



THE NATIONAL POLLUTANT RELEASE INVENTORY (NPRI)

**Environment Canada Response
to the First Report and
Final Recommendations of the NPRI
Multi-stakeholder Work Group on Substances
(2001-2002)**

January 2002

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1. KEY CHANGES TO THE NPRI FOR 2002

This document outlines the changes to the National Pollutant Release Inventory (NPRI) reporting requirements for the 2002 reporting year.

This report addresses the following topics:

Integration of Criteria Air Contaminants (CACs) into the NPRI for the 2002 reporting year.

Other proposed changes for the 2002 reporting year. These include proposed changes to some existing exemptions as well as proposed listing changes for three metals currently on the NPRI, the addition of one substance at an ATH, and other proposed modifications that are not substance-specific.

Future items for consideration by the Work Group. A brief status update on new candidate substances and other recommended changes to be considered for the 2003 reporting year and beyond.

2. BACKGROUND

A permanent process for modifying the National Pollutant Release Inventory (NPRI) was recently established by Environment Canada (EC).¹ This process was developed through consultations with Canadian stakeholders and, in particular, with the assistance of members of the previous multi-stakeholder NPRI Ad Hoc Work Group on Substances (1998 to 2000).

Consultation with stakeholders on proposed changes to the NPRI is fundamental to the process. On an annual basis, EC is to notify the public of proposed changes (drawing from nominations that can be submitted by any party), and establish an appropriate consultation process for input on those proposed changes.

EC summarized the changes proposed for the 2002 and 2003 reporting years in a February 2001 document titled *Notification to Stakeholders*. Because of the scope and complexity of these proposed changes, a new NPRI Work Group on Substances, with a two-year mandate, was established. A Notification to Stakeholders for proposed changes in 2003 and beyond will be published at the beginning of 2002.

This report sets out Environment Canada's response to the recommendations made by the Work Group to Environment Canada in its First Report. It also summarizes changes to the NPRI reporting requirements for the year 2002. A notice published in the *Canada Gazette* on December 29, 2001 sets out the NPRI reporting requirements for 2002.

¹ The permanent process is fully described in a document available through the NPRI Office, or through the NPRI web site at http://www.ec.gc.ca/pdb/npri/npri_consult_e.cfm.

3. WORK GROUP RECOMMENDATIONS AND ENVIRONMENT CANADA'S RESPONSE

This present document is the Environment Canada response to the recommendations in the first report of the NPRI Multistakeholder Work Group on Substances (2001-2002).

The first Work Group report has provided the "lead-in" text for the EC responses and is an accurate representation of the positions and recommendations of the Work Group members. Only relevant sections of the Work Group report were included as lead-in text. For further information on Work Group deliberations, references to Section numbers in the First Work Group report are provided for each recommendation. The EC responses have been incorporated in text boxes (heavy lining).

3.1 CRITERIA AIR CONTAMINANTS

The Work Group recommends the addition of Criteria Air Contaminants (CACs) to the NPRI for the 2002 reporting year. Many elements relating to the addition of CACs were discussed, such as: thresholds, temporal variation, stack reporting and speciation. The Work Group reached consensus on the requirement to add CACs to the NPRI, however, did not reach consensus on all elements relating to the addition.

3.1.1. General Considerations

Type of Threshold (as described in Section 2.2.1 of the First Work Group Report)

As per the proposed ATH framework (currently being developed by the ATH Subgroup), the WG agrees that release-based thresholds should be used for substances that are primarily incidentally manufactured. A single type of threshold is preferable for all substances reported as CACs, to provide consistency for reporting in and for data analysis.

Recommendation: The WG concurs that release-based thresholds are appropriate for all the CACs.

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendations regarding release based thresholds for CACs.

Single-Substance Trigger or Individual Threshold Triggers (as described in Section 2.2.2 of the First Work Group Report)

The WG considered the option, put forward by Environment Canada, of a single-substance threshold, whereby release of any individual CAC at or above 90 tonnes would trigger a requirement to report on all CACs. This approach would have the advantage of reducing the burden on reporters in determining whether they are required to report.

However, based on the threshold analysis presented to the WG, it was generally agreed that this is a “blunt” approach that could lead to substantial increases in the number of facilities required to report on some CACs, without significant improvements in the emissions capture rate. The alternative is individual threshold triggers for each CAC.

Recommendation: *Based on an analysis of each approach, the WG is in unanimous agreement that thresholds applied to individual CACs are preferable to a single trigger.*

Environment Canada’s Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendations regarding individual thresholds for each CAC.

3.1.2 CAC Definitions and Thresholds

3.1.2.1 Sulphur Oxides (SOx) (as described in Section 2.3.1 of the First Work Group report)

RECOMMENDATION	WG COMMENTS
Definition and Reportable Form All sulphur oxides (SO ₂ , SO ₃ and SO ₄), expressed as sulphur dioxide (SO ₂)	This is compatible with the definition used for purposes of the reporting requirements of the United Nations Economic Commission for Europe (UN ECE) protocols to which Canada is a signatory. Only primary emissions, not secondary particulates, are included. In its new mandatory reporting regulation, the Ontario MOE requires reporting of SO ₂ as SO ₂ . WG members urge Ontario MOE to change the reporting requirement to SO _x as SO ₂ , as proposed for NPRI. The WG representative of the MOE indicated that there is a review process under Ontario Regulation 127/01, including a stakeholder workgroup. Any recommendation from this group will be reviewed by MOE, but time is required for this process.
Threshold 20 tonnes, release-based	ENGO members and most industry members believe this to be a reasonable threshold. ²
Related Issues Reporting guidance	The WG member representing Canadian Manufacturers and Exporters indicated that CME is not opposed to the threshold per se, but is very concerned about how emissions are to be calculated. In particular, available emission factors may not correspond well with actual emissions for operations of many CME members.

² Fuel transmission and distribution facilities are currently exempt from reporting to the NPRI (under the exemption of facilities used for “the distribution, storage and retail sale of fuels”). However, the proposed reporting requirement outlined in Section 3.2.1 of this document (Section 4.2 of the First Work Group report) would have the effect of requiring reporting of CAC emissions from all facilities with combustion devices over a given size; and the intention is that this would include combustion devices associated with fuel transmission and distribution. If this proposed “universal” reporting requirement is not adopted, it would be necessary to revisit the current exemption for fuel transmission and distribution. The WG member representing the Ontario Natural Gas Association has indicated that in this event, ONGA’s views on the SOx threshold, and thresholds for other CACs, would be contingent on how “facility” was defined for purposes of transmission and distribution.

Environment Canada's Response to the Work Group Recommendation

- The Work Group recommendation is based on consistency with the US EPA and the United Nations Economic Commission for Europe (UN ECE) protocols.
- Environment Canada reviewed the reporting requirements for a number of domestic and international programs and has opted to require reporting of sulphur dioxide (CAS # 7446-09-5) emissions instead of SO_x, with a trigger of 20 tonnes, for the following reasons:
 - The Ontario Ministry of the Environment Airborne Contaminant Discharge Monitoring and Reporting Regulation (Reg 127/01) requires industries that meet the reporting thresholds of the program to report their SO₂ emissions on an annual basis;
 - To remain consistent with the current SO₂ information collected annually in the provinces for their programs;
 - SO₂ emissions are required to be reported by Environment Canada and the provincial ministries of the environment for the Canada-Wide Acid Rain Strategy annual report;
 - The Ministers of the Environment and of Health published on July 15, 2000 in the *Canada Gazette* Notice, Part 1 a notice of intent to recommend that precursors to respirable particulate matter less than or equal to 10 microns be added to the List of Toxic Substances in Schedule 1 to the *Canadian Environmental Protection Act*, 1999, which lists SO₂ as one of the precursors;
 - SO₂ is measured in the ambient air monitoring programs in both Canada and the United States;
 - SO₂ emissions are required to be reported by Canada and the United-States for the Canada-US Air Quality Agreement bi-annual report.
- Environment Canada is continuing to investigate the implications of collecting SO₂ emissions in light of the annual UN ECE requirements and other requirements for SO_x emissions to ensure that the appropriate form for this substance is listed on the NPRI.
- With regard to the related issue identified, Environment Canada recognizes the challenges and concerns expressed by the CME. Environment Canada plans to deal with this issue through sector guidance.
- With regard to the related issue identified by ONGA in the footnote, please refer to Section 3.2.1 of this report for a response.

3.1.2.2 Nitrogen Oxides (NO_x) (as described in Section 2.3.2 of the First Work Group report)

RECOMMENDATION	WG COMMENTS
Definition and Reportable Form Nitric oxide (NO) and nitrogen dioxide (NO ₂), expressed as nitrogen dioxide	Reporting nitrogen oxides as NO ₂ will afford compatibility in data sharing under the Ozone Annex to the Canada-U.S. Clean Air Agreement, since this is the reporting form required by the U.S. Environmental Protection Agency (EPA). It is also the UNECE approach. In its new mandatory reporting regulation, the Ontario MOE requires reporting on a NO mass basis. WG members urge Ontario MOE to change the reporting requirement to NO ₂ . WG representatives of the MOE indicated that this change will be put forward for consideration.
Threshold 20 tonnes, release-based	Similar to SO _x .
Related Issues	Similar to SO _x .

Environment Canada's Response to the Work Group Recommendation

- Environment Canada accepts the Work Group recommendation regarding the definition, reportable form and threshold for nitrogen oxides.
- With regard to the related issues identified, the response is similar to that outlined for Sulphur oxides in Section 3.1.2.1.
- Environment Canada is working with the Ontario MOE to promote consistency of reporting requirements between the two jurisdictions.

3.1.2.3 Carbon Monoxide (CO) (CAS #630-08-0) (as described in Section 2.3.3 of the First Work Group report)

RECOMMENDATION	WG COMMENTS
Definition and Reportable Form Carbon monoxide (CO)	
Threshold 20 tonnes, release-based	Similar to SO _x The Canadian Chemical Producers' Association (CCPA) is not necessarily opposed to this threshold, but questions whether a higher threshold might be adequate.

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendation regarding the definition, reportable form and threshold for carbon monoxide.

3.1.2.4 Volatile Organic Compounds (VOC) (as described in Section 2.3.4 of the First Work Group report)

RECOMMENDATION	WG COMMENTS
<p>Definition Final <i>CEPA</i>, 1999³ definition of VOC to be adopted by NPRI.</p>	<p>A draft VOC definition has been proposed under the <i>Canadian Environmental Protection Act</i>, 1999 (<i>CEPA</i>, 1999): Volatile organic compounds that participate in atmospheric photochemical reactions, excluding those substances listed in the Notice of Intent in the Canada Gazette Part 1, June 9, 2001, p. 1879 to 1881.</p> <p>This definition was presented for public comment in the annex to the Notice of Intent to add ozone and its precursors to the List of Toxic Substances in Schedule 1 of <i>CEPA</i>, 1999. Some WG members expressed concern that by not referencing vapour pressure, the proposed definition is not completely coincident with the VOC definition under the Ontario MOE Reporting Regulation. However, WG members concurred that concerns with the definition should be addressed through the public comment process associated with the Notice of Intent. It was also noted that although the wording of VOC definitions varies somewhat between key jurisdictions (EC, Ontario MOE, U.S. EPA), the different definitions will yield consistent reporting.</p>
<p>Reportable Form "Total VOCs"</p>	<p>Reporting of "total VOCs" was the option proposed for Work Group consideration by Environment Canada. This "total VOCs" release number would therefore include releases of those VOCs currently listed on the NPRI even where these must be individually reported (i.e., where the threshold for the individual substance is met). There are already at least 98 VOC species listed individually on the 2001 NPRI; and some future candidates for addition to the NPRI may also qualify as VOCs. Many of the currently-listed NPRI substances that are VOCs were included because of concerns other than the photo-reactivity of the substance, and it is therefore appropriate that these remain individually listed on the NPRI even once the category "total VOCs" is added to the NPRI. On the other hand, if a case is made that some of the individually-listed VOCs do not meet the agreed decision factors for NPRI listing, they may become future candidates for delisting, but remain part of "total VOCs". Over time, therefore, the list of individual substances on the NPRI that are VOC species will likely change; but this will not affect the reporting of "total VOCs" for CAC purposes.</p>

³ The acronym *CEPA* is used exclusively in this report to refer to the Canadian Environmental Protection Act. To avoid confusion, any reference to the Canadian Energy Pipeline Association (also *CEPA*) will cite the full name of the organization, rather than the acronym.

RECOMMENDATION	WG COMMENTS
	<p>Another option, proposed by CCPA for consideration by the WG, is that the new VOC category be “other VOCs”. It would include all VOC species other than those listed on the NPRI that meet the current NPRI threshold (e.g., 10 tonne M,P,O), and that would therefore be reported individually to the NPRI. (Most reporters would still calculate total VOCs. The amounts of any VOCs individually reported to air would then be subtracted out. This calculation function could be built into the software.) The main benefit of this approach is that it avoids double counting of VOC releases from the outset. However, some WG members were concerned about the confusion that might result, particularly given that for CACs, only air emissions are proposed to be reported, whereas for individually-listed NPRI substances, reporting of multi-media releases is required. Ultimately, all WG members agreed that the “total VOCs” approach is preferable. It is also consistent with the Ontario approach.</p>
<p>Threshold 10 tonnes, release-based</p>	<p>CCPA suggested that the threshold be on a M,P,O basis, which would retain consistency with the way individual VOCs on the NPRI are reported. This consistency would be necessary if the “other VOCs” approach was to be used. However, given the recommendation to report “total VOCs”, and given the importance of a consistent approach for all CAC reporting, WG members ultimately agreed that a release-based threshold is appropriate.</p>
<p>Related Issues Relationship between individual substance thresholds and “total VOC” thresholds; and reporting of speciation of “total VOCs”</p>	<p>The CCPA member of the WG indicated that his association’s support for the “10 tonne, release-based, total VOCs” approach is contingent on EC defining an acceptable approach to how the “total VOC” release threshold would work vis-à-vis the M,P,O thresholds of individual VOC substances on the NPRI. He and other WG members representing reporting facilities also reiterated concerns about how the future speciation of “total VOCs” will be handled; and particularly in the current context, questioned whether there will be some de-minimus in terms of the reportable quantity of individual species. Concerns were also expressed, especially by CME, about the potential burden on small and medium-sized companies.</p> <p>EC indicated that until the speciation requirement is determined (refer to Section 3.3.1 of the First Work Group report), it is not possible to anticipate the nature of the reporting that will be associated with it; or the measures that will be taken to facilitate this reporting. However, the following example was offered as a clarification regarding reporting of “total VOCs” vis-à-vis individually-listed VOC substances: <i>A facility that manufactures, processes or otherwise uses 10 tonnes or more of individual VOC species currently listed on the NPRI (such as acetaldehyde and benzene) would be required to report the releases and transfers of those individual substances to the NPRI. If these are the only VOC species released to air, and the total combined releases to air is less than the proposed 10-tonne threshold for “total VOCs”, the facility would not be required to report for “total VOCs”. However, if the total releases to air of all VOC species exceeds 10 tonnes, then a report must be completed for “total VOCs”, regardless of what VOCs trigger the individual 10-tonne manufacture, process or otherwise use threshold.</i></p>

Environment Canada's Response to the Work Group Recommendation

- Environment Canada accepts the Work Group recommendation regarding the definition, reportable form and threshold for total VOCs.
- The rationale for listing of total VOCs is to collect information on total VOCs released to air which contributes to ground level ozone and particulate formation. The purpose of collecting total VOCs released to air is to support the requirements under the Canada-US Ozone Annex and domestic air management programs. Releases of total VOCs to other media are not being considered under this agreement.
- With regard to the related issues identified, Environment Canada is working with Work Group members through a "VOC Speciation" subgroup to develop options for reporting of speciated total VOCs.
- The listing of total VOCs will only require reporting of releases to air, whereas the individually listed VOCs on the NPRI require reporting to multi-media (air, land, water and transfers for recycling and disposal). The individually listed VOCs are listed on the NPRI due to concerns related to their role as a VOC and/or the affect they may have on health and/or the environment. If an individual VOC is listed on the NPRI solely due to its role as a VOC, the NPRI may want to consider its deletion. Pending the results of the work by the speciation subgroup, additions of new substances or deletion of some of the individually listed VOCs may be found to be appropriate.
- Environment Canada recognizes the double counting issue and will highlight this when reporting out total VOC data.
- With regard to the related issue of reporting burden, Environment Canada recognizes the challenges and concerns expressed by the CME. Environment Canada plans to deal with this issue through sector guidance.

3.1.2.5 Total Particulate Matter (TPM) (as described in Section 2.3.6 of the First Work Group report)

RECOMMENDATION	WG COMMENTS
<p>Definition and Reportable Form TPM is any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 micrometers (includes PM₁₀ and PM_{2.5}). TPM does not include water.</p>	<p>The recommended definition will support consistency with existing federal and provincial monitoring/reporting requirements.</p> <p>The value of reporting TPM was questioned by the Mining Association of Canada (MAC), and by the CVMA. They noted that PM₁₀ and PM_{2.5} are the major health concerns. During external stakeholder review, the Alberta Forest Products Association also questioned the value in TPM reporting. Other WG members pointed out that TPM can impact air quality close to point sources, and that TPM information is needed for federal and some provincial objectives. It was noted that consistency and comparability nationally is desirable.</p>
<p>Threshold 20 tonnes, release-based</p>	<p>ENGO members are concerned that this threshold may not be low enough to capture emissions from the small and medium-sized facilities that tend to be located in population centres. The local impact of emissions from such facilities may have a greater effect on human health than that associated with emissions from large sources.</p>
<p>Related Issues Reporting guidance and guidance in interpreting data</p>	<p>EC should provide detailed guidance on estimating and reporting TPM. It will be important to determine which types of facilities and processes are most in need of guidance.</p> <p>EC must ensure that double counting is avoided when inventory data is released (i.e., data users must be fully informed/instructed that TPM includes the fine fractions -- PM₁₀ and PM_{2.5} -- but these are also reported separately).</p>
<p>Road dust and similar diffuse sources</p>	<p>The WG discussed whether and how these diffuse sources of TPM should be included in reporting to the NPRI. It was agreed that EC should be in a position to provide a protocol for these sources before they are included in the reporting requirement for TPM. The WG will give further consideration to whether and how these diffuse sources should be addressed in NPRI reporting.</p>

Environment Canada's Response to the Work Group Recommendation

- Environment Canada accepts the Work Group recommendation regarding the reportable form and threshold for total particulate matter.
- Environment Canada accepts the Work Group recommendation regarding the definition of TPM, however, the wording in Schedule 4 of the *Canada Gazette Notice for the 2002 NPRI, published on December 29, 2001*, reads "total particulate matter means any particulate matter with a diameter less than 100 microns." The definition chosen provides consistency with the PM₁₀ definition in the List of Toxic Substances in Schedule 1 of *CEPA, 1999* (refer to Section 2.3.6 of this report). The Work Group recommendation to specifically exclude water in this definition will be reflected in NPRI guidance for this substance.

With regard to the related issues identified:

- Environment Canada will provide Guidance for reporting and estimation of releases of TPM.
- Environment Canada recognizes the double counting issue and will highlight that PM₁₀ and PM_{2.5} are included in TPM when reporting out this data.
- Environment Canada accepts the recommendation that reporting of road dust and similar diffuse sources should be considered in the future.

3.1.2.6 PM₁₀ and PM_{2.5} (as described in Section 2.3.7 of the First Work Group report)

PM₁₀	
RECOMMENDATION	WG COMMENTS
Definition and Reportable Form PM ₁₀ is any particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (includes PM _{2.5}). Only primary releases are reportable.	The recommended definition is essentially the same as that used by the U.S. EPA, so will support consistency in reporting under the Ozone Annex of the Canada-U.S. Air Quality Agreement. With respect to secondary PM formation, it is worth noting that release of PM precursors would be captured with the other CAC listings.
Threshold Release-based	The WG did not reach consensus on a reporting threshold; see discussion below.
Related Issues	Similar to TPM.

PM_{2.5}	
RECOMMENDATION	WG COMMENTS
Definition and Reportable Form PM _{2.5} is any particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers. Only primary releases are reportable.	As for PM ₁₀ , the recommended definition is essentially the same as that used by the U.S. EPA.
Threshold Release-based	The WG did not reach consensus on a reporting threshold; see discussion below.
Related Issues	Similar to TPM. ⁴

⁴ The member representing ONGA expressed particularly strong concerns with respect to the quality of data that will be reported. There is not yet any established method for measuring PM_{2.5} emissions from exhaust stream combustion equipment fuelled by natural gas. Moreover, for some types of equipment (e.g., turbines) there are no published emission factors for PM_{2.5}, or they are of very poor quality.

The Work Group did not reach a consensus recommendation concerning PM₁₀ and PM_{2.5}, but:

- As noted in the preceding tables, the Work Group agrees with the reporting of PM₁₀ and PM_{2.5}, agrees with the proposed definitions for PM₁₀ and PM_{2.5}, and agrees with a release-based threshold.
- Most members agree that thresholds should be established at a level that captures emissions from more than just the large emitters, but the members do not agree as to what level this should be (i.e. do not agree on the balance between comprehensiveness and efficiency).
- Most members agree that harmonization between provincial and NPRI reporting requirements is desirable, but the members do not agree on whether NPRI should harmonize with Ontario's requirements. Associations representing Ontario facilities, and Ontario facilities themselves, have supported harmonization with Ontario MOE requirements.
- Many Work Group members, notably the ENGOs, support the EC proposal for a threshold of 0.3 tonnes for PM_{2.5} and 0.5 tonnes for PM₁₀. This support is based on toxicity (PM₁₀ and PM_{2.5} are CEPA-toxics) and the desirability of upward (i.e. more stringent) harmonization with Ontario requirements.
- Other members (CVMA, CME, FPAC, CSPA, CCPA, CPPI) believe these thresholds are too low, based on such factors as practicality, expected quality of data, and consistency with thresholds for other substances (including TPM).⁵ Many of these members consider harmonization with Ontario requirements to be desirable, but do not agree that the Ontario thresholds are otherwise appropriate.

Environment Canada's Response to the Work Group Recommendation

- **Environment Canada accepts the *consensus* Work Group recommendation regarding the reportable form and a release based threshold for PM₁₀ and PM_{2.5}.**
- **Environment Canada accepts the Work Group recommendation regarding the definition of PM₁₀ and PM_{2.5}, however, the wording in Schedule 4 of the *Canada Gazette* Notice for the 2002 NPRI, published on December 29, 2001, reads "PM₁₀ means any particulate matter with a diameter less than or equal to 10 microns" and "PM_{2.5} means any particulate matter with a diameter less than or equal to 2.5 microns". The definitions chosen provide consistency with the PM₁₀ definition in the List of Toxic Substances in Schedule 1 of CEPA, 1999.**

⁵ The observer from the province of British Columbia also agreed with this point.

- With regard to the threshold level for PM₁₀ and PM_{2.5}, Environment Canada has opted for a threshold of 0.5 tonnes for PM₁₀ and 0.3 tonnes for PM_{2.5}. The rationale for this choice is:
 - provides harmonization with the Ontario MOE Airborne Contaminant Discharge Monitoring and Reporting Regulation (Reg 127/01).
 - recognition of the environmental and health effects for PM₁₀ and PM_{2.5}. PM₁₀ and PM_{2.5} have been declared toxic under CEPA, 1999.
 - These thresholds will capture relatively small facilities. Environment Canada has further reviewed the threshold to ensure that small facilities would not be caused undue reporting burden.
- Environment Canada intends to provide technical guidance for estimating and reporting of particulate matter. Guidance will be developed for small and medium sized facilities.
- With regard to the related issues identified, the response is similar to that outlined for TPM in Section 3.1.2.5.
- With regard to the related issue identified by ONGA, Environment Canada is aware of work to improve emission factors and measurement methods that may result in relatively large changes in releases. This is an issue that needs to be communicated to the public.

3.1.3 CAC Data Elements

3.1.3.1 Temporal Variation (as described in Section 3.1 of the First Work Group report)

Recommendation: The WG agrees that the preferred approach to obtaining information on temporal variation is completion of an operating profile or profiles in the facility section of the NPRI Reporting Form (software). If there is only one source of CAC emissions at a facility, or if there are multiple sources but all operate on the same schedule, only one temporal profile would be needed. If there are two or more sources operating on different schedules, a temporal profile will be prepared for each. In the substance section of the reporting software, each CAC will then be linked with the appropriate profile.

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendation regarding the collection of temporal variation for CACs.

3.1.3.2 Stack Information (as described in Section 3.2 of the First Work Group report)

Reporting of CACs from Stacks & Reporting Physical Parameters

- WG members agree with the recommendation to report CAC emissions from major

stacks, in addition to facility-level reporting. WG members also agree that such reporting would only apply to CACs that meet facility-level thresholds, and would only be required if certain stack thresholds are met. However, members do not agree on the specific stack thresholds to be applied.

- WG members agree with the recommendation to report physical parameters (stack height, diameter, exit temperature and velocity) for major stacks where reporting of stack emissions is required, and agree with use of nameplate data where this is a reasonable representation of actual operating conditions.

Major Stack Threshold

Environment Canada's Original Proposal to the Work Group:

- A major stack is any stack with a height of 50 meters or greater above grade that emits 10 tonnes or more of any one CAC, assuming the facility-level threshold trigger for that CAC (as per section 3.1.2 of this report) has been met.
- Once a stack meets this definition, emissions from that stack of each CAC for which the facility-level threshold trigger has been met must be reported, unless the emissions are below a specified "floor" for each substance. The floor level is 1 tonne for NO_x, SO_x, CO, TPM, and VOCs; 30 kg for PM_{2.5}, and 50 kg for PM₁₀ (i.e. no more than 10% of the reporting threshold).
 - *ENGO members support the original Environment Canada proposal.*
 - *Industry members do not support this proposal, and have further provided an alternate recommendation as follows:*
 - *A major stack is any stack with a height of 50 meters or greater above grade.*
 - *Once a stack meets this definition, emissions from that stack must be reported for each CAC for which the facility-level threshold trigger has been met, provided emissions are > 50% (for example) of the facility threshold for that substance.*

Environment Canada's Response to the Work Group Recommendation

- **Environment Canada accepts the *consensus* recommendations of the Work Group regarding requiring reporting of CAC emissions from major stacks, reporting of physical parameters (stack height, diameter, exit temperature and velocity) for major stacks, and the use of nameplate data where this is a reasonable representation of actual operating conditions.**
- **With regard to the issue of a *major stack threshold*, Environment Canada is opting to require reporting for each stack with a height of 50 meters or greater above grade, and where the quantity of each CAC substance that is released to air, for which the facility-level threshold trigger has been met, is equal to or greater than:**

Carbon monoxide	5 tonnes
Oxides of nitrogen	5 tonnes

PM2.5	150 kilograms
PM10	250 kilograms
Sulphur dioxide	5 tonnes
Total particulate matter	5 tonnes
Volatile organic compounds	5 tonnes

Environment Canada's justifications for taking this approach are :

- **Environment Canada recognizes the points made by industry members with regard to the issue of reporting burden and reporting of small quantities from stacks.**
- **The original proposal by Environment Canada had issues with clarity and would have been difficult to explain in guidance. The simplified approach that Environment Canada has opted for will be easier to explain and implement with reporting facilities.**
- **The thresholds would meet the needs for regional air quality modeling.**

3.1.3.3 Data Elements for Future Reporting Years

This section provides a brief overview of CAC-related issues that will be considered by the WG for the 2003 reporting year.

Speciation (as described in Section 3.3.1 of the First Work Group report)

Speciation information, particularly for VOCs, is required for air quality modelling. Speciation was initially to be implemented for the 2002 reporting year, but has been deferred to the 2003 reporting year to allow more time for research and analysis of possible approaches. A subgroup of the Work Group will assist EC in further developing these and other options, for consideration by the full WG at subsequent meetings.

During external stakeholder review, it was proposed that process identification be considered, using the U.S. EPA Source Classification Code (SCC). Environment Canada agrees that SCC information or alternatives are required, and recommends that this be considered with VOC speciation for the 2003 reporting year.

Fuel Quantities (as described in Section 3.3.2 of the First Work Group report)

According to EC, information on fuel use of sources reporting to the NPRI is required to ensure the comprehensiveness of the emissions inventories; specifically, to ensure that all emissions from fuels have been estimated. With this information, EC can compile a comprehensive inventory, as required to meet domestic and international needs and commitments. The option of EC accessing Statistics Canada fuel-use data for reporting facilities, as an alternative to direct reporting to the NPRI, was suggested. Some industry members expressed concerns both about the inconsistencies in this data, and about confidentiality. However, others pointed out that Statistics Canada is well established and regulated, and that industry associations are working with Statistics Canada to improve the fuel-use data. NPRI will not be collecting information on fuel usage for the

2002 reporting year, but the WG will give further consideration to this data element at a future meeting.

Combustion and Non-Combustion Data (as described in Section 3.3.3 of the First Work Group report)

Reporting requirements under the various relevant UN ECE protocols to which Canada is signatory necessitate a disaggregation of emissions into fuel combustion emissions and process emissions. A decision is pending on whether the UN ECE 2001 reporting guidelines (applicable to the year 2000) will require this. It was noted that Canada compiles the facility-related portion of its CAC inventory from the bottom up (i.e., based on facility-level emissions), which is in contrast to the top-down approach used by many other signatories to the UN ECE protocols. On the grounds of confidentiality, some industry members of the WG are opposed to a facility-level break-out of CAC emissions data according to combustion versus non-combustion sources. Industry members requested a justification of why this data is relevant.

ENGO members of the WG feel that facilities should be required to report the percentile split between combustion and non-combustion emissions for CACs. In their view, this information contributes significantly to an ability to identify and assess emissions reduction opportunities. It was also noted that in calculating their CAC emissions for NPRI reporting, facilities will presumably need to estimate combustion emissions separately from process emissions; and reporting the break-out would therefore not impose an additional burden. Moreover, ENGOs indicated that this break-out will be required for GHG emissions reporting, particularly in the event of emissions trading.

The question of whether and how this break-out should be reported to the NPRI will be further considered by the WG at a future meeting.

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendation to consider speciation of CACs, reporting of fuel quantities and combustion information in the future.

3.2 REVIEW OF EXISTING NPRI EXEMPTIONS

3.2.1 Reporting Requirement for Combustion Equipment (as described in Section 4.2 of the First Work Group report)

Based on input from the WG and analysis of emission capture rates, EC proposed the following recommendation for WG consideration:

- *Any facility that does not meet the general NPRI reporting requirements, but operates stationary combustion equipment, must report CAC emissions from this combustion equipment, if the emissions meet the applicable substance thresholds.*

- To reduce reporting burden, EC also recommends an exemption from this requirement for facilities with stationary external⁶ combustion devices that:
 - Burn only commercial grade natural gas, liquefied petroleum gas (LPG), light fuel oil (No. 1 and No. 2 fuel oils), or any combination thereof, **and**
 - Have a cumulative nameplate capacity of ≤ 10 million BTU/hour (9.48 GJ/hour) (cumulative at the facility level).⁷

Note: These recommendations do not apply to the upstream oil and gas sector; however, the WG will consider reporting from this sector in the future.

The WG supports the general approach outlined in the EC proposals regarding combustion equipment. However, many members do not agree with the specific BTU/hour threshold proposed by EC (arguing for higher or lower thresholds, as noted above). Industry members have stressed the importance of a clear definition of external combustion equipment.

Environment Canada's Response to the Work Group Recommendation

- **Environment Canada accepts the Work Group recommendation to require reporting from facilities operating combustion equipment and that do not meet the NPRI general reporting requirements, with the exception of the upstream oil and gas sector.**
- **With regard to the exemption, Environment Canada has opted to include an exemption for stationary external combustion devices that:**
 - **Burn only commercial grade natural gas, liquefied petroleum gas (LPG), light fuel oil (No. 1 and No. 2 fuel oils), or any combination thereof, and**
 - **Have a cumulative nameplate capacity of ≤ 10 million BTU/hour (9.48 GJ/hour) (cumulative at the facility level)**
 - **Where external combustion equipment means any equipment with a combustion process that occurs at atmospheric pressure and with excess air.**
- **Environment Canada is confident that facilities operating at 10 million BTU/hour or less with the above noted fuels will not meet the CAC substance thresholds. For this reason, the exemption is consistent with the requirements for reporting emissions under the Ontario MOE Regulation.**
- **The definition of external combustion equipment will be further defined and described in Guidance prepared by Environment Canada.**

⁶ External combustion equipment means any equipment combusting at atmospheric pressure and with excess air, and excludes internal combustion devices.

⁷ Analysis by EC has shown that equipment in this size range, burning the specified fuels, will not normally meet the proposed substance thresholds for CAC reporting.

- As discussed in Section 3.1.2.1, this requirement will include combustion devices at fuel transmission and distribution facilities. Environment Canada has opted to define a facility as a contiguous facility and a pipeline installation. Where pipeline installation means a collection of equipment situated at a single site, used in the operation of a fossil fuel pipeline.

3.2.2 Alteration to Exemption of Vehicle Maintenance and Repair Facilities (as described in Section 4.3 of the First Work Group report)

Recommendation: The current exemption of facilities used for the maintenance and repair of transportation vehicles should be modified, so that painting, stripping and major overhauls and potentially other related activities (e.g., rust-proofing) are not exempted from CAC reporting requirements, or reporting requirements for any other NPRI substances.

Environment Canada's Response to the Work Group Recommendation

- Environment Canada accepts the Work Group recommendation regarding the modification of the exemption for vehicle maintenance and repair to require reporting from facilities engaged in painting and stripping of vehicles.
- With regard to major overhauls, Environment Canada has opted to use the wording "rebuilding or remanufacturing" of vehicle components rather than major overhaul. The use of rebuilding and remanufacturing provides more clarity.

3.2.3 Alteration to Exemption of Facilities Engaged in Fuel Distribution, Storage or Retail Sale (as described in Section 4.4 of the First Work Group report)

Recommendation: The current exemption for facilities engaged in distribution, storage, or retail sale of fuels should be modified to remove the exemption for terminals and other large fuel storage facilities (including storage of crude oil). Such facilities would not have to satisfy the employee threshold (i.e. would report regardless of number of employees).

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendation regarding the modification of the exemption for facilities engaged in fuel distribution, storage or retail sale.

3.3 OTHER CHANGES FOR THE 2002 REPORTING YEAR

3.3.1 Substance Related Change (as described in Section 5.1.2 of the First Work Group report)

Hexavalent Chromium

Currently, chromium and its compounds is listed on the NPRI. The addition of hexavalent chromium compounds, separate from the current chromium and its compounds listing, was discussed by the NPRI Work Group. The Work Group did not reach a consensus recommendation, but:

- *There is agreement on the need for separate reporting and alternative thresholds for hexavalent chromium.*
- *ENGO members support a more stringent threshold (5 kg) and removal of the concentration exemption.*
- *Other members accept the EC recommendation for a 50 kg threshold and 0.1% concentration exemption.*
- *The WG encourages EC to work with Ontario MOE to encourage harmonization at the selected NPRI threshold.*

Environment Canada's Response to the Work Group Recommendation

- **Environment Canada accepts the *consensus* Work Group recommendation for listing hexavalent chromium compounds separately from chromium and its compounds at an alternative threshold for hexavalent chromium compounds.**
- **Environment Canada has opted for a threshold of 50 kg and a 0.1% concentration exemption for hexavalent chromium compounds.**
- **Environment Canada's rationale for this requirement is as follows:**
 - **the threshold will capture major sectors releasing hexavalent chromium, including chrome plating, wood treating, and other industries.**
 - **the concentration exemption was lowered to 0.1% rather than being removed as the PBT status of these substances are pending further assessment under the Categorization and Screening Program (under *CEPA*, 1999 which is based on the Toxic Substance Management Policy).**
- **Environment Canada is working with the Ontario MOE to promote consistency of reporting requirements between the two jurisdictions.**

Lead and its compounds and tetraethyl lead

The lowering of the thresholds for lead and its compounds and tetraethyl lead was discussed by the Work Group. The Work Group did not reach a consensus recommendation, but:

- *There is agreement on the need for an ATH for lead and its compounds and for tetraethyl lead.*
- *Some industry members (MAC, CVMA, CME, CSPA, CPPI, CCPA) accept the EC recommendation for a 50 kg threshold and 0.1% concentration exemption.*
- *Other WG members (ENGOs, Health Canada, and some other government members) support a more stringent threshold of 5 kg (and some ENGOs would consider an even lower threshold). ENGOs also support complete removal of the concentration exemption.*

Environment Canada's Response to the Work Group Recommendation

- **Environment Canada accepts the *consensus* Work Group recommendation for an alternative threshold for lead and its compounds and tetraethyl lead.**
- **Environment Canada has opted for a threshold of 50 kg threshold and a 0.1% concentration exemption for lead and its compounds and tetraethyl lead, with the exception of lead contained in stainless steel, brass and bronze alloys.**
- **Environment Canada's rationale for this requirement is as follows:**
 - **consistency with the United States Environmental Protection Agency (US EPA) Toxic Release Inventory (TRI) threshold for lead and lead compounds.**
 - **Large facilities of interest (electronic equipment, soldering machines, and industrial combustion) would be captured.**
 - **the concentration exemption was lowered to 0.1% rather than being removed as the PBT status of these substances are pending further assessment under the Categorization and Screening Program (under CEPA, 1999 which is based on the Toxic Substance Management Policy).**

Cadmium and its compounds

The lowering of the threshold for cadmium and its compounds was discussed by the Work Group.

Recommendation: *The Work Group recommends adoption of an ATH for cadmium, based on the EC recommendation of an M,P,O threshold of 5 kg.*

ENGO members of the WG support complete removal of the concentration exemption, in light of the toxicity of this substance. Other WG members support reduction of the exemption to 0.1%, as proposed by EC.

Environment Canada's Response to the Work Group Recommendation

- Environment Canada accepts the Work Group recommendation regarding the adoption of an ATH for cadmium and its compounds of 5 kg.
- Environment Canada has opted for a 0.1 % concentration exemption rather than being removed as the PBT status of these substances are pending further assessment under the Categorization and Screening Program (under *CEPA, 1999* which is based on the Toxic Substance Management Policy).

Arsenic and its compounds

The lowering of the threshold for arsenic and its compounds was discussed by the Work Group. The Work Group did not reach a consensus recommendation, but:

- *There is agreement on the need for an ATH for arsenic and its compounds.*
- *ENGO members support the need for a more stringent threshold (5 kg) and complete removal of the concentration exemption.*
- *EC proposes a threshold of 50 kg and a concentration exemption (0.1%).*
- *Industry members support a higher threshold (500 kg) and concentration exemption (0.1%).*

Environment Canada's Response to the Work Group Recommendation

- Environment Canada accepts the consensus Work Group recommendation for an alternative threshold for arsenic and its compounds.
- Environment Canada has opted for a threshold of 50 kg threshold and a 0.1% concentration exemption for arsenic and its compounds.
- Environment Canada's rationale for this requirement is as follows:
 - the threshold will capture the wood treatment sector and coal and oil fired power plants, which are major sectors releasing arsenic and its compounds. The semi-conductor industry also releases arsenic and its compounds, however, it is unknown in what quantity. Environment Canada believes a 50 kg threshold is an appropriate threshold that balances the hazard posed by arsenic and its compounds and anticipated burden placed on government and industry to report.
 - the concentration exemption was lowered to 0.1% rather than being removed as the PBT status of these substances are pending further assessment under the Categorization and Screening Program (under *CEPA, 1999* which is based on the Toxic Substance Management Policy).

3.3.2 Delisting of Phosphoric Acid (as described in Section 5.1.3 of the First Work Group report)

Recommendation: The WG recommends delisting of phosphoric acid. ENGO support for this recommendation is contingent on a commitment to consider phosphate as a candidate for addition to the NPRI for RY 2003.

Environment Canada's Response to the Work Group Recommendation

- Environment Canada accepts the Work Group recommendation regarding the delisting of phosphoric acid.
- Environment Canada considers addition of phosphates or phosphorus to the NPRI as a high priority.

3.3.3 Effluent-Based Threshold for Municipal Wastewater Facilities (as described in Section 5.2.1 of the First Work Group report)

WG Recommendation 1 (systems with no treatment): The agency responsible for a municipal wastewater collection system that discharges to the environment, without treatment, should be required to report to the NPRI regardless of number of employees, provided:

- substance thresholds are exceeded, and
- the actual discharge (based on total flow) is at an average rate greater than or equal to 10,000 m³/day.⁸

If the collection system is divided into a number of physically separate sub-systems, it is the intent of the WG that the total discharge from these sub-systems should be considered in determining whether the municipality exceeds the substance and discharge thresholds.

WG Recommendation 2 (systems with treatment): The agency responsible for a municipal wastewater treatment facility and its associated collection system should be required to report to the NPRI regardless of number of employees, provided:

- substance thresholds are exceeded, and
- the actual discharge (based on total flow) is at an average rate greater than or equal to 10,000 m³/day.⁹

The WG asked that EC review reporting following initial implementation of Recommendation #2, to ensure that there are no significant gaps in the capture of releases arising from physical separation of collection systems within municipalities.

⁸ The ENGOs support a threshold of 3000m³/day for Recommendation 1.

⁹ The ENGOs support a threshold of 3000m³/day for Recommendation 2.

WG Recommendation 3: *The WG agrees that the focus should be on combined and sanitary sewer systems (not storm sewers). The ENGO suggestion concerning reporting of process information is to be brought forward for possible future WG consideration (2003 RY).¹⁰*

Environment Canada's Response to the Work Group Recommendations

With regard to Work Group recommendation 1 and 2:

- Environment Canada has opted to require reporting from wastewater collection systems with or without treatment, regardless of the number of employees, provided:
 - substance thresholds are exceeded, and
 - the annual average discharge of treated or untreated wastewater is greater than or equal to 10 000 m³/day into a surface water.
- Environment Canada has opted that in determining if a collection system exceeds the substance and discharge thresholds, a collection system is defined as a contiguous facility (as defined in Schedule 4 of the *Canada Gazette* Notice for the 2002 NPRI, published on December 29, 2001).

Environment Canada's justification for taking this approach is as follows:

- currently there is inconsistent and limited reporting from this sector. A 10 000 m³/day discharge threshold will ensure a much greater coverage of reporting. A discharge effluent based threshold is more appropriate for this sector than the existing NPRI trigger. Environment Canada will re-evaluate the discharge threshold in the future once information has been collected and analyzed to ensure that the capture rate is sufficient.
- the definition of a collection system is consistent with the current definition of a facility in the NPRI.

With regard to Work Group recommendation 3:

- Environment Canada accepts the Work Group recommendation that the focus should be on combined and sanitary sewer systems (not storm sewers).
- Environment Canada has opted to defer consideration of reporting of level of treatment for wastewater treatment facilities. This requirement will be considered in conjunction with the wastewater strategy being developed by Environment Canada.

¹⁰ The ENGOs do not support deferral of this matter to 2003 RY. Industry does not agree with providing process data, and believes that this should not be part of NPRI.

3.3.4 Activities List for Dioxins and Furans (as described in Section 5.2.2 of the First Work Group report)

Recommendation: The WG supports EC's proposal to lower the capacity cut-off for biomedical/hospital and non-hazardous solid waste incineration from 100 tonnes to 26 tonnes of waste incinerated per year. This change is required for consistency with Canada Wide Standards (CWS) for Dioxins/Furans, and to capture significant facility-based releases.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts the Work Group recommendation.

3.3.5 Description of Wood Preservation (as described in Section 5.2.3 of the First Work Group report)

Recommendation: Wood preservation means the activities employed by the industrial wood preservation sector including, but not limited to, wood preservative manufacturing, formulating or blending for industrial, commercial, institutional or residential use, or processing or otherwise using heavy-duty wood preservatives for the purposes of wood preservation treatment. (Wood preservatives include, but are not limited to, CCA, ACZA, creosote and pentachlorophenol.) Wood preservation treatment means the preservation of wood using thermal or pressure treatment, or both.

Environment Canada's Response to the Work Group Recommendations

Environment Canada accepts the Work Group recommendation.

3.3.6 Pollution Prevention (P2) Activities (as described in Section 5.2.4 of the First Work Group report)

At the September 2001 WG meeting, EC presented a minor change proposed for the 2002 reporting year. The change affects the reporting form on qualitative P2 activities, and will involve a more detailed breakdown of the P2 activities currently listed in the NPRI reporting form. The rationale for the change is to improve the quality of P2 information collected, in light of the P2 planning provisions of *CEPA, 1999*. EC's National Office of Pollution Prevention will use the information, and it will assist companies in identifying their respective P2 activities.

EC views this as a very minor change with regard to reporting burden, and feels that unless there is something fundamentally wrong with this approach, the change should move ahead. Questions of clarification (i.e. definition of a P2 plan) and guidance will be addressed by EC. A number of WG members expressed concern regarding the timeline for the proposed change. EC invited comments to be submitted directly to NPRI, to help establish an appropriate course of action.

Both industry and ENGOs have submitted comments to NPRI concerning P2 reporting. ENGOs support reporting P2 activities in a more detailed way, and note that the improvements suggested by EC would help with the clarification and interpretation of P2 terminology. Industry has suggested that, with a better understanding of the problems with current P2 reporting, it will be possible to help EC improve the P2 reporting process.

Environment Canada's Response to the Work Group Recommendations

- **Environment Canada has opted to provide a more detailed breakdown of P2 activities for the 2002 reporting year.**

Environment Canada's justification for this change is as follows:

- **This is a relatively small change to the NPRI reporting requirements.**
- **No serious or fundamental problems were identified with the approach.**
- **The modification will provide Environment Canada's National Office of Pollution Prevention (NOPP) with information that will improve quality of P2 information collected in light of the P2 planning provisions of *CEPA*, 1999.**

3.4 FUTURE ITEMS FOR CONSIDERATION BY THE WORK GROUP

3.4.1 ATH Framework (as described in Section 6.1 of the First Work Group report)

The ATH Framework, currently under consideration by the ATH Framework Subgroup, will be finalized by the WG.

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendation for the consideration of an ATH framework.

3.4.2 Outstanding CAC Issues (as described in Section 6.2 of the First Work Group report)

A number of outstanding CAC issues have been identified in Sections 3.1.2 and 3.1.3.3 (Sections 2.3 and 3.3 in the First Work Group report).

An additional item for future consideration relates to the application of the existing employee threshold in relation to CAC reporting. As it currently stands, only facilities with more than 20,000 hours of employee time are required to report to the NPRI. EC is concerned that facilities that fall below this threshold may nonetheless be important sources of CACs. For this reason, ENGO members of the WG are generally supportive of removing the threshold for CAC reporting. Conversely, some WG members that represent reporting facilities oppose removing this exemption, given the very large number of small facilities that would be affected. They point out that the original rationale for putting this exemption in place is still valid. They would like a more targeted approach to ensuring that small facilities that are important sources of CAC release report to the NPRI. EC and the WG will give more consideration to alternatives to the complete removal of this exemption for CAC reporting.

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendations for the consideration of these CAC data elements. The department will prioritize these issues in consultation with the Work Group.

3.4.3 Greenhouse Gases (as described in Section 6.3 of the First Work Group report)

The WG will consider recommendations related to the addition of greenhouse gases (GHGs) to the NPRI in 2003. A subgroup has been formed to assess needs, review existing information, define and assist with required research and analysis, and develop options.

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendations for the consideration of addition of greenhouse gases.

3.4.4 Other Substance Issues to be Considered for the 2003 Reporting Year (as described in Section 6.4 of the First Work Group report)

Preliminary presentations and discussion on many of the following substances took place at the WG's first meeting (April 30/May 1, 2001). Pending further consideration at future meetings, the WG will propose recommendations regarding these substances.

Banned substances on the NPRI: A list of substances on Schedule 1 and 3 of CEPA 1999 was previously distributed to the WG. Work has begun on banned substances. EC will come back to the WG with further information on phase-out dates for some substances and possible de-listing information for others.

Nickel and its compounds: Given health and environmental concerns similar to those for other metals that have been considered for ATH, this substance, currently listed on the NPRI at the 10 tonne threshold, is being proposed as a candidate for an ATH.

Carbonyl sulphide: This substance has been on the TRI since 1987. It was screened out of consideration for addition to NPRI in 1999 because it was not on the Domestic Substances List as a commercial chemical; but it is now known that it may be produced as a by-product in Canada.

Hexachlorobutadiene (HCBD): HCBD is currently on the TRI at a threshold of 25,000 lbs. It is a PSL2 and DSL substance, but has never been produced in Canada. However, HCBD is present as a contaminant in some chlorinated chemicals. It is also suspected to be present in by-product HCl and subsequently in ferric chloride that is converted from by-product HCl (which may contain HCBD) from a pickling process in the steel industry or from titanium dioxide production processes. EC is proposing that HCBD be added at a MPO threshold at the LoQ of HCBD in solvents. EC will provide to the WG further rationale for this proposal, including the rationale for taking a different listing approach than that taken for dioxins and furans.

Hexabromobiphenyl: EC is proposing that hexabromobiphenyl not be added to the NPRI at this time, since Canada is currently meeting its international obligations for this substance, and the U.S. EPA has not yet added it to the TRI.

Octachlorostyrene: EC will provide a proposal to the WG after examining the data reported to the U.S. EPA TRI on this substance, since it was added to the TRI in 2000.

Tetrabromobisphenol A (TBBPA): TBBPA is on the DSL, and has reported uses in Canada by many sectors. EC is proposing that TBBPA be added to the NPRI at an ATH of 50kg. The U.S has added it to the TRI at a threshold of 100 pounds.

Inorganic Chloramines: Inorganic chloramines have been assessed as toxic under CEPA, 1999. Inorganic chloramines are formed in wastewater and cooling water as a result of a series of reactions that occur when free chlorine is added in the presence of sufficient amounts of ammonia.

Phosphate: Refer to the phosphoric acid recommendation in Section 3.2.2 of this report (subsection 5.1.3 of the First Work Group report).

Other substances for which the WG anticipates information from EC include:

- Dichloromethane
- Chlorinated alkanes (paraffins)
- Nonylphenol and ethoxylates
- N-Nitrosodimethylamine (NDMA)
- Chlorobenzenes (tri-, tetra- and penta-)
- Pentachlorophenol.

The first three are substances currently on the NPRI for which a listing change may be required. The others are candidate additions.

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendation. The department will prioritize these issues in consultation with the Work Group on Substances.

3.4.5 Other Issues (as described in Section 6.5 of the First Work Group report)

In addition, a number of other issues have been put forward for consideration in the next stage of the WG mandate. These include:

- Changes to the dioxins/furans activities list
- Other items identified for future consideration in this report (e.g. exhaust emissions in major fleet-based maintenance facilities, process reporting for municipal wastewater treatment plants)
- Other issues identified by WG members for consideration (e.g. review of mining exemption, radionuclides, thallium, threshold for beryllium)
- Other items carried over from previous WG deliberations (e.g. transfer of substances to on-site landfills, alloy exemptions for metals).

Environment Canada's Response to the Work Group Recommendation

Environment Canada accepts the Work Group recommendation. The department will prioritize these issues in consultation with the Work Group on Substances.

List of Acronyms

ATH	Alternate threshold
CACs	Criteria air contaminants
CCME	Canadian Council of Ministers of the Environment
CCPA	Canadian Chemical Producers' Association
CEPA	Canadian Environmental Protection Act
CME	Canadian Manufacturers and Exporters
CO	Carbon monoxide
CPPI	Canadian Petroleum Products Institute
CSPA	Canadian Steel Producers' Association
CWS	Canada Wide Standards
CVMA	Canadian Vehicle Manufacturers' Association
EC	Environment Canada
ENGO	Environmental Non-Governmental Organization
EPA	Environmental Protection Agency (United States)
EPWG	Emissions and Projections Working Group
GHGs	Greenhouse gases
HC	Health Canada
HCB	Hexachlorobenzene
HCBD	Hexachlorobutadiene
LoQ	Level of quantification
MAC	Mining Association of Canada
MPO	Manufactured, processed or otherwise used
MOE	Ministry of the Environment (Ontario)
MSDS	Material safety data sheets
NOx	Nitrogen oxides
NPRI	National Pollutant Release Inventory
ONGA	Ontario Natural Gas Association
P2	Pollution prevention
PBT	Persistent, bioaccumulative and inherently toxic
PDF	Portable document format
PM	Particulate matter
PSL	Priority Substances List
RDIS	Residual Discharge Information System
SC	Statistics Canada
SCC	Source Classification Code
SOP	Strategic Options Process
SOx	Sulphur oxides
TPM	Total particulate matter
TSP	Total suspended particulate matter
TRI	Toxics Release Inventory (U.S.)
UNECE	United Nations Economic Commission for Europe
VOCs	Volatile organic compounds
WG	The 2001-2002 Work Group on Substances (NPRI)