(a)anthracene	56-55-3
Benzo(a)phenanthrene	218-01-9
Benzo(a)pyrene	50-32-8
Benzo(b)fluoranthene	205-99-2
Benzo(e)pyrene	192-97-2
Benzo(g,h,i)perylene	191-24-2
Benzo(j)fluoranthene	205-82-3
Benzo(k)fluoranthene	207-08-9
Dibenz(a,j)acridine	224-42-0
Dibenzo(a,h)anthracene	53-70-3
Dibenzo(a,i)pyrene	189-55-9
7H-Dibenzo(c,g)carbazole	194-59-2
Fluoranthene	206-44-0
Indeno(1,2,3-c,d)pyrene	193-39-5
Perylene	198-55-0
Phenanthrene	85-01-8
Pyrene	129-00-0

The reporting threshold is based on the sum of the individual substances released, but Environment Canada requires that PAH substances be reported on individually unless no data on individual species are available.

Reporting of the 17 PAHs will be required:

- when PAHs are released or transferred from a wood preservation process using creosote, or
- for other sources, where the above PAHs are incidentally manufactured, and the quantity of the substances released or transferred together totaled 50 kg or more.

Individual reporting is necessary as Environment Canada has international obligations under UN ECE POPs protocol to report all releases of 4 indicator PAHs, including facilitybased releases. However, if a facility only has data on total PAHs without speciesspecific data, that can be submitted to NPRI instead. No national facility-specific data exist for PAHs, and NPRI is the most efficient manner to gather the data from facilities. A 50 kg threshold level for the PAH category will meet Canada's needs for reporting to the UN ECE POPs Protocol.

The 50 kg reporting threshold was chosen in part for consistency with reporting to the U.S EPA Toxics Release Inventory (TRI). The U.S. EPA has recently lowered reporting thresholds for the PAHs category in the Toxics Release Inventory (TRI) to 100 lbs (45.4 kg).

The federal government has identified all PAHs as CEPA-toxic substances, although the PSL assessment was limited to 13 compounds for which toxicity and exposure data were readily available. The PAHs on the ARET A-1 list meet ARET's criteria for persistence and bioaccumulation, and twelve of these PAHs are also considered to be PBT substances by U.S. EPA.

3.3.4 Mercury and its Compounds

Work Group Recommendations

With respect to the addition of mercury, the Work Group recommends the following:

- change the trigger from the current (10 tonne) threshold to an alternate threshold;
- continue to list as "mercury and its compounds", but provide CAS numbers to assist with due diligence via the guidance document (and include information on products known to contain mercury);
- use a M,P,O reporting trigger; and
- exempt dentists, but provide information on emissions from this sector as context in the Summary Report.

No consensus was reached on the threshold for reporting. ENGO Work Group members support a 0.5 kg TH, while some industry members propose that the threshold be set at 5 kg. There is full industry support for the 5 kg threshold if the 1% concentration exemption is retained.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts these Work Group recommendations and has set a reporting threshold of 5 kilograms per year. The 1% concentration exemption will be removed for mercury. This will capture major releases from the sectors targeted by Canada-Wide Standards as well as many other sectors.

The decision to exempt dentists is based on a lack of good data on releases of mercury from dentists and the large number of possible reporters. Environment Canada staff are working on better qualifying releases of mercury from dentists, and will revisit the exemption for dentists at a later time.

Environment Canada will look into the quantities of mercury released from fluorescent lights and other electrical equipment and provide an interpretation in the guidance documents on whether these sources are exempt.

3.4 SUBSTANCES FOR ADDITION AT THE CURRENT THRESHOLD

3.4.1 Acrolein and Polymeric Diphenylmethane Diisocyanate (PMDI)

Work Group Recommendations

Based on information presented by NPRI, the Work Group recommends the addition of polymeric diphenylmethane diisocyanate (PMDI) and acrolein at current thresholds.³ The Work Group had considered both of these substances for 1999 addition. In the case of PMDI, the decision had been deferred pending further assessment regarding toxicity. An independent review commissioned by Environment Canada of toxicity results, and the U.S. EPA's decision to list PMDI, concluded there was a weight of evidence of possible pulmonary toxicity. The Work Group member that had been concerned about the rationale for listing PMDI noted that although some of the evidence was still circumstantial, he would accept the recommendation to add PMDI based on the quality of the scientific review and the reputation of the reviewer. In the case of acrolein, the Work Group's original decision to defer addition had been based on the possible need to add this substance at a lower threshold. New ARET data for 1997 indicates that at least one ARET reporting facility would report at current NPRI thresholds. A draft PSL2 assessment indicates that acrolein is CEPA-toxic.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts the Work Group recommendation and will add polymeric diphenylmethane diisocyanate (PMDI) and acrolein at current thresholds to the NPRI for the 2000 reporting year.

Environment Canada accepts the Work Group's earlier recommendation to add two nonlyphenols (4-*tert*-octylphenol, and oxirane, methyl-, polymer with oxirane, mono(nonylphenyl)ether), identified too late in the consultation process to be added for 1999, so addition was deferred to 2000.

³ Note that Environment Canada's intention to include, for the 2000 reporting year, two additional nonylphenols (4-tert-octylphenol and oxirane, methyl-, polymer with oxirane, mono(nonylphenyl)ether) and refractory ceramic fibres, had been reviewed at the third meeting of the Work Group, and is noted in the Third Work Group Report.

4. Next Steps

4.1 REFRACTORY CERAMIC FIBRE

Work Group Recommendations

In March 1999, the Work Group recommended that Environment Canada add refractory ceramic fibre (RCF) to the NPRI, but consensus was not reached on whether to add in 1999 or 2000. The Work Group recommended that EC qualify the listing to restrict to the "friable form". Its intention was to limit reporting to manufacturers and processors of RCF, as per the Strategic Options Process (SOP). In its response to the March 1999 Work Group report, Environment Canada indicated that it would defer addition of RCF until 2000 to allow activities under the SOP to be better defined and initiated.

Environment Canada's Response to the Work Group Recommendations

Environment Canada determined on discussion with an RCF manufacturer that use of the term friable would not capture releases from manufacturers and processors, as intended by the Work Group. Environment Canada will coordinate NPRI reporting requirements with those under the Memorandum of Understanding (MOU) being developed as a result of the Strategic Option Process (SOP) for this sector. As the MOU will require reporting of stack and ambient concentration data in addition to releases Environment Canada did not include RCF in the December 1999 *Canada Gazette* notice, but will wait until reporting requirements have been finalized for the SOP. The current intent of the SOP process is to gather data for 2000.

List of Acronyms

ARET	Accelerated Reduction/Elimination of Toxics
	Chemical Abstract Service
	Canadian Environmental Protection Act
	Environment Canada
ENGO	Environmental
HCB	Hexachlorobenzene
	Level of Quantification
MOU	Memorandum of understanding
M.P.O	Manufacture, process or otherwise use
NPRI	National Pollutant Release Inventory
PAHs	Polycyclic aromatic hydrocarbons
PBT	Persistent, bioaccumulative, toxic
PCDD	Polychlorinated dibenzo-p-dioxins
PCDF	Polychlorinated dibenzofurans
PMDI	Polymeric diphenylmethane diisocyanate
POPs	Persistent organic pollutants
PSL2	Priority Substance List 2
RCF	Refractory ceramic fibres
SOP	Strategic Options Process
TEQ	Toxic equivalents
TRI	Toxics Release Inventory
UNECE	United Nations Economic Commission for Europe
U.S. EPA	United States Environmental Protection Act