National Pollutant Release Inventory (NPRI)

ENGO Perspectives on Issues and Problems
March 2007

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Part A: Introduction

Publicly accessible pollutant inventories, such as the NPRI, are strongly supported by ENGOs as they advance the principle of community right-to-know. Even though the NPRI has limitations, it provides an essential means of informing the public about pollutants being released in their respective communities, and, in so doing, serves as a catalyst for citizens action to reduce and prevent releases of pollutants to protect human health and the environment.

Since it inception in 1992, the NPRI has undergone several changes. Some of the changes have seen a great improvement in the coverage of sectors reporting to the NPRI and the range of pollutants covered. However, there are several limitations and issues with the NPRI that have not yet been addressed and more improvements are needed to ensure that communities have a more comprehensive picture of the nature and level of pollutants to which they are exposed, and that the data submitted by facilities are reliable.

A recent report by the Toronto Board of Health illustrates an example of a serious shortcoming related to the NPRI providing for community right-to-know.[2] The large industries that meet the criteria for reporting to the NPRI represent only about three percent of Toronto's sources. Small and medium–sized businesses in Toronto, which account for about 80% of the city's toxic industrial emissions, do not meet the criteria required for reporting to the NPRI. The lack of public information on some of the highly toxic substances emitted from these operations, such as lead, mercury, cadmium and chromium, is alarming. Consequently, the city is introducing a by-law to address this problem with NPRI.

This paper examines a number of issues, both specific and broad, that need to be addressed in the NPRI to better serve the needs of communities in protecting their health and environment.

Part B: Decision Making

The NPRI has a well-developed and commendable multi-stakeholder process. However, the final decisions rest with Environment Canada and that has not been happening in a timely or transparent manner. As a result, a number of issues are being deferred routinely and indefinitely by Environment Canada. These instances where the Department appears

[1] Contributions to this report were made by Anne Mitchell, Olga Schwartzkopf, and Jim White.
[2] Toronto Star, Friday July 6, 2007 p.1, 7

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reluctant to act, or lacks the will power to act, have become all too frequent. Cases that come to mind are related to removal of the mining exemption, the need for collecting process-level information to improve data quality for reporting of Criteria Air Contaminants (CACs), and dealing with issues that have been deferred time and time again.

Environment Canada needs to set stricter timelines for decision-making. This includes telling the multi-stakeholder Working Group by when they have to have come to a conclusion. Environment Canada also needs to begin the process by stating a date by which Environment Canada will make a decision, whether or not the Working Group has come to consensus.

Part C: Issues

The following section highlights a number of issues presently before the NPRI Working Group and concerns expressed by ENGOs on these issues.

1) Improving the NPRI

Environment Canada (EC) is currently assessing whether improvements should be made to the NPRI via a sub-group of the multi-stakeholder NPRI Work Group. This review process is still in its early stages. ENGOs are alarmed that the emphasis in this review so far is on ways to make it easier for those polluters who have to report to NPRI rather than on ways to make the NPRI more useful for the public.

The review of NPRI must in no way lessen the information available to the public. The review should focus on expanding the information available to the public through the NPRI by making changes such as adding more substances and adjusting thresholds so that a greater number of polluters have to report.

2) Criteria Air Contaminants

i) Data Issues: The addition of Criteria Air Contaminants (CACs) to the NPRI in 2002 has been a major achievement in terms of providing the public with access to information on these air pollutants in their communities.[3] However, significant issues have emerged related to data quality, data gaps, and compliance of the CAC information reported by facilities to the NPRI. If the data is viewed as unreliable, this has tremendous impact on the application of the NPRI data for activities such as drafting regulations, permitting, and regional air modeling, let alone on presenting a reasonably accurate picture of CAC emissions in communities. It also affects Canada's capacity to meet its annual reporting obligations under domestic programs and international agreements.

Environment Canada has indicated that collecting process-level emissions would assist in assessing the completeness and improving the accuracy of the data submitted to the

[3] The CACs include: sulphur oxides (SOx); nitrogen oxides (NOx); volatile organic compounds (VOC); carbon monoxide (CO); and particulate matter (TPM, PM_{10}, $PM_{2.5}$).

NPRI. However, the NPRI does not require the submission of process-level emissions from industry.

Canadian industries are strongly resistant to supplying process-level information to the NPRI and consider such information to be of a confidential nature. However, comparable facilities in the U.S. and other regions submit this data and it is publicly available. To date, Environment Canada has not responded with its plans to collect process-level information and how or what elements are to be made public.

ENGOs strongly support the collection of process-level information and urge Environment Canada to make the appropriate and necessary adjustments to reporting to the NPRI, including the collection of process-level information that would assist in resolving the issues of data quality for CACs.

In addition, ENGOs recommend that Environment Canada explore additional means to improve data quality and completeness of reporting including the application of direct measurement and monitoring of emissions, and verification and auditing mechanisms.

ii) Volatile Organic Compounds (VOCs): Reporting requirements for VOCs and VOC species are listed in both Parts 1 and 5 of the *Canada Gazette* Notice, with different requirements for each part. This has the potential to lead to duplication in reporting. Also, EC has indicated that the 60 speciated VOCs (Part 5) may not be the appropriate set of VOCs for air quality modelling purposes, the generation of the daily air quality predictions, or for the compilation of the comprehensive CAC emissions inventory (at the national and provincial level). ENGOs support a review of the speciated list of VOCs to ensure that it does meet the needs for which it was intended.

iii) Thresholds for reporting CACs: The current NPRI thresholds for CACs (under Part 4) are fairly rigorous and supported by ENGOs. Environment Canada has indicated that the current reporting requirements (i.e., different thresholds for each CAC) are likely to lead to inconsistent or incomplete reporting of CACs and that it would like to revisit the reporting triggers. One problem may lay in the interpretation of the thresholds, in particular for TPM, PM_{10} and $PM_{2.5}$, substances that overlap. It is likely that further clarification in reporting guidelines is needed. ENGOs are concerned that these thresholds may be weakened in the process of reviewing them.

Other issues to address to improve the quality of reporting on CACs include current stack height requirements and speciation of Particulate Matter (PM).

ENGOs support the need to review the requirements and criteria for listing VOC species, examining stack height criteria for reporting, and investigating speciation of Particulate Matter. As to reviewing the thresholds for reporting CACs, it is important that any changes to these thresholds do not lessen the information reported, but allow for greater accuracy.

Overall, ENGOs stress the importance of reporting CAC emissions to the NPRI and of addressing the need to improve the data for CACs so that Canada can meet its domestic and international obligations and so that the Canadian public can rely on the data provided through the NPRI.

3) NPRI and the Domestic Substance List

Under the Canadian Environmental Protection Act (CEPA 1999), Health Canada and Environment Canada were mandated to categorize 23,000 substances listed on the Domestic Substance List (DSL) by September 2006. This exercise resulted in the identification of over 4,000 substances that were found to have characteristics that may cause harm to human health and/or the environment and that require further action.

These findings present an opportunity to improve the use and scope of NPRI to track progress on reductions in releases of these substances and inform the priority setting process for moving toward screening assessments and decisions on these substances. The challenge of addressing the post-categorization substances necessitates several improvements to the NPRI program and removal of restrictions in reporting that have become significant obstacles to providing a more complete and accurate picture of pollutants in our environment. These include but are not limited to:

- Thresholds for reporting
- Removing exemptions for specific facilities
- Requiring more information on pollution prevention activities
- Improving data quality.

While work may be going on in the departments of Environment Canada to examine how to include post-categorized substances, this is certainly not transparent to members of the NPRI Working Group.

ENGOs recommend that the NPRI Working Group initiate a sub-group tasked with investigating the results of categorization for the purposes of including these substances to the NPRI at appropriate thresholds in an efficient and timely manner.

4) Alternate Thresholds

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

Since that time, a number of substances are on the NPRI at alternate thresholds (ATH) (over 90 substances). These thresholds have been ascertained on a case-by-case basis. WG members and EC identified a need to streamline this process. While a Sub-Group was tasked with developing an ATH Framework document in 2002, this group was not well utilized, mainly because EC indicated that it was developing a new process for ATH.

Pressures on the need to establish an ATH Framework, particularly related to post-categorization, resulted in re-convening the ATH Sub-Group (SG) in June 2006. At that time, EC proposed utilizing the air dispersion modeling as one tool to assist in the determination of appropriate reporting thresholds for substances as defined in the ATH Framework. However, there is very limited experience with models on substances for consideration for ATH.

ENGOs are highly concerned about the emphasis on modeling and have stated that air dispersion modeling should only be considered in cases where additional relevant information may be obtained by its application.

ENGOs support having a comprehensive framework in place to guide the selection of ATHs. This is especially important in light of the challenge posed by post-categorization. At the same time, ENGOs want to see the appropriate thresholds set as related to the degree of hazard, toxicity and environmental fate of each substance, and not on modeling. Furthermore, ENGOs do not support any weakening of current ATHs.

5) Dioxins, Furans and Hexachlorobenzene

EC has decided that the 17 individual dioxin/furan congeners currently in the NPRI be reported on an individual basis and change the reporting units for dioxins and furans from g ITEQ to g WHO-TEQ. This will achieve harmonization with Ontario MOE's Regulation 127 requirements. We strongly support this decision.

In addition, EC proposed the addition of dioxin-like PCBs for individual reporting. Although all stakeholders have agreed that these substances should be added to the NPRI, the Work Group is proposing that these substances not be added now because they do not have enough information on how to quantify them to be able to provide reports.

ENGOs fear that this delay can result in dioxin-like PCBs being left off for the long-term. ENGOs emphasize the importance of adding dioxin-like PCBs and stress that Environment Canada should require industry to conduct the studies needed to be able to do quantifications so that they can be added very soon.

The ENGO caucus supports the requirement for reporting the addition of 12 dioxin-like PCBs immediately. ENGOs also support the addition of reporting on dioxins, furans and HCB in titanium dioxide pigment production using the chloride process.

6) Mining Exemption

When the NPRI was originally set up, mining activities (but not the processing of mined materials) were exempted from reporting to the NPRI. ENGOs saw this as a major omission from the NPRI program, especially because the mining sector was the largest reporter to the US Toxics Release Inventory (TRI). As a result of substantial urging by the environmental community, the federal Minister of the Environment agreed to support

a review of this mining exemption. In 2003, the NPRI Multi-stakeholder Work Group established a sub-group to review the exemption of pre-processing mining activities from NPRI reporting. This exemption has been removed in stages.

i) Pits and Quarries: Effective with the 2006-reporting year, only "mining related to pits and quarries" was exempted from reporting[4]. This exemption was removed for the 2007-reporting year. As a result, pits and quarries have been added to the NPRI with the criteria stated as follows: "that person shall report information under this notice if production at a pit or a quarry exceeds 500 000 tonnes during 2007."

Environment Canada has estimated that this threshold would result in reporting for approximately 80 percent of the tonnage of production from pits and quarries and will require reporting by approximately 20 percent of the facilities. Environment Canada considers this threshold to be acceptable because it reduces the burden on industry and is more likely to reach the facilities that have the capacity to report. ENGOs do not accept this rationale.

First, ENGOs have never agreed to the so-called 80 percent "rule" that industry always refers to. The prime purpose of the NPRI is to make information available to the public. Therefore, burden on industry should not be a determinant in making decisions. It can be a consideration, but not a determinant. Also the 80 percent is based on the amount of the production or in some cases NPRI substances that would have to be reported. This covers only 20% of these facilities.

In the pits and quarries case, people living near 80 percent of the pits and quarries in Canada will not be able to find out what NPRI substances are being released or disposed of in their communities. This is a very faulty approach to right-to-know.

Secondly, ENGOs do not accept that capacity of industry to report is an acceptable reason for setting thresholds. If a company does not have the capacity to track and estimate their releases, transfers and disposal of NPRI substances, they should not be given a permit to operate since they clearly do not have the financial and technical capacity to operate their facilities in a manner that will protect the environment and their community.

ENGOs recommend that the threshold for reporting to NPRI by pits and quarries should be reduced from 500,000 tonnes production a year to 50,000 tonnes each year, which would require reporting by approximately 80 percent of the pits and quarries operations.

ii) Reporting on NPRI substances placed in tailings impoundments and waste rock piles: Since Environment Canada removed the mining exemption for the 2006-reporting year (except for pits and quarries), it is our position that mining facilities should now be reporting releases, transfers and disposal of NPRI substances to mine tailings

[4] For pits and quarries, only Part 4 and 5 emissions from the combustion of fuel in stationary combustion equipment had to be reported for 2006.

impoundments and waste rock dumps. This has not been the position of Environment Canada, which continues to explore this issue throughout 2005 and 2006 with the NPRI work group and sub group, and industry appears to be operating as though there is an exemption for this activity.

Since the mining industry and the ENGOs could not come to agreement on this issue, Environment Canada decided to refer the matter to the Mining Sector Sustainability Table (MSST) for consideration. At a workshop on this topic in March 2007 held by the MSST, there was general agreement among all sectors that there is a "need for some type of mandatory regular reporting mechanism relating to the 'core set' of information needs relating to tailings and waste rock."

ENGOs continue to assert that the appropriate location for the reporting of materials going into mine tailings impoundments and waste rock dumps is through the NPRI and under the authority of the *Canadian Environment Protection Act*, that it is now required to be reported. The NPRI substances going to these facilities should be reported under the company's disposal figures. Sometimes industry claims that these materials are going to storage not disposal because at some point they may be retrieved and, therefore, do not need to be reported. This is a specious argument. Unless there is a specific plan to remove the tailings or waste rock within a short time – maximum 2 years, it is completely unreasonable to pretend that this is storage and would not be accepted as such under any provincial government's definition of storage.

7) Capture Rates

Environment Canada and industry have postulated what would constitute an appropriate desired capture rate (i.e., proportion of releases from facility-based sources that should be reported). Unfortunately this has led to a misconception that a fixed capture rate of a particular pollutant released (e.g., 80%, as often stated by industry) would suffice.

The capture rate approach advocated by industry is detrimental in that it disregards cumulative emissions of pollutants in communities from several smaller sources and is primarily utilized to respond to industry's quest to lessen the burden of reporting. Since the NPRI is supposed to be a community right-to-know tool, the minimal objective should be to ensure that at least 80 percent of facilities are required to report.

8) Deferred Issues

ENGOs are frustrated that Environment Canada has not acted on a number of items that ENGOs have repeatedly brought to the Working Group table over a number of years. These items include: addition to NPRI of PCBs, beryllium, barium, benzidine, thallium, and radionuclides; lowering the reporting threshold for nickel; and completion of the alternate threshold framework. ENGOs fear that these issues will get dropped from discussion.

ENGOs strongly recommend that EC commit to dealing with these deferred matters within a fixed timeline.

9) NPRI Summary Reports

Environment Canada used to put out a summary report on the NPRI data every year. The last such report was for the 2002 reporting year. The summary report is essential for at least three reasons. First, it gave us a snapshot on releases and transfers and changes year-to-year country-wide as well as for each province. This made it easier to do assessments for general policy input. Secondly, it stimulated media stories, which is essential to help make the public aware that the NPRI exists and to encourage the public to look up NPRI data. Thirdly, the summary report contained some information not otherwise available on the website. The prime example of this is that the summary report always said how many facilities had requested confidentiality for their data and said what Environment Canada decided on the confidentiality requests. This is not otherwise available to us.

We urge Environment Canada to resume the release a summary report on NPRI data every year.

10) Data on off-site Transfers

When a polluter reports on transfers to off-site facilities for disposal or recycling, they state where it was sent. This data is not, however, available through the NPRI website. This means that it is impossible for communities to follow the trail of the movement of hazardous materials. It also means that a community that contains a waste disposal or recycling facility cannot tell where those materials are coming from. Community right-to-know should include access to such information.

We urge Environment Canada to change the NPRI website so that information on where NPRI substances were sent for disposal or recycling is available. In addition, it should be possible to do a search on the website to cumulate data on transfer movements.

11) Comparability of NPRI, TRI and RETC data

In order to obtain a continent-wide picture of hazardous pollutants, the Commission for Environmental Co-operation puts out an annual report entitled *Taking Stock*. This combines the data from the Canadian, United States and Mexican pollutant release and transfer registries. Unfortunately, because of the numerous differences among the three programs, the comparable data is more limited than desirable, which means that the continent-wide picture is limited. Sometimes this is because of differing substances being listed, or of the reporting thresholds being different, or of the types of polluters who are required to report differing. For example, NPRI does not include pesticides while the other systems in North America include these substances.

We urge Environment Canada to follow up on the Commission for Environmental Co-operation's 2002 report comparing the three systems[5] and in each Taking Stock Report. Environment Canada should work with the NPRI Working Group to review these differences. The underlying principle in the review should be that differences should not be removed if it means weakening Canada's NPRI.

Part D. Conclusion

The NPRI is a critical tool for community right-to-know. ENGOs are committed to continue working with Environment Canada to strengthen this program so the public will be able to play ever stronger roles to protect the health and environment of all our communities across Canada.

[5] *Status of Comparability Among the Pollutant Release and Transfer Registers in North America*, 2002.