

**THIRD NATIONAL CONSULTATION WORKSHOP**

**ENVIRONMENTAL PERFORMANCE**

**BASE METALS SMELTING SECTOR**

**February 27-28, 2003 Ottawa**

**ENGO Report**

- **Review of Workshop: Comments, Feedback**
- **Summary of ENGO Perspectives**

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## Workshop Review and Comments

### A. Background - Objectives and Topics

Environment Canada invited the Canadian Environment Network to identify up to five (5) ENGO representatives to participate in the Third National Workshop on the Environmental Performance of the Base Metals Smelting and Refining Sector.

The objectives of the workshop identified by Environment Canada were as follows:

- (1) To exchange information and advice on the development and implementation of CEPA 99 toxics management strategies;
- (2) To review the environmental performance of the base metal sector; and
- (3) To discuss other environmental issues and initiatives in this sector

The agenda included the following topics:

- Ontario's regulatory developments
- CEPA 99 assessment report and conclusion of toxicity of releases from copper and zinc smelters and refineries
- September 28, 2002 notice of intent by Ministers of Health and Environment recommending the addition of particulate matter containing metals released in emissions from copper smelters or refineries and zinc plants, and sulphur dioxide (SO<sub>2</sub>) to the List of Toxic Substances, Schedule 1 CEPA 99
- CEPA requirements and instruments for toxic substances management, in particular, pollution prevention planning
- Smelters Emissions Testing (SET) program
- The Strategic Options Report (SOR) – conclusions and recommendations on implementation
- Environmental Management Systems – Status of Implementation
- Draft Codes of Practice - conformance

Questions and discussion followed formal presentations. The workshop ended with a round-table discussion to give all participants an opportunity to voice concerns and recommendations. Rather than give a formal presentation, ENGOs chose to actively participate with comments and interventions throughout the workshop.

Participants included industry, government, ENGOs and a labour representative. Representation from health, labour and aboriginal groups would have been beneficial. Other than Ontario, there were no jurisdictional representatives from government. Similarly, there were no representatives from federal departments (beyond the host department, Environment Canada, and Health Canada).

### B. Process Issues

A formidable amount of material consisting of background documents and reports, a deluge in fact, totalling many hundreds of pages was sent out just a few days prior to the

workshop. As expressed by CEN delegates and other participants, this was highly problematic, making it an impossible task to properly review this material in preparation for the workshop. This issue resurfaces as a perennial problem at these workshops.

While some participants who had been at previous years' sessions may have received earlier generations or drafts of some of these documents, for others, this was the first time the documents has been seen. In both cases, receiving the documents at such a late date meant that there was inadequate time for reading in advance of the workshop, and no time to discuss with other delegates, caucus members or our own organizations in advance of attending the workshop. The net effect of this was not only frustration for workshop participants, but also limitations on the amount and quality of discussion that could take place in the workshop. For the most part, discussion was limited to questions of clarification following various presentations. While interesting enough, it seems to be a poor stewardship of resources, since the workshop provided the only foreseeable opportunity for a face to face exchange of ideas between the various sectors, at least in the near term, and presumably the only opportunity in advance of Environment Canada preparing the next draft of several of the documents.

While most topics solicited comments, discussions centred on the requirements and instruments for the management of toxic substances under CEPA 99, in particular, pollution prevention (P2) planning, implementation and timelines. However, there was virtually no opportunity for question and answer and discussion following presentation of the draft code of practice, which is a key document in the suite of those presented. It is unclear why the format deviated from what was the standard approach to the presentation of all of the other documents, or why this agenda item, which was possibly controversial, was not allotted adequate time to allow such a discussion to take place.

### **Recommendations on process and substance:**

Documents for workshops should be received **two weeks prior** to the event. Further to that, summaries of the documents should be provided on the main topics for discussion. Not only would this provide for a more informed level of participation, it would alleviate time spent on discussion and complaints about this very matter. It is an imposing task to expect participants, in particular, ENGOs to cover all to a reasonable degree of comfort.

Furthermore, in setting the agenda, Environment Canada should be cognizant of issues likely to be "hot potatoes" and generate debate. These issues should be accorded appropriate time, while repetitive presentations should be limited or taken off the agenda.

### **C. Background - CEPA 99 Toxicity Declaration and Requirements**

*The following subsection reviews particular aspects of CEPA pertaining to this consultation. It does not reflect opinions of stakeholders, but summarizes pertinent material in presentations related to CEPA and Pollution Prevention (P2) planning.*

Releases from primary and secondary copper and zinc smelters and refineries smelters underwent a full-scale assessment as to their toxicity. The assessment report concluded that “metals (largely in the form of particulates) contained in emissions from copper smelters and refineries and zinc plants, PM<sub>10</sub>, and sulphur dioxide are considered toxic to the environment or its biological diversity and to human health and thus toxic as defined under Section 64 of CEPA 99<sup>1</sup>.”

This declaration of toxicity led to publication of notice of intent of Ministers of the Environment and Health to recommend that:

- *Particulate matter containing metals that is released from copper smelters or refineries, or from both;*
- *Particulate matter containing metals that is released from emissions of zinc plants; and*
- *Sulphur dioxide (SO<sub>2</sub>)*

be added to the list of toxic substances. Schedule 1, CEPA (Gazette Notice, September 28, 2002).

CEPA requires that a regulation or risk management instrument be proposed with 2 years of the declaration notice (September 28, 2004) and finalized within 18 months thereafter (March 28, 2006). This process requires the development of a risk management strategy that includes risk management objectives, instruments, and an implementation plan and stakeholder consultation.

Available instruments include regulations (release limits), pollution prevention (P2) plans and release guidelines, and codes of practice that limit releases with binding commitments to action.

### **Factors for Consideration – Risk Management Instruments**

A number of ongoing initiatives that address different components of these facilities could be considered in investigating options for risk management instruments to reduce exposure of these substances. For example, the development of options should take into consideration other substances of concern (such as mercury, selenium, dioxins and furans) as well as base metal smelters (e.g., nickel, lead, and cobalt) other than copper and zinc that may also release SO<sub>2</sub> and other CEPA toxics<sup>2</sup>.

Activities or initiatives pertaining to this sector that could serve as background documents and potential incorporation into the risk management instrument include;

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<sup>1</sup> Section 64 CEPA 99 defines a substance to be toxic if it is entering or may enter the environment in a quantity or concentration or under conditions that (a) have or may have an immediate or long-term harmful effect on the environment or its biological diversity; (b) constitute or may constitute a danger to the environment on which life depends; or (c) constitute or may constitute a danger in Canada to human life or health. Substance is declared toxic if it meets any one of the three criteria.

<sup>2</sup> CEPA toxic substances include for example lead, mercury, inorganic arsenic and cadmium compounds, oxidic, sulphidic and soluble nickel compounds.

- Strategic Options Process (SOP) and the 10 recommendations<sup>3</sup>
- Environmental Performance Standards in Draft Code of Practice
- Canada-wide Standards for PM and Ozone, mercury, dioxin and furans
- Acid rain Strategy
- Addition of PM<sub>10</sub> to Schedule 1 of CEPA 99
- Multi-Pollutant Emissions Reduction Strategies
- Available techniques to prevent/reduce emissions and the Identification of technically feasible emissions reduction options and costs

### **Pollution Prevention (P2) Planning - P2 Plan Requests**

The preparation and implementation of P2 plans may be required CEPA 99 (section 56 notice) to address the substances declared toxic. Included in these plans would be:

- Annual emissions limits for each facility to be attained by 2008 and 2015<sup>4</sup>
- Emission Guidelines in draft Environmental Code of Practice (under development)

Elements of a P2 Planning Notice include risk management objectives, standards or regulations in other jurisdictions, timelines for plan preparation and implementation, progress reports, currently available technology and P2 methods and the activities listed above. P2 planning is a flexible instrument, that is, there is no prescribed plan, only specific information that must be included.

P2 plans are a hybrid between voluntary and mandatory – P2 planning is not a regulation.

The main advantages stated for such plans were taking into account voluntary actions in which the sector has been engaged; convergence with SOR recommendations; and the fulfillment of timeline requirements under CEPA 99.

### **D. Comments on Proceedings and Discussions**

#### **Risk Management**

##### **a) Characterization of emissions**

The management of the risk is an important tool within the framework of the implementation of a program of pollution prevention (P2). The evaluation of the risk and its management are a function of the nature of the atmospheric emissions of the point of view, among others, of the composition chemical but also physical characteristics of these last ones.

Based on discussions at the workshop, it appears that the characterization of the size and the density of particular matter emitted from the smelters are not known. These

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<sup>3</sup> See Appendix of this report for the recommendations

<sup>4</sup> Limits and Standards are based on recommendations in the Strategic Options report and other studies

characteristics directly affect the speed of deposition of particular matters<sup>5</sup> (CEPA, 1999). For example, particulate matter with density greater than 2 gm/cm<sup>3</sup> are 50 % more likely to have local impacts near to the emission source than smaller particles, as they tend to fall more quickly than the small particles and thus are removed so more easily from the atmosphere<sup>6</sup>.

Smaller particles tend to remain suspended much longer in the atmosphere and are more likely diffused much further away from their source<sup>7</sup>. The physical characteristics of particles also play an important role in the level of environmental impact. The knowledge of these characteristics becomes an essential tool which allows refinement of models in estimating the spatial distribution of the sites of maximal deposition.

This knowledge will allow for a comparison of the characteristics of the atmospheric emissions at present and at a future date when the objectives of reduction of the order of 80 % are to be met. It will allow for the quantification of larger particles as distinct from inhalable particles (PM<sub>10</sub>) and potentially enable modifications of environmental risk according to the sites of maximal deposition.

#### **b) The speciation of metals**

Another important point with respect to risk management is the impact of speciation of metals in the soil. Generally, in the evaluation of the risk at ground level, one assumes that metals are also distributed within 0.1m of the ground. In facts this distribution is not constant; but varies according to the concentration of the metal and the number of years that the metal has been deposited. Ageing metal in grounds tends result in their immobilization, thus making them less available than more recent deposited metals<sup>8</sup>.

Further studies demonstrate that one can not directly use the measure of the total metals to estimate the toxicological as well as the bioavailability of these metals<sup>9</sup>. This evaluation of metals does not take into account conditions of the environment as well as the speciation of the metals which are factors that are able to influence their bioavailability. Metals behave differently and uniquely in the ground due to their inherent physical-chemical characteristics. Some are strongly soluble, whereas the others are chemically sluggish. The most important factors affecting the bioavailability of metals in the ground are the concentration of the metal in the ground, the pH and the concentration in organic matters. Compared to the reality, risk management has to take into account

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<sup>5</sup> CEPA, Canadian Environmental Protection Act, 1999. NATIONAL AMBIENT AIR QUALITY OBJECTIVES FOR PARTICULATE MATTER PART 1: SCIENCE ASSESSMENT DOCUMENT.

<sup>6</sup> The Air Group. "Model Parameter Sensitivity Analysis." May 23, 1997.

<sup>7</sup> "Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities." Peer Review Draft. EPA530-D-98-001. Solid Waste and Emergency Response. July 1998.

<sup>8</sup> Sauvé. S., Hendershot, W. et Allen.H.E., 2000 a. Solid-solution partitioning of metals in contaminated soils: dependence on pH, total metal burden and organic matter. Environ. Sci. Technol.34, 7, p. 1125-1131.

<sup>9</sup> Sauvé S. 2002. Speciation of metals in soils. Chapter 2, In Bioavailability of metals in terrestrial ecosystems: importance of partitioning for bioavailability to invertebrates, microbes, and plants, SETAC press, pp. 7-37. Sauvé, S., Wendell, A., N., McBride, M. et Hendershot, W., 2000. Speciation and complexation of cadmium in extracted soil solutions. Environ. Sci. Technol., 34, p.291-296

these parameters. Furthermore, a universal rule for the concentrations of the total metals in the ground becomes so obsolete.

### **c) Industrial processes**

All programs of pollution prevention (P2) are essentially based on a mode of normal operation of the industry. Within the framework of this program, there is no consideration as to the possibility of equipment failure and shutdowns for maintenance and plans by the facility to cope with these situations. Such breakdowns, particularly at pollution control and capture systems of dusts can occasionally create the situations of worse scenario in environment. In fact, it is necessary to include the alternatives solutions suggested by the industries in pollution prevention programs (P2).

## **E. Comments on Draft Documents**

### **1. Assessment Report - Releases from Primary and Secondary Copper Smelters and Refineries and Releases from Primary and Secondary Zinc Smelters and Refineries**

This is a core document for this process, however this report was not provided in hard copy or attachment, and was not available on-line; the invitation to the workshop directed participants to a url, where a summary was available and an email address was provided for those wishing to request a copy or the report; we note that our request made prior to the workshop was not met in advance of departure, meaning the report was not available

### **2. Status Report on Implementation of Recommendations Strategic Options Report (SOR)<sup>10</sup>**

The 10 recommendations that were offered to the Ministers in the 1997 Strategic Options Report on Base Metal Smelting Sector (BMSS) addressed the following topics:

- 1) Release Reduction Targets and Schedules
- 2) Environmental Standards
- 3) Site-Specific Environmental Management Plans
- 4) Consistent Data and Reporting
- 5) Federal-Provincial Cooperation
- 6) Recycling
- 7) Dioxins and Furans (testing and management)
- 8) Research and Development (pollution prevention)
- 9) SOR Public Education and Communication
- 10) Public Review Process

After nearly 6 years, some of these SOR recommendations have come to fruition, while others have remained in limbo or in a transition stage. “New developments” referred to in

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<sup>10</sup> The Strategic Options Process that resulted in the SOR was designed to identify and evaluate options to manage toxic substances under CEPA. The Base Metal Smelting sector was triggered because of emissions of 5 of these toxic substances.

the workshop since SOR pertained to the recent toxicity assessment and findings of releases from copper smelters and refineries and zinc plants under CEPA 99 and from criticism from the Auditor General as to lack of clarity as to the implementation status of the Strategic Options Processes<sup>11</sup>. Consequently, Environment Canada is obligated to develop a toxic management instrument to satisfy CEPA 99 requirements and the Auditor General and to demonstrate implementation and effectiveness of the SOR recommendations.

### **Recommendation #1: Emissions Data from Base Metal Smelters**

Tables 1 through 6 were summarized in discussion as representing a downward trend in emission levels; however, examination of the tables reveals that rather than a downward trend, there was a downward dip at the beginning of the reporting period (1988) and there has been a high level of variability in the intervening years; if the first two reporting incidents were removed, the curve would be erratic at best, and, in the case of nickel, mercury and SO<sub>2</sub> portrays an upward trend over the most recent reporting periods.

**i) Base Year:** The use of 1988 as base year needs to be revisited and updated. Relative to pollutants released after that date, this base year skews percent reduction as indicative of great progress. 1995 or later would be more relevant as base years, particularly when projecting out to year 2015.

**ii) Nickel and Arsenic:** Nickel and arsenic are human carcinogens with no threshold limit at which adverse effects may occur. Releases of nickel have increased in year 2000, particularly in comparison to the previous two years. Arsenic emissions have also shown a trend upward since 1995. There is no explanation for these increases. These changes are under- represented by using the 1988 base year.

**iii) Sulphur Dioxide (SO<sub>2</sub>):** SO<sub>2</sub> emissions in 1998 were 867 000 tonnes, while in 2008, they are projected to be 671 000, only a 23% difference. Yet these emissions are expected to decrease substantially by 2015. Is this likely? What is the fate (or market) of the captured sulphur? What are the problems associated with storage of sulphur?

### **Recommendation #6: Recycling**

This topic needs to be further explored as to scope, what it constitutes, what material is being recycled and what is not to be considered recyclable, its environmental impacts, and how such recycling activities are to be controlled, accounted for, and regulated.

The discussion of recommendation #6 includes a description of the concerns that have been raised by industry representatives regarding the export / import regulations for hazardous wastes, but fails to describe the concerns of the ENGO. sector, which have been registered with Environment Canada through workshop participation and written submissions as part of the EIHWR consultations

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<sup>11</sup> The 2002 Report of the Commissioner of the Environment and Sustainable Development to the House of Commons- Chapter 1 Toxic Substances revisited, p.14-16

Given what we understand to be Environment Canada's intentions to consult in the near future on waste management issues related to the Information Technology waste stream, it would be appropriate to include a reference here, as has been done with the EIHWR review process

**Recommendation # 7: Dioxins and Furans**

Table 12, which outlines the releases of dioxins and furans, lacks data from several sources; in the course of the workshop, INCO committed to providing the missing data for the Copper Cliff operation and Environment Canada committed to distributing same, but no such commitment was made for the provision of missing data from Teck Cominco's Trail operation, Hudson Bay or INCO in Manitoba, Falconbridge's Kidd Mett site, or Noranda's Horne, DEZ, CCR or Brunswick operations; Environment Canada should undertake to collect and disseminate the missing data, i.e., a completed Table 8, as soon as is practicably possible

**Recommendation # 10:** Text detailing progress or intentions with respect to (to conduct a public review of the implementation of the SOR) has been left completely blank; this appears to be the only recommendation which has not warranted time or attention from Environment Canada and Health Canada, despite the 2001 deadline for action

Previous consultations recommended that Community Advisory Panels (CAP) be set up for each facility site with the mandate to assess the effectiveness of the codes and offer feedback to government and industry (in accordance with SOR Recommendation #10 – public accountability). CAPs would include representatives from the local community (chosen by the community), Government (municipal, provincial, federal), Industry, Labour, non-government environmental and health organizations.

To date, 9 out of 11 sites indicated that they have at least 1 community advisory group, some with defined responsibilities. While that is a positive step, it is not clear how members of the panels were selected or how they operate (that is, terms of reference or mandate of these CAPs). (Refer to Environmental Management Practices – Review by Hatch)

**Summary:** The summary of the report includes a significant error: in summarizing recommendation #1, the summary indicates that targets were set for 2002, rather than 2008 as the Strategic Options Report and the main body of the Status Report identify.

**Updated information:** In several places in the document, there is a highlighted note indicating that the report is “to be updated with most recent findings ...”, but in several cases these are findings that are already available, and in no cases does the highlighted note indicate when the update will be done or how or to whom the updated version of the report will be distributed.

### 3. Draft Environmental Code of Practice for Base Metals Smelters and Refineries

The Environmental Code of Practice for Base Metals Smelters and Refineries includes descriptions of the processes used in the sector, and associated environmental concerns. The recommended practices in the Code include guidance for environmental management systems, and guidelines for environmental releases to air, water and land based on best available techniques for pollution prevention and control. These are intended as minimum requirements for new facilities, and as the goals for continuous improvements at existing facilities.

Development of these Codes has been ongoing for a while. Industry representatives continue to be critical of the codes. Key ENGO concerns with the Environmental Code of Practice include its voluntary nature, the lack of enforceability, and the absence of any prescribed performance measures<sup>12</sup>.

#### Specific Issues

- Despite several references to Environmental Performance Agreements, there is no clear description provided of such agreement and their intended legal status (e.g., enforceability). While this is not made totally clear, the ENGO impression is that the levels included in the Environmental Performance Measures are based on BATEA (Best Available Technology Economically Achievable) rather than on ability to protect human health and the environment.
- The code also does not provide definitions of “new” or “existing” BMS.
- It is not clear who will manage the code. Who will monitor its effectiveness and implementation? When and how the code will be revised and updated?
- Ambient air quality monitoring includes monitoring of metals, particulate matter (total, PM<sub>10</sub> and PM<sub>2.5</sub>) and sulphur dioxide (SO<sub>2</sub>). It is not clear how releases of dioxins and furans and green house gases will be tracked.
- Since greenhouse gas emissions are directly linked to energy use - a fundamental part of the mine production process - it would be helpful to have clear mechanisms for tracking green house gas emissions and improvements in energy efficiency from the BMS sector.
- The base year should be altered for comparing release reductions, for example, to 1990, in line with the Kyoto protocol.
- The draft code includes Environmental Performance Indicators for mercury and for dioxins and furans, but not for nickel, cadmium, arsenic, SO<sub>2</sub> and TPM.

To highlight some disturbing trends in the base metal smelter sector, a simple calculation indicates that using the suggested performance levels would result in 1.7 tonnes of mercury being released (compared to 1.88 in 2000)<sup>13</sup>; this is an unacceptably high level

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<sup>12</sup> A recently produced Pollution Probe report shows that setting stringent emission targets and allowing emissions reduction trading is a way to offer flexibility to industry in achieving reductions while minimizing costs.

<sup>13</sup> This calculation was obtained by using the levels for mercury included on page 7 and the production levels included on page 15

of mercury release, given that mercury is a persistent bioaccumulative toxin and the CEPA objectives of life-cycle management for mercury.

Ontario and Quebec, in particular, need to reduce sulphur dioxide emissions by 75 percent beyond currently regulated levels to protect aquatic ecosystems, but also would benefit human<sup>14</sup>. In addition, reducing sulphur dioxide emissions would result in major reductions in toxic metal emissions from the smelters — metals such as arsenic, nickel compounds and lead — that cause cancer and other serious health effects<sup>15</sup>.

Inhalation of arsenic compounds, inorganic cadmium compounds, and oxidic, sulphidic and soluble inorganic compounds, is associated with the development of cancer. Although the code of practice does not speak about workers health and safety and periodical evaluation of workers health and safety, it is necessary to determine the potential risks from occupational exposure at BMS facilities.

As previously noted in this report, there was insufficient time to go into the code. It is recommended that the Code be reviewed by the BEMAG. *The following are further suggestions for inclusion in the code:*

- **Set of outcomes, targets and timelines** - directed to specific components of the codes;
- **Reporting protocol** - supplied by industry to government that includes real time monitoring, stack testing, and all relevant emissions data on a routine basis and that is *verifiable* and publicly accessible in the interest and support of “openness and transparency”;
- **“Report card”** - made publicly available that measures the effectiveness of and compliance to the codes from each facility.
- **Commitment to Codes**  
In the event that industry does not make adequate or sufficient efforts towards meeting the objectives of the codes in a timely fashion, what, how and when will government act?
- **Review and Evaluation** of the codes of practice to ensure:
  - ✓ Compliance and progress to codes are being tracked.
  - ✓ The codes meet the expectation and the concerns of the local communities, the workers, health and environment groups and address issues of emissions of pollutants that contribute to environmental and health issues (e.g., air quality, toxicity)
  - ✓ The codes result in real reductions in emissions of toxic substances
  - ✓ Implementation of the codes leads to innovation, pollution prevention and virtual elimination where specified
  - ✓ Inclusion of a multi-pollutant emissions reduction strategy

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<sup>14</sup> according to the Acidifying Emissions Task Group, which reported to the Canadian Council of Ministers of the Environment in 1997.

<sup>15</sup> “Sulphur Dioxide and Toxic Metal Emissions from Smelters in Ontario”  
[www.pollutionprobe.org/Publications/Air.htm](http://www.pollutionprobe.org/Publications/Air.htm)

## F. General Comments and Recommendations

### Driving Principles

Regardless of which approach is adopted, a number of key principles - which have already been adopted by the federal government as the basis for environmental decision-making - should be adopted and incorporated. These principles include:

- S the precautionary principle<sup>16</sup> directs that precautionary measures are taken, or an activity avoided, if the activity or a substance poses a threat to environmental or human health. The precautionary principle does not demand scientific certainty of the anticipated damage, but rather favours erring on the side of caution, and so on the side of health. If a mining activity may cause significant harm, the precautionary principle directs that measures are taken to avoid the possibility of that damage, or that the activity, i.e., the mining project, is not undertaken.
- the principle of pollution prevention<sup>17</sup> is, simply, a focus on the anticipation and prevention of the creation of pollutants and waste, rather than on the remediation of pollution; the objective is a healthy ecosystem, the means is the efficient and effective use of energy, raw materials and other commodities.
- S the objective of sustainable development is, as set out in the landmark 1987 report by the World Commission on Environment and Development<sup>18</sup> "to ensure that (we) meet the needs of present generations without compromising the ability of future generations to meet their own needs. The concept of sustainable development does imply limits - not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities."
- the principle of zero discharge has been Canadian policy since 1978, when the Canadian and U.S. governments signed the Great Lakes Water Quality Agreement<sup>19</sup> stating that "the philosophy adopted for control of inputs of persistent toxic substances shall be zero discharge." The *Great Lakes Water Quality Agreement* between Canada and the U.S. specifies that persistent toxic chemicals be virtually eliminated under the philosophy of zero discharge. Subsequently, zero discharge should be the standard for mine effluents. At minimum, effluents from mines in the Great Lakes basin ought to be on a schedule for achieving the Virtual Elimination goal
- S the need to take an ecosystem-based approach<sup>20</sup> recognizes the need to base

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<sup>16</sup> "It's About Our Health! Towards Pollution Prevention--CEPA Revisited," Report of the House of Commons Standing Committee on Environment and Sustainable Development, June 1995.

<sup>17</sup> *Ibid.*

<sup>18</sup> "Our Common Future," World Commission on the Environment and Development, Oxford University Press, 1987.

<sup>19</sup> Great Lakes Water Quality Agreement of 1978, signed between the United States and Canada at Ottawa, November 22 1978, Annex 12 2(a)(ii); consolidated by the International Joint Commission of United States and Canada (January 1988 printing)

<sup>20</sup>"It's About Our Health!" 1995. *Ibid.*

environmental protection on the protection of ecosystem integrity, rather than on the protection of specific environmental components.

#### Proposed Reliance on BATEA (Best Available Technology Economically Achievable)

As discussed in the workshop, Environment Canada is proposing that BATEA be the basis for development of any pollution prevention plans developed for the base metals sector under CEPA, as described during the workshop presentation on Pollution Prevention planning, and - even more troubling- as the basis for setting risk management objectives, which in turn become the basis for any targets / objectives / measures of success (or failure) in the Pollution Prevention planning. Clearly, using BATEA as the means for setting required outcomes is inconsistent with a pollution prevention approach, given that BATEA “balances” a range of factors rather than relying on the safeguarding of ecological and human health and avoidance of harm (i.e. pollution prevention) as the imperative. While it may be feasible or reasonable to use a BAT (Best Available Technology) or BATEA approach to select strategies (as the facility level) to meet the performance standard once it has been set, it is inappropriate to use BAT or BATEA to determine the performance standard. Such an approach is antithetical to the practice of pollution prevention, and of only limited usefulness or effectiveness even in a pollution control approach. Should Environment Canada persist in this vein, the popularly dubbed P2 will become P1, i. e “pollution planning” rather than “pollution prevention planning”.

#### Relationship among Options

By our understanding, after a substance has been declared toxic under CEPA and a sector has been identified as a source of that toxic pollutant CEPA, sets out certain requirements, both in timing and content. Further, CEPA sets out three available instruments: regulations on release of limits, pollution prevention plans, and release guidelines and codes.

In the February 27/28 workshop, there was some background documentation and workshop presentation and discussion of the options of pollution prevention plans and release guidelines and codes. However, there was extremely limited or no attention paid to the option of regulation, and what seemed to be an inordinate amount of attention (particularly in the documentation) paid to the development of guidelines and codes. However, despite their messaging definitely favouring the third approach, Environment Canada declined to put forward any clear position on their preference of one option over another, or any indication that a selection of approach had been made, or the basis for selecting that approach.

Further, in the documentation and discussion of the pollution prevention planning and guidelines / codes options there was no discussion of how each of these options compare or contrast with each other, or of how each of them would, on a comparative basis, most effectively deliver on the core objectives of CEPA, those being pollution prevention and the virtual elimination of toxic substances.

In the view of ENGO delegates, Environment Canada should develop a table comparing the three options, using a simple set of criteria as soon as practically possible. Criteria should include performance measures in terms of meeting those core objectives of CEPA (i.e. pollution prevention and the virtual elimination of toxic substances), as well as descriptive summaries which would allow multi-stakeholder review participants and others to compare and contrast the strengths, weaknesses and substance of each of the approaches. As the approaches develop and mature, the comparative table could be updated to reflect the evolution of each approach.

### **Pollution Prevention Instrument**

Pollution prevention (P2) in itself is strongly supported as a strategy, as long as it truly is prevention at the source rather than remediated or control measures. While P2 seems an appropriate choice to risk management, the interpretation of what constitutes a P2 plan varies and is very subjective. It is important that the interpretation and application of P2 not to be construed as end-of-pipe or pollution control technology. More emphasis must be placed on issues such as sources of raw materials (feed); full-cost accounting of materials; and life cycle analysis of materials.

If P2 planning is the chosen risk management instrument then it has to be more than “planning”, and not result in unnecessary delays. Efforts have gone into developing Codes of Practices for this sector. Implementation may be another matter. The Codes of Practice could be an important step to designing P2 plans.

- Consideration should be given to setting **regulated** site-specific release limits within P2 (via provincial permitting, certificates of approval, for example).
- Once P2 planning starts, the intent is to meet risk management objectives. However, the achievement of these objectives is not mandatory, only expected.
- The risk management objectives need to be developed for this sector.
- While declarations of P2 plans are public, the plans themselves are not. If communities and community action panels are to be involved in planning, this is counterproductive.
- P2 planning is not a regulation, but if not carried out, a facility may be forced to explain why it hasn't been done. This is a rather confusing aspect of CEPA – and could be negative thinking. What is the purpose of setting objectives if the achievement is not mandatory?
- There are no provisions or plans for auditing or monitoring facilities with respect to performance and/or compliance with their P2 plans.
- It is not clear what happens if a P2 plan is not prepared. The enforcement plan is still under development.
- How will P2 planning ensure accountability to government as well as the public?

### **Timelines**

Now that releases from zinc plants and copper smelters and refineries have been declared toxic, certain actions are prescribed within specified timelines under CEPA 99. That is all well and good – but the real task and test of the effectiveness of CEPA 99 happens now as the move from declaration of toxicity to instruments and implementation takes place.

The timelines under CEPA are problematic. While it is recognized that the CEPA clock sets out maximum times, effort should be placed on advancing the schedule of the determination of a final instrument and implementation. Furthermore, waivers and time extensions are possible. Given the rather drawn out schedule of several years for implementation under CEPA, further extensions could open another Pandora box and question the efficacy of CEPA 99.

### **Monitoring and Reporting of P2 plans**

P2 planning requirements cease at the time of implementation of the Plan. What form of reporting and monitoring will be done to assess whether BMS industry releases are adequately being managed in Canada upon implementation? Budgetary cut-backs have eliminated most monitoring programs. Without proper monitoring programs, P2 Planning will not be effective. Government should ensure the resources and capacity for the monitoring and the implementation of proposed environment management tools to reduce substantial compliance problems

### **Regulatory and Voluntary Instruments**

Once again, much reference was made to voluntary action. This is disconcerting. Regulations have been shown to be a major catalyst in achieving reductions of emissions and a driver of innovation. Guidelines and codes of practice may be useful and informative, but without the umbrella of a regulatory framework, the effectiveness of voluntary actions (SOP, ARET) alone has not been born out and may have led to further delays. At times, industry has often called for “regulatory certainty”. This should be uppermost in mind in working on the various strategies to reduce emissions.

### **Base Metals Smelters Emission Testing (SET) Network**

Base metal smelters have been flagged as a possible significant source of dioxins and furans. These substances are slated for virtual elimination. A testing protocol was established to remedy data gaps and the majority of facilities have conducted emissions testing<sup>21</sup>. It is recommended that this work continue (under BEMAG) and in particular, explore opportunities for **prevention** of releases of dioxins and furans.

### **Jurisdictional Involvement**

The only province that was present and could provide a report was Ontario, describing its Clean Air Plan for Industry on NO<sub>x</sub> and SO<sub>2</sub> emissions. That program has come under sharp criticism from environmental organizations, in particular for its emissions trading plan. More to the point was the absence of other jurisdictions. Their participation is crucial – and their absence is disturbing.

### **Potential Loopholes and Information Gaps**

How much of the smelting industry has been captured by the SOP process and what are the gaps? Operations such as secondary smelters, lead and others, aluminum smelters and magnesium smelters (new facility in Quebec), recycling facilities need to be addressed in

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<sup>21</sup> A number of sites have values above the Level of Quantification (LOQ). Virtual elimination is defined as levels below the LOQ. Emissions from Falconbridge, Sudbury are significantly higher than other facilities.

some manner and brought into the picture. Private facilities (e.g., Hudson Bay Mining) are not subject to the same reporting as the other facilities that are traded.

Reference is made to incomplete data. In the event that pertinent information is not supplied by industry, ENGOs recommend that Environment Canada issue a survey notice under section 71(b) CEPA 99 to request such information.

### **Issues for Further Study**

The precautionary principle, “cleaner production” and sustainable development have not been addressed in any manner. It is recommended that these topics be incorporated into BEMAG discussions.

### **Next Steps - BEMAG**

**BEMAG**, a Multi-Stakeholder Advisory Group for this sector was established about two years ago by Environment Canada to guide in the development of the Codes of Practice using the SOR recommendations as well as other initiatives. Now that there is the incentive of a CEPA clock, it is all the more important for BEMAG to be revitalized as soon as possible and focus its efforts toward discussing and developing CEPA instruments, and in this case P2 plans if that is the preferred instrument. However, it is important that BEMAG not be a technical advisory group only in isolation of factors related to social, health and environmental interests and that membership is balanced among the various stakeholder groups

In the closing session of the workshop, Patrick Finlay of Environment Canada outlined a tentative workplan, which included:

- C Mid-March submission of comments on various documents
- C Late-April teleconference of BEMAG
- C Regular (monthly) teleconferences of BEMAG to follow
- C Mid-September document distribution
- C Mid-October meeting of BEMAG
- C February 2004 national workshop
- C August 2004 latest possible date for publication of draft instrument
- C February 2005 latest possible date for finalizing of instrument

As part of this discussion, Environment Canada extended an invitation to confirm the participants of the various sectors on the BEMAG, and to expand the participation of CEN Toxics Caucus by increasing the number of delegates<sup>22</sup>. ENGOs are recommending 4 seats on the BEMAG and that the Canadian Environmental Network (CEN) is charged with selecting these members.

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<sup>22</sup> Note: Bruce Walker and Anna Tilman are presently members of the BEMAG)

## **Endorsements**

- **Citizens' Mining Council of Newfoundland and Labrador**
- **Centre for Longterm Environmental Action in Newfoundland and Labrador**
- **Nature Saskatchewan**
- **Centre for International Studies**
- **Mixedwood Forest Research & Advisory Committee**
- **Save the Oak Ridges Moraine Coalition**
- **Canadian Institute for Environmental Law and Policy**
- **Northwatch**