



M A R B E K
Resource Consultants Ltd.

**REPORT OF THE NATIONAL POLLUTANT RELEASE
INVENTORY MULTI-STAKEHOLDER WORK GROUP
ON SUBSTANCES**

— Final Report 2008 —

Prepared for:

Environment Canada

Prepared by:

Marbek Resource Consultants

on behalf of:

**The 2006-2008 National Pollutant Release Inventory Multi-stakeholder Work
Group on Substances**

July, 2008

Table of Contents

1.	INTRODUCTION.....	1
1.1	Background.....	1
1.2	Work Group Process.....	2
1.3	This Report.....	3
2.	ISSUES REFERRED TO SUB-GROUPS	4
2.1	Challenges and Opportunities Sub-group.....	4
2.2	Criteria Air Contaminants / Volatile Organic Compounds Sub-group.....	5
2.3	Criteria Air Contaminants / Thresholds Sub-group.....	7
2.4	Alternate Threshold Framework Sub-group.....	8
2.5	Dioxins, Furans and Hexachlorobenzene Sub-group.....	10
3.	OTHER ISSUES	13
3.1	Facility and Equipment Definition.....	13

Appendices:

- Appendix A: List of Current NPRI Multi-stakeholder Work Group on Substances Members and Alternates
- Appendix B: Terms of Reference – 2006-2008 NPRI Multi-stakeholder Work Group on Substances
- Appendix C: VOCs Listed in Parts 1 and 2 of the NPRI Canada *Gazette* Notice that are not Listed in Part 5

List of Acronyms

AQ	Air Quality
ASTM	American Society for Testing Materials Committee
ATH	Alternate Threshold
C&O	Challenges and Opportunities (Sub-group)
CACs	Criteria Air Contaminants
CAS	Chemical Abstracts Service
CARA	Clean Air Regulatory Agenda
CMP	Chemicals Management Plan
D-F	Dioxins and Furans
DSL	Domestic Substances List
EC	Environment Canada
EF	Emission Factors
ENGO	Environmental Non-governmental Organization
HCB	Hexachlorobenzene
LOQ	Limit of quantitation
MPO	Manufactured, processed or otherwise used
MOE	Ontario Ministry of Environment
NGO	Non-governmental organization
NO _x	Nitrogen oxide
NPRI	National Pollutant Release Inventory
OWNERS	One Window to National Environmental Reporting System
PAH	Polycyclic aromatic hydrocarbon
PCB	Polychlorinated Biphenyls
PM	Particulate matter
SG	Sub-group
SO _x	Sulphur oxides
TH	Threshold
TOR	Terms of Reference
US TRI	United States Toxics Release Inventory
VOCs	Volatile organic compounds
WG	Multi-stakeholder Work Group on Substances

1. INTRODUCTION

1.1 BACKGROUND

In 1992, a Multi-stakeholder Advisory Committee was created to advise on the formation of the National Pollutant Release Inventory (NPRI) program. The NPRI is the only legislated, nationwide, publicly-accessible inventory of its type in Canada. It is a database of information on annual releases to air, water, land and disposal or recycling from the industrial, commercial and institutional sectors. Other sources of pollution are not included in the NPRI (*i.e.* vehicles and households, certain industrial or commercial sectors (such as car repair shops and fuel marketing stations), and natural phenomena such as volcanic eruptions and forest fires). NPRI data is useful for a wide variety of stakeholders, including community groups, reporting facilities, governments, and for the purposes of bilateral arrangements between the United States and Canada. The objectives of the NPRI are as follows:

- Track releases and transfers of substances of concern
- Improve public access to pollution information
- Provide information to identify and take action on environmental priorities
- Provide information to implement policy initiatives and risk management measures
- Provide information to encourage voluntary action
- Track progress in pollution prevention
- Support targeted regulatory initiatives
- Support international reporting commitments.

The chronology of key milestones in the history of the NPRI includes:

- 1993 – NPRI List of Part 1 substances was created and expanded based on a uniform 10 tonnes Manufactured, Processed or Otherwise Used threshold for reporting
- 1995 – Introduction of by-product definition and changes to 10 tonnes threshold to capture large releases of substances at low concentration
- 1997 – General review of the NPRI resulted in mandatory reporting of pollution prevention activities and the voluntary reporting of (recycle, reduce and re-use) activities
- 1998 – *Ad Hoc* Work Group on Substances formed
- 1999 – 73 substances added to NPRI
- 2000 – A permanent consultative process was developed, including the establishment of a Multi-stakeholder Work Group on Substances and a document on how to propose changes
- 2002 – Criteria air contaminants were added (VOC, NO_x, SO_x, CO, PM₁₀, PM_{2.5}, and TPM) with release thresholds and new data requirements - stack height, etc.
- 2003 – Speciated volatile organic compounds (VOCs) were added in Part 5
- 2005 – On-line electronic reporting mechanism called "One Window to National Environmental Reporting System" (OWNERS) was launched.

As noted, a permanent process for modifying the NPRI was adopted by Environment Canada (EC) in 2000.¹ The permanent process includes the involvement of a NPRI Multi-stakeholder Work Group on Substances (WG) to address complex or multiple requests for modifications to the NPRI. To obtain a balanced foundation for the NPRI, the WG members are drawn from industry, non-governmental organizations, aboriginal governments and organizations, and federal and provincial governments. A list of current members of the WG is included in Appendix A. Terms of Reference for the WG are included in Appendix B.

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

This report presents the WG's views and recommendations on proposed changes considered this year.

1.2 WORK GROUP PROCESS

The current annual tasks for the WG are to participate in three two-day meetings (November, February and June); and two conference calls to discuss the Draft and Final WG Reports. The Final Report, produced after the July conference call, incorporates comments received from the broader stakeholder community and is being submitted to EC for response. The EC response will be made public on the NPRI website prior to publication of a *Canada Gazette* notice stating any changes to the NPRI for the 2009 reporting year.

The current WG met in Ottawa on November 14-15, 2007, in Vancouver on February 20-21, 2008, and in St. John's (NL) on June 9-10, 2008 to obtain status reports from numerous Sub-groups (SGs) initiated by the former WG and to discuss recommendations and proposals from the SGs and EC. The majority of WG representatives, or their alternates, were present to participate in the discussions with federal and provincial representatives. A facilitator was also retained for the meeting to ensure balanced participation; assist in workplan and process development; assist in meeting preparation; facilitate meetings; and prepare the draft and final WG Reports and meeting proceedings.

A total of five multi-stakeholder SGs have been active, to work on items requiring additional investigation. The SGs report their findings to the WG for consideration. The SGs that have been active since the mandate of the current WG began are as follows:

- Challenges and Opportunities SG (formerly Long-term Direction and Scope SG, formed in 2004)
- Criteria Air Contaminants / Volatile Organic Compounds SG (formed in February 2007)
- Criteria Air Contaminants / Threshold SG (formed in February 2007)
- Alternate Threshold Framework SG (re-activated in 2006 after two years of inactivity)
- Dioxins and Furans SG (formed in 2006, work completed in November 2007).

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

1.3 THIS REPORT

Section 2 of this report provides an update on the status of the work of the various SGs and, where applicable, WG views and recommendations arising from this work. Section 3 presents views on one other topic: the definition of "facility" and "equipment" in the NPRI.

2. ISSUES REFERRED TO SUB-GROUPS

Due to the complexities of some issues, the WG has referred some work to SGs. SG mandates do overlap to some extent, resulting in the need for linkages between the various SGs. The status of a total of five SGs is presented in this Report. One of these SGs was dissolved at the November 2007 WG meeting.

2.1 CHALLENGES AND OPPORTUNITIES SUB-GROUP

2.1.1 Background

Formed in 2004, the Challenges and Opportunities (C&O) SG was formerly called the Long-term Direction and Scope SG. It was established to review the NPRI and explore how it could be improved. In particular, it was acknowledged that there was a need to review the NPRI process, to enhance data quality, to address priority emissions of concern, and to improve public access to information.

WG members tasked the SG to undertake the following:

1. Conduct a systematic review of the NPRI long-term vision, strategic approach, and priorities, with a view to improving the NPRI
2. Take stock of the NPRI to identify opportunities to reduce complexities and streamline reporting requirements
3. Review reporting plans and activities of the provinces and territories, and identify opportunities and suggest measures to achieve harmonized, single-window reporting
4. Review the needs and opportunities for training, guidance documents, help desks, and other forms of support
5. Explore ideas and options for sector-specific approaches to the setting of reporting requirements
6. Identify opportunities and suggest measures to link NPRI data and reports with other relevant sources of environmental information
7. Identify opportunities and suggest measures to incorporate suitable explanations, cautionary notes, and contextual information in publicly disseminated NPRI reports
8. Explore ideas to position and to communicate the value and limitations of the NPRI.

2.1.2 SG Status

The first task of the SG was to provide advice on a survey of industry and users of NPRI data on issues of concern. This survey took place in summer 2007, and preliminary results were presented to the WG at the November 2007 meeting. The full results of the user and facility surveys were distributed to the WG in spring 2008. EC proposed a path forward following circulation of this report, and the proposed path forward was presented at the June 2008 meeting.

In addition to SG work, an additional volunteer group was convened in November 2007 to draft a background document outlining quantification methods used by NPRI reporters to be posted on the NPRI website for informational purposes. A draft version of this

document was tabled at the June 2008 WG meeting. Other issues identified by the SG as possible topics for future work include:

- Examining ways to implement a sectoral system of reporting, possibly using the mining sector as a pilot
- Reviewing developments in the United-States' Toxics Release Inventory (US TRI), to determine if any would be of value if implemented in the NPRI.
- Examining harmonization of reporting requirements with the *Clean Air Regulatory Agenda* (CARA), Greenhouse Gases (GHG) reporting and the *Chemicals Management Plan* (CMP) where appropriate.

2.1.3 WG Views

During the June 2008 WG meeting, EC indicated that it would be undertaking a strategic evaluation of the NPRI program. The WG reached strong consensus that it should be involved in this process, and that the C&O SG should be specifically involved, given that it was initiated for this purpose.

2.2 CRITERIA AIR CONTAMINANTS / VOLATILE ORGANIC COMPOUNDS SUB-GROUP

2.2.1 Background

Facilities have been required to report Criteria Air Contaminant (CAC) emissions to the NPRI since 2002. Reporting requirements were determined through a technical SG and stakeholder consultations in 2000 and 2001. Facilities are currently required to provide the following information for CAC reports where minimum reporting thresholds are met:

- Identity of the substance, including its CAS number if applicable
- Quantity released on site to air, by release pathway (stack, fugitive, spills etc.)
- Stack information for stack heights greater than 50 metres (height, diameter, flow rate, exit temperature of stack gases)
- Emissions by stack, for emissions greater than or equal to the minimum reporting threshold
- VOC species by stack, for emissions greater than or equal to 5 tonnes
- Operating schedule (monthly, weekly, hourly).

The CAC/VOC SG was formed in February 2007 to address concerns about incomplete speciation of VOCs and duplication of reporting in Parts 1 and 5 of the NPRI *Canada Gazette* notice. The SG's Terms of Reference (TOR) were supported by the WG upon their presentation at the November 2007 WG meeting. SG tasks include the following:

1. Review the list of substances in Parts 1 and 5 of the NPRI and make recommendations to address the problem of duplication and to address other issues;
2. Review the experience of CAC speciation since its introduction in 2003 and develop options for improving the speciation of VOCs to meet Air Quality (AQ) modeling needs. Options could include, but may not be limited to adding substances to Part 5 and reporting mixtures with speciation profiles;

3. Review substances in Part 1 that are listed because of their concern to environment and health and develop recommendations as to whether these substances should remain in Part 1 or be moved to Part 5;
4. Update current information for substances in Part 5 that have not been reported, and examine those substances that have been reported in quantities below environment and health hazards thresholds;
5. Develop recommendations as to how to make modifications to Part 5.
6. The possibility of requiring particulate matter (PM) speciation to be reported to the NPRI once the protocol to measure condensable PM is approved by the American Society for Testing Materials Committee (ASTM) will be examined at a later time by the CAC/VOC SG.

2.2.2 SG Status

To date, the SG analysis has focused on sections 1, 2 and 3 of the above TOR. In November 2007, EC presented analysis of CAC speciation since 2002 and gathered input from the WG with a view to developing recommendations on this issue. In February 2008, EC presented analysis of a series of options to reduce duplication of substances in parts 1 and 5. In June 2008, EC presented a series of possible approaches to improve VOC speciation, including immediate, short-term and long-term actions.

During the June 2008 WG meeting, it was decided that the SG would convene for one or two days of meetings with the goal of making recommendations regarding the proposed short term and long term actions.

In the meantime, EC is proposing a small immediate change to improve reporting of VOC species from large stacks. Facilities reporting emissions of VOCs listed in Parts 1 and 2 of schedule 1 of the NPRI *Gazette* notice are not presently required to report emissions from major stacks. There are presently 99 VOCs from Parts 1 and 2 that are not listed in Part 5 (see list, Appendix C). As a result, there is insufficient information concerning stack emissions to meet air quality modelling needs.

In order to collect this information, facilities that report VOCs as required in Part 4 of Schedule 2 would also be required to identify the amount of each VOC in Parts 1 and 2 of Schedule 1 being released by each major stack.

This change would only affect facilities that meet the following two criteria:

- They report VOCs listed in Part 1 or Part 2 of Schedule 1
- They already report releases of VOCs from major stacks (i.e. in accordance with Part 4, they have releases of more than 5 tonnes of VOC from at least one stack that is 50 meters or more)

These facilities would (in addition to the current reporting requirements under Part 1 or Part 2) be required to report the quantity of any VOCs listed in Parts 1 and 2 that are released from a major stack.

2.2.3 WG Recommendations

The WG is awaiting the final SG recommendation on the overall VOC speciation and duplication issues.

Regarding the immediate change concerning reporting of VOC species from large stacks, the WG consensus recommendation is that this change be adopted as proposed by EC.

2.3 CRITERIA AIR CONTAMINANTS / THRESHOLDS SUB-GROUP

2.3.1 Background

As noted in section 2.2, facilities have been required to report CAC emissions to the NPRI since 2002. Reporting requirements were determined through a technical SG and stakeholder consultations in 2000 and 2001. The reporting guidelines for CACs include different thresholds for each CAC. EC has noted that these reporting requirements likely lead to inconsistent or incomplete reporting of CACs. As a result, EC has proposed to revisit the reporting thresholds under Part 4.

The WG agreed to form the CAC/TH SG at the WG's February 2007 meeting. The SG's TOR were supported by the WG upon their presentation at the November 2007 WG meeting. SG tasks include the following:

1. Evaluate information pertinent to the work of this SG reported to the NPRI from 2002 to 2006;
2. Review and evaluate the information requirements for emission inventories, and policy development;
3. Review criteria for reviewing stack information for community and regional air quality modelling;
4. Review information reported for ammonia releases to air and assess the need for modifying the threshold ; and
5. Evaluate options and recommendations for modifications for CAC reporting thresholds and major stack parameters.

With respect to point number 5, the SG expects to make recommendations regarding:

- Whether the reporting requirements should be changed so that meeting the threshold for one CAC means reporting all CACs
- Whether the different thresholds for each CAC are appropriate, or whether a single threshold for all CACs is more appropriate.
- Once (1) and (2) are decided, the SG should recommend the type of threshold most appropriate, followed by the numeric variable associated with it.

2.3.2 SG Status

EC analysis presented at the February 2008 WG meeting showed that the data gap for all CACs is relatively low under existing thresholds with the exception of PM, for which a data gap could not be estimated with present data. The SG reviewed EC's analysis of SO_x, NO_x, VOC, and CO, and agreed that there is no need to change current reporting thresholds.

EC has identified potential changes to the Part 4 employee threshold, exemptions, stack reporting thresholds, and reporting criteria for PM, and will be discussing them further with the SG. EC will also undertake further analysis on the issues of PM reporting criteria and stack reporting thresholds. For the 2009 reporting year, EC is proposing changes to CAC reporting requirements for ammonia only.

For facilities that release ammonia to air, the following requirements would be added:

- Historical operating schedules, including shutdowns
- Monthly breakdown of releases to air
- Physical stack parameters of diameter, height, exit velocity, and temperature would have to be reported if there are releases of ammonia of 5 tonnes or more from stack of 50 meters or more.
- The quantity of ammonia released from stacks of 50 meters or more when releases are 5 tonnes or more.

Note that facilities which report CACs are already required to provide operating schedules and information on physical stack parameters. For these facilities the only additional information required under the EC proposal is the monthly breakdown of releases to air.

2.3.3 WG Recommendations

The WG is awaiting the final SG recommendation on the Part 4 exemptions, stack reporting thresholds, and the PM criteria.

WG members accepted the SG recommendation not to modify reporting thresholds for SO_x, NO_x, VOC, and CO. Regarding the proposed change to reporting requirements for ammonia, the WG consensus recommendation is that these changes be adopted as proposed by EC.

2.4 ALTERNATE THRESHOLD FRAMEWORK SUB-GROUP

2.4.1 Background

Prior to 2000, all substances listed in the NPRI had common reporting criteria: 10 tonnes manufactured, processed or otherwise (MPO) used at a concentration of 1% or more, except for by-products. This is known as the conventional MPO threshold. In addition to the requirement of MPO threshold, a facility would have reported the substance to the NPRI only if a 20,000-hour per year employee threshold was exceeded.

Since that time, a number of substances have been added to the NPRI at alternate thresholds (ATH) (135 such substances for the 2008 reporting year). The addition of

these substances at an ATH has been done on a case-by-case basis, taking into account harmonization with other jurisdictions, international reporting requirements (e.g., Convention on Long-range Transboundary Air Pollution) and other, mainly policy based, factors.

WG members and EC identified a need to streamline this process and make listing of NPRI substances with an ATH more consistent and transparent. There is a need to develop a systematic framework for choosing substances that may require an ATH, and for setting the ATH. Consequently, EC and WG members have been working on developing an ATH Framework document since 2002. This Framework evolved into a proposal document tabled at the NPRI consultation meeting in September 2004 and at that time, WG members agreed to use the Framework as a working document.

The TORs for the SG were approved by the WG at the November, 2006 meeting. These include the following:

1. Review the ATH framework developed in 2004 and review how the past decisions were made on adding substances at an ATH
2. Explore the merits and limitations of models and other mechanisms (e.g. toxicity data, policy decisions) to establish an ATH
3. Define substances of special concern (category 3 substances) that should be considered for an ATH
4. Develop a proposal to complete the review and refinement of the ATH framework.

2.4.2 SG Status

The SG has examined three approaches to determining ATH to date: reverse air dispersion modelling, information gathering through the Domestic Substance List (DSL) post-categorization activities, and utilizing the principle of “environmental fate and effects”. Since November 2007, SG work has concentrated on the use of environmental fate and effects criteria for determining ATH. To this end, a workshop took place March 2008 to discuss EC’s proposed criteria for an ATH scoring system based on environmental fates and effect principles. This workshop engaged experts in the effects of both organic and inorganic pollutants to examine EC’s fate and effects proposal and to give advice. Based on the results of this workshop, the SG made a series of recommendations at the June 2008 WG meeting. These included the adoption of a two step characterization process using the concept of environmental fate and effects to determine ATH for an NPRI substance. This process would involve a preliminary characterization conducted using input from stakeholders, followed (if necessary) by a detailed review which may require expert input. A second recommendation was that any addition metals not presently on the NPRI be considered at the same time by completing a revised NPRI submittal form for each metal.

2.4.3 WG Views and Recommendations

WG members have been generally supportive of EC’s work examining environmental fate and effects. Some WG members have expressed concern that metals have not been captured well using EC’s original proposed criteria, and that devising a single-number

ranking for an issue as complex as metal toxicity may not be possible. An update of the results of the March 2008 workshop was provided at the June 2008 meeting.

The WG consensus recommendations are:

That the NPRI include a two step characterization process using environmental fate and effects concept to deal with the ATH of an NPRI substance. This process will make use of a revised NPRI submittal form.

That any addition of the few remaining metals at ATH be considered at the same time by completing the revised form on an individual basis for each metal

The WG also agreed to give the SG permission to modify other sections of the submittal form where it is deemed necessary.

2.5 DIOXINS, FURANS AND HEXACHLOROBENZENE SUB-GROUP

2.5.1 Background

The SG, which was formed in 2005, has made a number of recommendations, a number of which were adopted by the WG and EC in previous years. For example, in 2007, the WG accepted the following recommendations:

- The 12 dioxin-like Polychlorinated Biphenyls (PCBs) not be added to the NPRI at this time, but that EC take action to develop adequate quantification methods so they may be added to the NPRI at some future time.
- Land application of Biosolids not be added to the list of source activities for Dioxins and Furans (D-F) and Hexachlorobenzene (HCB) reporting. However, a national estimate of D-F releases from this source should still be calculated using a national Emission Factor (EF), which would satisfy international reporting commitments and would stimulate actions to reduce or eliminate the sources of D-F that enter into municipal wastewater systems and subsequently municipal biosolids.
- The source activity of ‘Titanium Dioxide Pigment Production Using Chloride Process’ be added to the list of source activities for D-F and HCB reporting.

This left two outstanding issues for consideration in 2008:

- D-F reporting for catalytic reforming operations in petroleum refining
- HCB reporting for tire production

These remaining issues formed the basis of the SGs work for 2007-2008.

2.5.2 SG Status

The SG met four times by conference calls between February 2007 and November 2007, and completed work on both issues remaining in their mandate. At the November 2007 WG meeting, the SG presented the following results:

- The SG was unable to form a consensus recommendation with regard to D-F reporting requirements for catalytic reforming operations at petroleum refineries. Both pro and con viewpoints were presented to the WG, which was also unable to reach consensus.
- Based primarily on U.S. Environmental Protection Agency (EPA) testing that indicates that tire production does not produce HCB emissions, the SG recommended that HCB reporting for the manufacturing of rubber tires not be added to the NPRI.

EC also notified the WG of an expansion of digits for D-F reporting. D-F will be reported in grams with six digits following the decimal point instead of three digits, as was previously the case. This will allow for more data capture, and better harmonization with the U.S. EPA reporting requirements.

As the SGs TORs had been fulfilled, the SG was dissolved following the November 2007 WG meeting.

2.5.3 WG Recommendation and Views

Based on the SG recommendation, the WG consensus recommendation is that HCB reporting for the manufacturing of rubber tires not be added to the NPRI.

With respect to “catalytic reforming operations at petroleum refineries”, no consensus was reached. Views are as follows:

Industry WG members have recommended that the activity “catalytic reforming operations at petroleum refineries” not be added for reporting of D-F for the following reasons:

- Releases from the sector are a very small portion of the total D-F inventory.
- A sector survey has indicated that the sector’s contribution is not likely to change year over year.
- Concerns were raised over whether resources required to estimate emissions from these sources would be better spent estimating and reporting other, more prevalent, emissions.
- The U.S. EPA has assigned the EF for this activity a quality rating of “E”, or poor. Some WG members expressed concern that uncertainty introduced by a poor EF, combined with the small quantities of D-F released will lead to an unacceptably low level of accuracy in reporting. Further, it appears that this EF is not a priority for improvement at present. Some WG members suggested that this EF could be used for reporting in the future if it is improved.
- Sampling D-F is costly, and based on the contribution of the sector to the total D-F inventory there are no drivers to undertake it.

ENGO WG members recommended that “Catalytic reforming operations at petroleum refineries” be added to the NPRI list of facilities that must report D-F for the following reasons:

- ENGO WG members hold the view that D-F fit the criteria for ATH reporting at the limit of quantitation (LOQ). Although levels of D-F release from this activity are low, they are well above the LOQ and should be reported given the nature of human and wildlife health effects of D-F.
- Refining facilities are often located in close proximity to population centres, and are likely to increase in the future with the construction of new refineries.
- Requiring reporting may provide motivation to improve the EF.
- The best available data (and EF) should be used to inform the public. ENGO members hold the view that lack of a highly accurate EF should not prevent information from being made available to the public.
- Reporting would involve a small number of facilities. Determining facilities which would be required to report would be quite simple, so it would not be a burden for industry to determine whether they are required to report.
- ENGO members felt that if the precautionary principle were followed, this activity would be reported.

With respect to the expansion of digits for D-F reporting, WG members stressed the importance of clear labelling and guidance on the NPRI reporting form so as to avoid decimal place errors in reported releases.

3. OTHER ISSUES

3.1 FACILITY AND EQUIPMENT DEFINITION

3.1.1 Background

At the November 2007 WG meeting, EC notified the WG of an initiative to modify the NPRI facility definition to include mobile sources. This initiative is being undertaken in an attempt to harmonize definitions used by the NPRI, GHG reporting and the Ministry of the Environment of Ontario (MOE) under Regulation 127.

3.1.2 EC Proposal and Justification

EC is proposing to include certain mobile sources as part of the facilities reporting to the NPRI. There are two reasons for doing this:

- This change will increase the commonality between the NPRI and GHG notices.
- It is important that emissions of criteria air pollutants and other pollutants listed on the NPRI from large captive fleets at facilities be included in reports to the NPRI. Greenhouse gases emitted from these sources are already being reported as part of the GHG inventory.

EC has included the following text in an explanatory note in the last two *Gazette* notices for GHG and the NPRI.

As indicated in the Notice of intent to develop and implement regulations and other measures to reduce air emissions, published in the Canada Gazette, Part I, on October 21, 2006, the Government will be guided by a number of principles as it implements its new regulatory framework for industry. One of these principles is to ensure effective and efficient monitoring, reporting and regulatory implementation, including best efforts to minimize overlap and regulatory duplication. To this end, the Government will continue to work with provinces and territories toward a single, harmonized system for mandatory reporting of all air emissions and related information. This system will underpin the proposed regulations and possible related emissions trading regime, and will respond to industry's concerns that multiple measurement methodologies and multiple reporting regimes would cause an unnecessary and costly administrative burden. Analysis on the development of information and disclosure requirements and monitoring and reporting requirements would be undertaken in consultation.

The proposed change and the consultation process being undertaken is consistent with the above notice in that the facility definition for the NPRI will be identical to that used in the GHG notice except for pipelines. It is important that differences between the NPRI and GHG reporting requirements be kept to a minimum if governments and the regulated

community and the public are to achieve the benefits of a single harmonized reporting system. There should be differences only when there are clear reasons for the differences as is the case for pipelines.

It is also important that emissions from vehicles and mobile sources that are used on the facility site be reported to the NPRI. These can be an important contributor to overall emissions of CAC and other pollutants listed on the NPRI at facilities that have large on site fleets. These emissions are estimated using statistical information on fuel use. This information is not location specific nor does EC does have information on equipment, fuel and operating parameters that would allow a better estimate of emissions.

This addition would be made in the context of the present NPRI definitions for “facility”, “contiguous facility” and “pipeline installation”, shown below:

- “facility” means a contiguous facility, a portable facility, a pipeline installation, or an offshore installation. « installation »
- “contiguous facility” means all buildings, equipment, structures and stationary items that are located on a single site, or on contiguous sites or adjacent sites that are owned or operated by the same person and that function as a single integrated site that includes wastewater collection systems that release treated or untreated wastewater into surface waters. « installation contiguë »
- “pipeline installation” means a collection of equipment situated at a single site, used in the operation of a natural gas transmission or distribution pipeline. « installation de pipeline »

The definition of “equipment” for GHG reporting is as follows:

- “*equipment*” means transportation machinery integral to the production process carried on at the facility.

EC proposes to add the following text to the NPRI *Canada Gazette* notice:

- “*equipment*” includes transportation machinery integral to the production process carried on at the facility.

The text proposed for the NPRI uses the word “includes” rather than “means” which is used in the English version of the GHG notice. However “includes” is consistent with the French text in the GHG notice which uses the word “*comprend*”.

In addition, the NPRI notice will specify that on site transportation emissions will be reported as a separate line in the reporting form. This will mean that it will be possible to compare trends over time and that reporting categories will be consistent between the two notices.

EC foresees the following issues surrounding implementation of such a change:

- There is not a consistent interpretation of the term transportation equipment integral to the production process carried on at the facility. In order to ensure consistent reporting guidance would have to be developed. There is limited time available to do

- this between the decisions to make this change and the time when facilities would be doing their calculations.
- It is also relatively easy to report GHG emissions from mobile sources. It is more challenging to report on the pollutants listed on the NPRI. Detailed technical guidance would have to be made available to ensure that the best methods are used and that reporting is consistent across all facilities.
 - Only large facilities are now required to report as a result of the GHG notice. Many more would be impacted by the change in the NPRI. This change could have an impact on those required to report to the NPRI since emissions from mobile equipment may have an impact on which pollutants would have to be reported to the NPRI.

EC is updating its reporting system for both GHG and the NPRI. While the changes described above do not have to be implemented at the same time as the new version of the software it would be useful to identify any future changes at this time.

3.1.3 WG Recommendation

WG members support EC's recommendation to add the following text to the NPRI *Canada Gazette* notice:

“equipment” includes transportation machinery integral to the production process carried on at the facility.



MARBK
Resource Consultants Ltd.

APPENDIX A

List of Current Multi-stakeholder Work Group on Substances Members and Alternates

Member or Alternate	First Name	Last Name	Organization
<i>Associations Representing Reporting Facilities</i>			
Member	Wayne	Hillier	Canadian Association of Petroleum Producers (CAPP)
Alternate	Krista	Phillips	
Member - Outgoing	Bruce	Caswell	Canadian Chemical Producers Association (CCPA)
Alternate	Dave	Shortt	
Member	Vicky	Christie	Canadian Electricity Association (CEA)
Alternate	Dareen	Ayyad	
Member	Jim	Cormack	Canadian Energy Pipeline Association (CEPA)/ Canadian Gas Association, Canadian Energy Partnership for Environmental Innovation (CEPEI)
Alternate	Jasmine	Urisk	
Member - Incoming	Jorma	Salmikivi	Canadian Petroleum Products Institute (CPPI) / CCPA
Alternate	Kal	Virk	
Alternate	Bob	Kmiec	CPPI
Member	John	Lundrigan	Canadian Steel Producers Association (CSPA)
Alternate	Andrew	Sebestyen	
Member	Tammy	Giroux	Canadian Vehicle Manufacturers' Association (CVMA)
Alternate	Karen	Hou	
Member	Allan	Mumby	Canadian Water and Wastewater Association (CWWA)
Alternate	Adrian	Toth	
Member	Tracey	Hodges	Cement Association of Canada
Alternate	George	Venta	
Member	Justyna	Laurie-Lean	Mining Association of Canada (MAC)
Alternate	(Vacant)		
<i>Aboriginal Representatives</i>			
Member	Alan	Penn	Grand Council of the Crees
Member	Ron	Plain	Aamjiwnaang First Nation
Alternate	Donald	Sharp	Métis Nation
Alternate	Robert	MacDonald	Métis Nation
<i>Environmental Non-Governmental Representatives</i>			
Member	Anne	Mitchell	Canadian Institute for Environmental Law and Policy (CIELAP)
Member	James	White	Ecology Action Centre
Member	Olga	Schwartzkopf	Soil and Water Conservation Society, BC Chapter
Member	John	Jackson	Great Lakes United and Citizen's Network on Waste Management
Member	Anna	Tilman	STORM Coalition
Alternate	Linda	Whalen	Centre for Long-Term Environmental Action Nfld (CLEAN)
<i>Government Representatives involved in WG</i>			
	François	Lavallée	Environment Canada - NPRI
	Anne	Legault	
	Wilfrid	Jan	
	Henry	Quon	
	Christa	Seaman	
	Terry	Mah	
	Richard	Martin	Health Canada
	Gary	McGee	Industry Canada
	Tim	Karlsson	
	Jackie	Scott	Natural Resources Canada
	Vicky	Leblond	Ministère de l'environnement du Québec
	Peter	Wong	Ontario Ministry of the Environment
	Kelly	Der	Greater Vancouver Regional District
	Tony	Wakelin	British Columbia Ministry of the Environment
	Rob	Bioletti	Alberta Environment
	Bettina	Mueler	



M A R B E K
Resource Consultants Ltd.

APPENDIX B

Terms of Reference NPRI Multi-Stakeholder Work Group on Substances

STAKEHOLDER CONSULTATIONS ON MODIFICATIONS TO THE NATIONAL POLLUTANT RELEASE INVENTORY

NPRI Multi-stakeholder Work Group on Substances (2007-2008)

TERMS OF REFERENCE

A. Introduction

A permanent process for modifying the National Pollutant Release Inventory (NPRI) was developed through consultations with Canadian stakeholders and with the assistance of members of the 1998 multi-stakeholder *Ad Hoc* Work Group on Substances.¹

The permanent process provides for the establishment of a NPRI Multi-stakeholder Work Group on Substances (WG) to address complex or multiple requests for future modifications to the NPRI.

The WG will operate as a part of the broader NPRI consultation process. Draft WG reports will be posted on the NPRI Web site, and individuals can also request to receive the reports by regular or electronic mail. Thus, all interested Canadian stakeholders will have an opportunity to comment on the draft recommendations of the WG. Written comments can be submitted to the WG via the Web site, or by email, fax or post. WG members will fully consider input received from other stakeholders before finalizing their recommendations.

Stakeholders may also, during the WG process, submit information that they feel should be considered in relation to the issues to be addressed by the WG.

B. Objectives of the NPRI Multi-stakeholder Work Group on Substances

Important Note: *The issues identified below may be modified by Environment Canada at any time during the consultation period, either as a result of the consultation process or because of emerging priorities.*

The objectives of the 2007-2008 NPRI WG are to develop recommendations to Environment Canada on the following issues:

1. Complete Sub-group Work ^{*}
 - a. Criteria Air Contaminants - Thresholds
 - b. Criteria Air contaminants - VOCs
 - c. Challenge and Opportunities
 - d. Dioxins & Furans and HCB
 - e. Alternative Threshold
2. Change facility definition to include mobile sources at a facility that are not licensed for travel on road or as specified in the notice on GHGs - transportation machinery integral to the production process carried on at the facility
3. Include reporting of emissions by fuel combustion and process for CACs

^{*}Refer to the 2007 WG workplan for more details on the tasks of each Sub-group

C. Elements of the WG Process

In accordance with the requirements of the permanent process for modifying the NPRI, the WG process will include the following elements:

1. The **WG** with membership drawn from industry, federal and provincial government, aboriginal governments and organizations, and non-government organizations (health, environment, labour). Members sought are those who are familiar with the NPRI, have a scientific background, represent a broad constituency, and have experience in participating, on behalf of their constituency, in multi-stakeholder discussions. WG will participate in a series of facilitated meetings and conference calls, and undertake other tasks as necessary between meetings.
2. The **Workplan** identifies the issues to be addressed, together with key milestones. This plan will be developed by Environment Canada, in cooperation with the WG facilitator, for review and consideration by the WG members.
3. **Opportunities for other stakeholders** to be made aware of the progress of the WG through regular information updates by mail or electronic media. The draft recommendations from the WG's February meeting will be circulated by these means, and comments from all stakeholders will be provided to the WG members. The NPRI office will also accept unsolicited briefs from stakeholders and forward them to the WG for consideration.
4. The **background technical work** will be the responsibility of Environment Canada and, if applicable, specific Technical Sub-groups.
5. **Technical Sub-groups** may be established to address specific issues. These technical sub-groups may include representation from industry/government/NGO organizations that are not WG members.
6. The final recommendations of the WG for each objective will be submitted to Environment Canada through a **Work Group Report**. Should the WG fail to reach agreement on recommendations, differing positions will be captured in the report as unresolved issues. WG reports will be public documents.

D. Timeline

If recommendations are made by the WG on proposed modifications affecting the 2008 reporting year, the second Draft 2007-2008 report of the WG will be posted on the NPRI website by April 15, 2008 and recommendations affecting the 2009 reporting year will be captured in the Final WG Report by June 2008. The 2007-2008 WG report will be submitted to Environment Canada by August 31, 2008.

E. Membership

Membership of the WG will be divided amongst the following groups:

- Industry
- Non-government organizations (health, environment, labour)
- aboriginal governments and organizations.
- Federal and provincial governments

Each of these groups will be allocated seats on the WG. Nominations for membership will be sought from:

- Associations for industry representatives (max: 10 members);
- The Canadian Environmental Network for NGO representatives (max: 6 members);
- Health and labour organizations for NGO representatives (max. 2 members);
- Aboriginal governments and organizations for aboriginal representatives (max. 3 members);
- Provincial governments and federal government departments for government representatives (max. 12 members)
- Two invitees to be determined based on the needs and issues tabled. Invitees can be drawn from the larger community, even if they do not meet the profile described in Section C.

Nominations from other sources will also be considered, as long as the nominated individual fits the profile described in Section C.

The Chief of the NPRI, as well as staff from the NPRI office, will also attend WG meetings; and other Environment Canada staff may attend as "expert advisors". A key role of these advisors will be to ensure that WG members are fully apprised of the conditions necessary to support the needs of Environment Canada in formulating their recommendations.

Interested stakeholders who are not members may attend WG meetings as observers. The number of observers will be limited by space availability, so requests for attendance must be made in advance, with priority given to local stakeholders or stakeholders with broadly relevant views or interests that may not be fully represented by WG members.

F. Mandate of the WG

The WG is responsible for preparing recommendations to Environment Canada. In doing so, it will consider the opinions and concerns expressed by all stakeholders through briefs and letters.

More specifically the mandate of the WG is to:

1. Discuss the issues related to the objectives of the consultation, including the proposals made by Environment Canada, with a view to:
 - identifying the areas of agreement
 - resolving disagreements
 - identifying the differing views on any remaining areas of disagreement, and
 - identifying potential implementation issues that may arise from proposed modifications and proposing ways to mitigate the impact
2. Advise on further technical work and analysis that Environment Canada should undertake to support informed discussion and recommendations.
3. Advise and assist the consultation facilitator in ensuring that the consultation process and its outputs (the WG reports) meet the needs and expectations of the stakeholders and that the process is run in a cost-effective manner.
4. Provide a communications link between the consultation process and their constituency.
5. Make recommendations relating to each of the issues. This will be done through WG reports, which will contain the recommendations on matters where consensus has been achieved, explanations of any disagreements among stakeholders, and the description of any additional issues, which need to be resolved.

Members of the WG will be expected to make every effort to ensure that the views which they express reflect those of their constituency of interest and not only their personal views or those of their organization. It is also expected that they will communicate the fact of their participation and the positions they will be taking on various issues to interested members of their respective constituencies. In recognition of the time necessary for participants to get feedback from their constituencies, Environment Canada and the consultation facilitator will endeavor to provide discussion materials 3 weeks prior to the meetings.

It is recognized that, due to financial and/or organizational constraints, not all participants have the means to communicate regularly with all members of their constituency. Environment Canada will assist participants facing such constraints to develop appropriate means of communication to their constituency.

G. The Role of the Facilitator

The WG will be facilitated by an independent facilitator to be chosen by Environment Canada. He/she will be responsible for matters related to the organization and facilitation of the work of the WG including preparing the agendas, running the meetings, and preparing the draft and final reports of the WG for approval by the WG. The facilitator will have an assistant, who will be responsible for the preparation of minutes of the meetings.

The facilitator will also serve as a point of contact for any persons or organizations, participant or non-participant, who has concerns or questions about the consultation process.

H. Expenses

Funds will be made available by Environment Canada, as per Treasury Board guidelines to cover travel, accommodation and other reasonable out-of-pocket expenses for those participants from the voluntary sector who require financial assistance to participate in the WG.

I. Conclusion of WG Mandate

Upon the conclusion of the WG mandate, Environment Canada will notify the WG of its published response to their recommendations prior to the publication of the final WG report.

J. Contact for Additional Information

Environment Canada (819) 953-1656
nprimodif@ec.gc.ca **OR** npri@ec.gc.ca



APPENDIX C

VOCs Listed in Parts 1 and 2 of the NPRI Gazette Notice that are not Listed in Part 5

Part 1 Substances -

CAS Number	Substance name
79-00-5	1,1,2-Trichloroethane
106-88-7	1,2-Butylene oxide
78-87-5	1,2-Dichloropropane
110-80-5	2-Ethoxyethanol
111-15-9	2-Ethoxyethyl acetate
109-86-4	2-Methoxyethanol
110-49-6	2-Methoxyethyl acetate
75-07-0	Acetaldehyde
75-05-8	Acetonitrile
98-86-2	Acetophenone
107-02-8	Acrolein
79-10-7	Acrylic acid (and its salts)
107-13-1	Acrylonitrile
120-12-7	Anthracene
100-44-7	Benzyl chloride
92-52-4	Biphenyl
74-83-9	Bromomethane
141-32-2	Butyl acrylate
85-68-7	Butyl benzyl phthalate
123-72-8	Butyraldehyde
75-15-0	Carbon disulphide
56-23-5	Carbon tetrachloride
463-58-1	Carbonyl sulphide
75-72-9	CFC-13
75-00-3	Chloroethane
67-66-3	Chloroform
98-82-8	Cumene
110-82-7	Cyclohexane
108-93-0	Cyclohexanol
84-74-2	Dibutyl phthalate
111-42-2	Diethanolamine (and its salts)
1300-71-6	Dimethyl phenol
131-11-3	Dimethyl phthalate
124-40-3	Dimethylamine
122-39-4	Diphenylamine
106-89-8	Epichlorohydrin
140-88-5	Ethyl acrylate
100-41-4	Ethylbenzene
107-21-1	Ethylene glycol
75-21-8	Ethylene oxide
64-18-6	Formic acid
67-72-1	Hexachloroethane
78-83-1	i-Butyl alcohol
78-84-2	Isobutyraldehyde
78-79-5	Isoprene
108-31-6	Maleic anhydride
96-33-3	Methyl acrylate
80-62-6	Methyl methacrylate
101-68-8	Methylenebis(phenylisocyanate)
68-12-2	N,N-Dimethylformamide
91-20-3	Naphthalene
71-36-3	n-Butyl alcohol

98-95-3	Nitrobenzene
872-50-4	N-Methyl-2-pyrrolidone
95-50-1	o-Dichlorobenzene
90-43-7	o-Phenylphenol (and its salts)
101-77-9	p,p'-Methylenedianiline
79-21-0	Peracetic acid (and its salts)
108-95-2	Phenol (and its salts)
85-44-9	Phthalic anhydride
123-38-6	Propionaldehyde
75-56-9	Propylene oxide
110-86-1	Pyridine (and its salts)
78-92-2	sec-Butyl alcohol
75-65-0	tert-Butyl alcohol
91-08-7	Toluene-2,6-diisocyanate
79-01-6	Trichloroethylene
121-44-8	Triethylamine
75-01-4	Vinyl chloride
75-35-4	Vinylidene chloride

Part 2 Substances (PAHs) -

CAS Number	Substance name
83-32-9	Acenaphthene
208-96-8	Acenaphthylene
56-55-3	Benzo(a)anthracene
218-01-9	Benzo(a)phenanthrene
50-32-8	Benzo(a)pyrene
205-99-2	Benzo(b)fluoranthene
192-97-2	Benzo(e)pyrene
191-24-2	Benzo(g,h,i)perylene
205-82-3	Benzo(j)fluoranthene
207-08-9	Benzo(k)fluoranthene
224-42-0	Dibenzo(a,j)acridine
226-36-8	Dibenzo(a,h)acridine
53-70-3	Dibenzo(a,h)anthracene
5385-75-1	Dibenzo(a,e)fluoranthene
192-65-4	Dibenzo(a,e)pyrene
189-64-0	Dibenzo(a,h)pyrene
189-55-9	Dibenzo(a,i)pyrene
191-30-0	Dibenzo(a,l)pyrene
194-59-2	7H-Dibenzo(c,g)carbazole
57-97-6	7,12-Dimethylbenz(a)anthracene
206-44-0	Fluoranthene
86-73-7	Fluorene
193-39-5	Indeno(1,2,3-c,d)pyrene
56-49-5	3-Methylcholanthrene
3697-24-3	5-Methylchrysene
5522-43-0	1-Nitropyrene
198-55-0	Perylene
85-01-8	Phenanthrene
129-00-0	Pyrene