Proposed Risk Management Strategy addressing Ammonia, Inorganic Chloramines and Chlorinated Wastewater Effluents under CEPA 1999

Report of Consultation Sessions August 20th to November 4th, 2002

Summary of Input from Participants

December 2002

Environment Canada

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Introduction

Environment Canada hosted a series of one-day consultation sessions in 13 centres across Canada from August 20th to November 4th, 2002. Environment Canada provided information to stakeholders and interested parties and collected feedback on the proposed Risk Management Strategy for ammonia[1], inorganic chloramines and chlorinated wastewater effluents under the *Canadian Environmental Protection Act, 1999* (CEPA 1999). These substances have been either added to, or proposed to be added to the List of Toxic Substances (Schedule 1) under CEPA 1999. These substances are primarily discharged to surface waters through municipal wastewater effluents.

Environment Canada recognizes that addressing the risks associated with effluents from municipal wastewater systems and other wastewater systems is a complex issue. The proposal to require the preparation and implementation of pollution prevention plans under CEPA 1999 is a first step within the context of developing a long-term strategy to consider the requirements of both CEPA 1999 and the *Fisheries Act*.

The consultation sessions aimed at providing participants with:

1) contextual information for the substances addressed in the proposed instrument under CEPA 1999 and for the development of a long-term strategy; and
2) an opportunity to comment on the proposed elements of the Notice to be published in *Canada Gazette*, Part I, that would require pollution prevention plans to be prepared and implemented under CEPA 1999, such as the:
    a) risk management objectives for ammonia, inorganic chloramines and chlorinated wastewater effluents;
    b) criteria to select the wastewater systems for which pollution prevention plans will be prepared and implemented; and
    c) timelines for the preparation and implementation of the pollution prevention plans.

The consultations did not aim to build consensus on any issues, nor were recommendations voted on.

Environment Canada committed to summarize the input received during the consultation sessions and to share this report with those who participated. After consideration of the comments received, Environment Canada will formally propose, by publication of a Notice in *Canada Gazette*, Part I, a preventive or control instrument addressing ammonia, inorganic chloramines and chlorinated

[1] Note that the nomenclature for Ammonia is subject to change. This applies for the balance of the document.

wastewater effluents in the Spring of 2003. This publication will be followed by a 60-day comment period. A final Notice of the instrument will be published in 2004.

About this Report

This report presents a summary of the key messages, perspectives, ideas and issues that were raised throughout the course of the consultation sessions. This report does not attempt to include all comments, but aims to reflect the range of comments, common concerns and regional perspectives, areas of agreement as well as divergence, suggestions for improvement and areas requiring clarification.

The issues raised by participants that are related to the proposed Risk Management Strategy are presented in **Chapter 1** of this report. Part 1 covers the proposed risk management objectives for ammonia, inorganic chloramines and chlorinated wastewater effluents. Part 2 presents the feedback on the proposed criteria to select the wastewater systems for which pollution prevention plans will be prepared and implemented. Part 3 provides feedback on the proposed timelines for the preparation and implementation of the pollution prevention plans. Part 4 provides feedback on the issues related to the administration of pollution prevention plans.

In addition, a number of broad-based and cross-cutting themes emerged during the consultation. These are presented in **Chapter 2** of the report titled "Overarching Themes." These include: Harmonization and Working Together; Compliance and Enforcement; Performance Measurement; Long-term Strategy Implications; and Funding.

Please refer to Appendix D for a list of Environment Canada's Regional Contacts for this initiative.

The Consultation Process

To support the consultations, Environment Canada prepared two documents which were provided to participants prior to the consultation sessions. The *Proposed Risk Management Strategy addressing Ammonia, Inorganic Chloramines and Chlorinated Wastewater Effluents under CEPA 1999* outlines the proposed approach based on pollution prevention planning under CEPA 1999 as a first step, and on the development of a long-term strategy for wastewater effluents. The *Pollution Prevention Planning for Ammonia, Inorganic Chloramines and Chlorinated Wastewater Effluents Working Document* provides details on the proposed Notice that would require preparation and implementation of pollution prevention plans. The two documents are available on Environment Canada's website at:

http://www.ec.gc.ca/CEPARegistry/documents/part/mwwe/summary.cfm

or
http://www.ec.gc.ca/nopp/docs/consult/wasteWater/en/index.cfm

Representatives from provinces and territories, municipalities, industry associations, environmental groups and other interested parties were invited. With regard to municipalities, Environment Canada invited representatives from centres operating collection systems or treatment plants discharging more than 5,000 m^3/day. This approach was intended to engage those directly affected by the proposed approach as well as to alert others of Environment Canada's intention to develop a long-term strategy for wastewater effluents.

The consultation sessions were designed to be participative and to enable open discussion and feedback. Following the first session held in Saskatoon, Saskatchewan, the agenda was revised to spend more time on the implementation of the pollution prevention planning instrument. Each of the following sessions were structured in a similar fashion.

Environment Canada staff made presentations in plenary sessions setting the context of the initiative with regard to the requirements of CEPA 1999. Staff outlined the proposed risk management strategy addressing ammonia, inorganic chloramines and chlorinated wastewater effluents and focusing on the proposed elements of the Notice that would require pollution prevention plans to be prepared and implemented. In addition, participants were informed of Environment Canada's intention to work towards a long-term strategy for managing wastewater effluents.

Participants were provided an opportunity to seek clarifications through question and answer sessions, discuss the elements of the proposed approach in a small group setting, and provide feedback through plenary reporting and written reports. In addition, participants were invited to submit written comments within two weeks after each session.

A total of 365 invited participants attended the consultation sessions held at 13 centres across Canada. A full list of participants is included in this report (Appendix A). In addition, Environment Canada received 26 written submissions from municipalities, professional and environmental organizations; a list of those who made submissions is provided in Appendix B.

The following is a list of the centres where the consultation sessions were held with the respective dates:

- Saskatoon, Saskatchewan (August 20, 2002)
- St. John's, Newfoundland and Labrador (September 9, 2002)
- Moncton, New Brunswick (September 11, 2002)
- Toronto, Ontario (September 23, 2002)
- London, Ontario (September 24, 2002)

- Sudbury, Ontario (September 26, 2002)
- Saint-Hyacinthe, Quebec (October 2, 2002)
- Winnipeg, Manitoba (October 8, 2002)
- Edmonton, Alberta (October 10, 2002)
- Nanaimo, British Columbia (October 24, 2002)
- Vancouver, British Columbia (October 25, 2002)
- Yellowknife, Northwest Territories (October 31, 2002)
- Whitehorse, Yukon (November 4, 2002)

At the conclusion of each session, participants were invited to complete an evaluation form on the consultation format and process. Generally, participants found that the objectives of the consultations had been achieved. Participants noted that the presentations and information provided by Environment Canada had been useful. They also noted that the process enabled open and frank discussion, the opportunity for a wide range of views to be heard and the ability to provide follow-up written submissions. Many participants expressed the desire to remain involved through the preparation of the Final Notice and on the development of the long-term strategy.

Timelines

A fundamental element of the approach proposed by Environment Canada relates to the legislated timelines under CEPA 1999. With regard to the substances covered by this initiative, the Ministers of the Environment and Health published on June 23, 2001[2] their proposed recommendation that Ammonia, Inorganic chloramines, Textile mill effluents, and Nonylphenol and its ethoxylates be added to the List of Toxic Substances, Schedule 1, under CEPA 1999. On March 4, 1999, Chlorinated wastewater effluents was added to Schedule 1[3] based on a previous risk assessment. CEPA 1999 requires the Minister of the Environment to propose preventive or control instruments for these substances within 24 months of the Ministers' recommendation (before June 23, 2003) and to finalize these instruments within a further 18 months (before December 23, 2004). **Figure 1** illustrates the critical dates. In addition, Environment Canada recognizes that addressing the risks associated with effluents from municipal wastewater systems and other wastewater systems is a complex issue and that the proposed requirement to prepare and implement pollution prevention plans under CEPA 1999 is only part of the solution. This first step must be taken within the context of developing a long-term strategy which considers both the current and future "CEPA-toxic" substances and the requirements of the *Fisheries Act*. **Figure 2** illustrates the time frames that Environment Canada currently envisions

[2] Government of Canada, Canada Gazette, Part I, Vol. 135, No. 25, pp. 2255-2262, June 23, 2001 (http://canada.gc.ca/gazette/hompar1-2001_e.html)
[3] Government of Canada, Canada Gazette, Part II, Vol. 133, No. 6, pp. 688-689, March 4, 1999 (http://canada.gc.ca/gazette/hompar2-1999_e.html)

for the long-term strategy. The outcome will be fair, consistent and predictable application of both CEPA 1999 and the *Fisheries Act*.

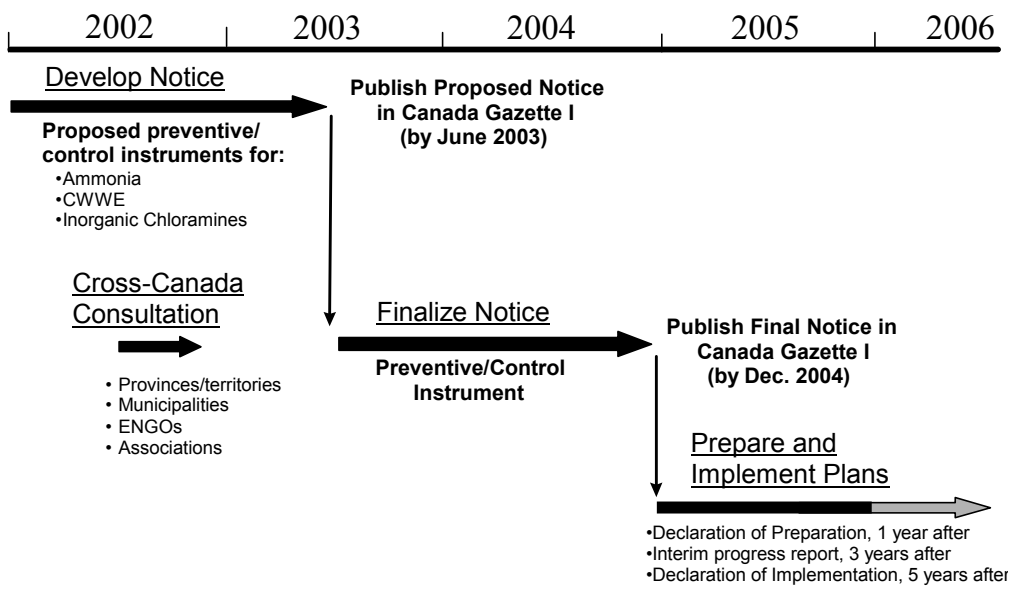

Figure 1. Timelines for the development and implementation of pollution prevention planning under CEPA 1999, as a first step addressing ammonia, inorganic chloramines and chlorinated wastewater effluents

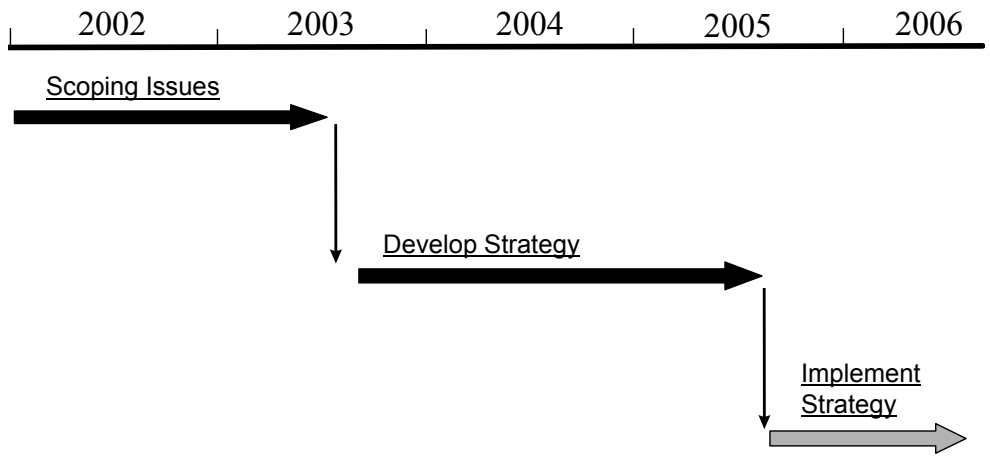

Figure 2. Environment Canada's proposed timelines for the development of a long-term strategy for managing wastewater effluents

Chapter 1 - Participant Feedback on the Proposed Instrument

Part 1 FOCUS ON: RISK MANAGEMENT OBJECTIVES

At each consultation session, participants were presented with the following Risk Management Objectives:

Substance(s)	Risk Management Objective
Ammonia	No acute lethality from ammonia in the discharge or in the environment, based on a site-specific discharge limit.
Inorganic Chloramines and Chlorinated Wastewater Effluents	No acute lethality from inorganic chloramines or chlorinated wastewater effluents as represented by a discharge limit of 20 µg/L total residual chlorine.

Participants were asked the following questions, which they discussed in small groups:

Are the proposed risk management objectives appropriate?
What suggestions for improvement do you have?

After the group discussion, spokespersons reported back in plenary debriefs. The following summarizes the nature of the participants' feedback to Environment Canada.

Feedback from Participants

While many participants across the country felt that the proposed risk management objectives were acceptable and that they represented a good first step, many others had strong concerns that the risk management objectives were not appropriate.

Across the country, participants expressed a sense that the "big picture" with respect to managing all aspects of wastewater systems had not been fully considered. Participants noted that characteristics of the receiving environment, including its assimilative capacity, other sources of pollution (such as agriculture, industry, mining, etc.), seasonality, chronic effects of substances – and their interrelationships – all need to play a part in setting the risk management objectives.

It is also important that the setting of risk management objectives be based on "good science." Many participants felt the risk management objectives were

based on arbitrary or artificial numbers. Others questioned the "risk" that was applied to the setting of the objectives: for example, were socio-economic and environmental risks considered, were risks determined through lab or field measurements? Many participants expressed the need to see a better rationale supporting the risk management objectives.

Significant concern was expressed in a number of sessions that municipalities were being targeted over other major sources, particularly agricultural sources of ammonia. In Yellowknife, ammonia from mining activities was also identified as a source of concern. Some participants indicated that combined sewers overflows (CSOs) and wastewater treatment plant bypasses should be included in pollution prevention planning at the outset, rather than waiting for the long-term strategy.

In some sessions, most notably in British Columbia, participants felt that the risk management objectives did not go far enough toward protecting the environment. There was concern that the use of average pH, ammonia concentration and total residual chlorine values may not be adequately protective since they do not represent worst case conditions. A further suggestion was that risk management objectives should be based on "zero toxicity and zero discharge."

Inorganic Chloramines and Chlorinated Wastewater Effluents

In some sessions, the use of chlorine for the purposes of disinfecting wastewater effluents was not considered an issue. For example, participants in the Nanaimo session noted that "many Vancouver Island treatment plants don't chlorinate because they discharge to the marine environment." Participants in Yellowknife and Edmonton also observed that typically no chlorination takes place in their areas. In Quebec, participants stated that there is a moratorium on chlorination as a means of disinfecting wastewater effluents. In Ontario, a participant questioned why organic chloramines had not been included in the risk management objective.

In provinces affected by the risk management objective for inorganic chloramines and chlorinated wastewater effluents, many participants expressed concern that the risk management objective is too close to the detection limit to provide accurate and meaningful readings. Some participants would prefer a risk management objective that reflects what can be measured using field equipment. For example, a participant in British Columbia stated that "a lab manager reports that 50 µg/L is the detection limit for total residual chlorine on a good day." Another participant in British Columbia suggested that 40-50 µg/L would be a more practical detection limit for total residual chlorine; in Edmonton, 100 µg/L was suggested. A participant noted the need for more detail on the frequency of sampling required. Some suggested measuring the dechlorinating agent residual as an alternative to overcome the difficulties with measuring total residual chlorine.

Participants on both coasts were very concerned that there was no differentiation between marine and fresh-water receiving environments for impacts of chlorinated wastewater effluents and inorganic chloramines. It was suggested that the risk management objective should be adjusted for marine environments.

In Ontario, participants wanted assurance that the proposed risk management objective for inorganic chloramines and chlorinated wastewater effluent be in line with the provincial Certificates of Approvals.

Concern was expressed in Saskatchewan that the pollution prevention planning proposal "appears to be forcing the abandonment of chlorination. If so, then there will need to be some other disinfection approach." Participants in Edmonton suggested that "no chlorine compounds should be used for disinfection – other technologies are available." Some participants raised concerns about a consequence of replacing chlorine disinfection with higher energy-requiring technologies such as ultraviolet disinfection. Linkages were made with the requirements to reduce energy use to meet Kyoto targets.

In some of the sessions, Environment Canada staff clarified that the proposed risk management objective for inorganic chloramines and chlorinated wastewater effluents does not apply to drinking water systems.

Ammonia

The risk management objective for ammonia was more contentious than for inorganic chloramines and chlorinated wastewater effluents. Much discussion and divergence of opinions focused around the following issues:

- Dilution and the use of mixing zones
- Site specific considerations and characteristics of the receiving environment
- Ammonia control – at what cost?
- Temperature and seasonality
- Acute vs. chronic effects
- Selection of species to ascertain acute toxicity
- Substance-specific approach

Dilution and the use of mixing zones

Across the country, there was a strong call for the consideration of mixing zones, or the use of dilution factors, in the calculation of the risk management objective for ammonia. In the Prairie provinces, for example, the issue of mixing zones was described as the "biggest hurdle" facing acceptance of the risk management objective for ammonia.

Across the country, participants stressed the need to take into account the assimilative capacity of the receiving environment. The participants expressing

this view felt that the proposed risk management objective does not reflect the "real world" in which toxicity may be reduced by dilution and the nature (especially the assimilative capacity) of the receiving water. In Winnipeg, it was noted that the ammonia risk management objective needs to be established based on appropriate science-based, site-specific requirements.

In many sessions, participants argued that immediate dilution of the effluent in the receiving environment eliminates the acute toxicity of ammonia. It was recognized that higher pH correlates with increases in the toxicity of ammonia. Some participants indicated that instead of using the worst-case scenario (i.e., using the higher of the effluent or receiving environment pH) as proposed by Environment Canada, a best-case scenario be used. In Ontario, for example, participants suggested that "pH should be measured downstream from the effluent pipe, as the effluent may lower pH and render ammonia less toxic." Some participants also questioned the "logic" of the proposed approach of using the higher of effluent or receiving environment pH in determining the discharge limit for ammonia if dilution is not to be taken into account.

Conversely, others felt strongly that dilution and mixing zones should not influence the setting of risk management objectives. For example, a participant in British Columbia stated that, "assuming dilution mitigates toxicity is not good enough, there needs to be at least 1:20 dilution to mitigate chronic toxicity."

In some sessions, it was suggested that a pollution control approach for ammonia is preferred over pollution prevention, as "there is little that can be done to prevent ammonia formation." In particular, a participant in Toronto stated that only control strategies can have an effect on the amount of ammonia discharged in the effluent. Accordingly it was further stated that referring to pollution prevention for ammonia is inappropriate and that "Environment Canada should call a spade a spade." Another participant recommended that Environment Canada develop regulations to enforce compliance for substances discharged in effluents instead of investing years in the pollution prevention planning process.

In Ontario, the Prairie provinces, the Territories and Quebec, participants pointed to the standards and processes used by the United States Environmental Protection Agency (USEPA), which take into account mixing zones in establishing discharge limits for ammonia. It was recommended that Environment Canada investigate the approach followed by the USEPA.

In the Edmonton session, participants suggested applying mixing zones on a site-specific basis. A suggestion was made to follow a model used by the City of Calgary which considers a toxic zone for acute toxicity and a mixing zone, in this case no larger than one-third of the receiving stream, for chronic effects.

Site specific conditions and characteristics of the receiving environment
Many participants across the country felt that a "one size fits all" approach is not appropriate in managing ammonia. The various characteristics of the receiving water at the site of discharge, such as: extent of plume, mixing potential, assimilative capacity, presence of other substances, the chemistry of the water, uses of the water body, depth, flow, natural, geographical and environmental conditions including weather, and fish habitat utilization all need to be considered on a site-specific basis. In a number of sessions, participants commented that ammonia limits should be based on watershed management planning principles that evaluate all point and non-point sources.

The issue was particularly highlighted in reference to the differences between marine and freshwater environments. In many sessions, participants stressed that the risk management objective for ammonia does not address the influence of salinity on the toxicity of ammonia in marine environments. In British Columbia, for example, participants suggested that the risk management objective for ammonia be set higher for marine receiving environments than for fresh water ones. Participants suggested that British Columbia's Municipal Sewage Regulation and Liquid Waste Management Planning process under the *Waste Management Act* be used as a guide to determine ammonia toxicity.

In some sessions, participants suggested that a national standard, such as a risk management objective be established, which could then be adjusted either up or down to allow for site specific conditions.

The proposed approach strictly based on pollutants concentrations in the final effluent raised some concerns in Ontario. Participants made the point that municipalities that practice water conservation, or that have made an effort to keep storm water and ground water out of the collection systems, should not be penalized.

Temperature and seasonality
The diversity of Canada in terms of climate clearly emerged during the consultations – and these differences influence circumstances and perspective. There was also concern expressed that climate change will impact on precipitation patterns and water availability.

In Yellowknife, participants observed "that things are different in the North" – temperature and permafrost, for example, are significant considerations. In the Yukon, participants noted that during the summer months there is a large influx of tourists which generates large volumes of portable toilet wastes. Along with the wastes hauled from septic systems, the increased amount of wastes discharged to wastewater systems may result in short-term ammonia spikes. Participants felt that the proposed methodology for averaging is not appropriate, and recommended the use of maximum daily ammonia concentrations to capture seasonality. Participants also note that during the winter months natural stream

flows are reduced and in some case discharges may happen on a frozen water body. In Whitehorse participants observed that "watersheds in northern ecosystems may need higher standards because pollutants may remain trapped in rivers longer due to ice cover, less volatilization."

In Ontario, participants noted that "temperature is very important since – nitrification and denitrification microorganisms are temperature sensitive." These participants would like to see "seasonally-related" risk management objectives that consider the variability of the effluent and the receiving water. Also in Ontario, participants commented that the temperature of effluent can have a huge impact on the infrastructure required for treatment. Participants noted that, for example, there would be significant capital and operating costs associated with winter ammonia removal related to the demand for energy to meet high dissolved oxygen requirements and wondered if it was really necessary.

In Moncton, participants noted that the "governing criteria should take into account dilution during dry weather flow, particularly for tidal receiving waters."

Ammonia control – at what cost?

A number of participants in a number of sessions noted that the costs associated with reducing ammonia levels could possibly outweigh the benefit to the environment. "While there are relatively low costs associated with total residual chlorine, there are significant costs involved for ammonia – these costs need to reflect real benefits."

Some participants argued that the additional energy required for nitrification/de-nitrification to meet the risk management objective for ammonia would lead to increased greenhouse gas emissions, thereby negating or eroding any environmental benefit. For example, a participant in British Columbia stated that, "in some cases, ammonia is just not causing a problem, and stripping out ammonia requires a significant increase in energy inputs to the treatment process, resulting in the generation of more greenhouse gases."

In British Columbia, a participant suggested that "decision making on the appropriateness or achievability of the risk management objectives should be guided by cost-benefit analysis." In Ontario, it was noted that "the costs and benefits have to be in line."

Acute vs. chronic effects

There was a divergence of opinion with regard to the objective of no acute lethality. Some participants felt that it was a suitable precautionary approach. In Quebec, for example, participants noted that stringent acute lethality standards help reduce chronic toxicity.

In many sessions, participants felt that the chronic effects of substances, particularly ammonia, need to be considered. Concern was expressed that total

loadings and the chemistry of the receiving water need to be considered to protect against chronic effects.

Similarly, some participants were concerned with the total cumulative effect on the receiving environment of all pollutants, including other "CEPA-toxic" substances, from all sources, not just municipal wastewater. In Ontario, participants noted that "it is the lethality from whole effluent that is important." In Edmonton, this lack of attention to cumulative effects was attributed to the facility-focused nature of the proposed approach.

In British Columbia, it was noted that, while it is recognized that the proposed ammonia RMO, based on acute lethality, is simpler than the provincial back calculation approach, it does not protect the environment at lower dilution ratios and could result in costly and unnecessary treatment where dilution is high. On the other hand, it was also noted that it cannot be assumed that dilution will be sufficiently effective in mitigating chronic effects.

Selection of species to ascertain acute toxicity

Many participants across the country emphasized that the fish species used to determine the discharge limit should be site specific, rather than using the standard rainbow trout test. In a country as diverse as Canada, one fish species cannot apply to all regions. In particular, differentiation must be made between marine and freshwater species. As participants in Saskatoon put it, "species selection is important because of differences in receiving waters – rainbow trout, for example, is not a local species in all waters." In British Columbia, a comment was made that "if a particular receiving environment was known to support a very sensitive species, this species should be the one used to determine the risk management objective." This was echoed in Winnipeg, where participants noted the species selected could be one that has been excluded from a given environment over time due to a degradation in water quality.

Participants were also concerned that the selection of fish species be done at the outset of the initiative. Some participants observed that the LC50 level may not be stringent enough – "you should not accept 50% mortality" (Saskatoon). Some participants noted that the species selected should occur upstream of the discharge point.

The issue of a possible artifact in the standard procedure used for testing acute lethality in liquid effluents related to ammonia and "pH drift" was raised in Ontario and in British Columbia.

In the Prairie provinces, participants stated that the most sensitive, naturally indigenous fish species in the receiving watershed should be used for acute lethality testing. In British Columbia participants asked about the feasibility of using marine species for setting ammonia discharge objectives for discharges to the marine environment. In the Yukon a comment was made that the

unavailability of data is not a legitimate excuse to use a species that is not relevant.

Substance-specific approach

Some participants were concerned that the proposed instrument does not go far enough in protecting the environment. Some participants felt that by addressing only chlorine and ammonia from municipal wastewater effluents it misses the "big picture" of other sources and other substances. Some participants suggested that other sources and other priority pollutants be included in the approach from the outset, rather than waiting for the long-term strategy. Participants in British Columbia were concerned about the apparent lack of clear linkages between the risk management processes for nonylphenol and its ethoxylates and textile mill effluents and the other toxic substances in municipal wastewater.

Part 2 FOCUS ON: SELECTION CRITERIA/THRESHOLD

At each consultation session, participants were presented with the following proposed criteria to select the wastewater systems for which pollution prevention plans will be prepared and implemented under CEPA 1999:

Proposed criteria:

Person or class of persons required to prepare and implement a pollution prevention plan: Any person who owns or operates a wastewater collection system that, on the date of publication of the final notice, discharges treated or untreated wastewater effluent to surface water or to any surface location where it enters, or may enter, surface water where:

(1) (A) chlorine or chlorine compounds are used on a regular or seasonal basis to disinfect the wastewater prior to discharge, **or;**

(B) the average total ammonia concentration in the discharge exceeds 20 mg/L; (The average total ammonia concentration is the arithmetic mean of at least 3 monthly averages over the months of June, July, August and September. The monthly average is the arithmetic mean of at least 3 samples taken at least one day apart), **and;**

(2) the annual average effluent discharge volume is 10,000 m^3/day or greater, **and;**
(3) the effluent does not meet the proposed risk management objectives.

Participants were asked the following questions:

Are the criteria for the selection of wastewater systems appropriate? What suggestion do you have?

Feedback from participants

In many sessions across the country, participants described the proposed criteria for selecting systems to prepare a pollution prevention plan as "good starting points." There were many participants, however, who expressed concerns about the selection and application of the criteria.

Many of the issues and concerns raised were similar to those regarding the risk management objectives (RMOs), such as mixing zones, site specific considerations, and receiving environment characteristics. Many participants again noted that there seemed to be an arbitrariness and a lack of a sound science foundation to the proposed numbers. Some participants recommended

that the criteria should target jurisdictions that do not have wastewater treatment systems to begin with.

During the sessions the difference between the proposed RMO and criteria for ammonia was noted. For example, the 20 mg/L of ammonia (calculated average) is used as part of the criteria to select the entities required to prepare and implement pollution prevention plans. The criteria value of 20 mg/L is not part of the calculation to determine the site specific risk management objective for ammonia.

Site specific conditions and characteristics of the receiving environment

Many participants noted that a site specific approach would accommodate geographical and climatic variability, such as permafrost in the north and extreme summer temperatures in the south. As participants in Yellowknife stated, "cold climate issues need to be considered – everybody should not have to meet the same standards."

Some participants reiterated the need to reflect the sensitivity and uniqueness of the receiving environment where the discharge is occurring. In British Columbia, there was discussion that the receiving environment characteristics (such as salinity, flow, available dilution, sensitive species) should be considered in the selection of wastewater systems. A suggestion was made to take a tiered approach to the criteria, in order to accommodate different situations. In the territories, participants noted that the specifics of a site should be reflected in either more stringent or less stringent requirements.

There was also some support for an approach that would consider all sources entering a watershed. For example, participants in the Atlantic provinces observed the need to have criteria that would include all of the wastewater effluents that are discharged into a watershed. In the Atlantic provinces, it was suggested that Environment Canada identify the "hot spots" (i.e., environmentally sensitive areas and areas of known/high pollution) for immediate priority. In Ontario, participants suggested that the focus should be on "stressed environments." Municipalities should be able to use receiving water studies to determine whether ammonia is an issue.

In Quebec, participants suggested that concentration limits be based on the capacity of the receiving water and not on administrative limits.

Selection of targeted entities

In many sessions, participants wondered why municipalities were being targeted over other sources, particularly the agricultural sector. In some sessions, this view was strongly expressed. In Quebec, for example, participants cautioned against focusing on the urban environment – agriculture needs to be considered.

Some participants felt that other sources, such as CSOs, farm runoff, by-passes, no treatment and primary treatment plants, represent a much more significant environmental risk. In Quebec, participants observed "there are more important problems to be addressed – control of sewer overflows, run-off problems. A lot of pollution is created by sewer overflows following rain."

Concern was expressed that the proposed approach may divert funds and efforts away from solutions for addressing other pollution sources and real environmental problems. In Ontario, for example, participants noted that, "by its nature, this plan will emphasize spending on improving secondary treatment plants, rather than spending on primary plants with no disinfection."

In the Prairie provinces, participants were concerned that only a small number of the over 3000 wastewater systems in Canada would be part of the process to prepare and implement pollution prevention plans.

Chlorination criterion

Many participants in many sessions felt that the proposed criterion for chlorination is acceptable.

However, some participants felt that the goal should be the full elimination of the use of chlorine. For example, in Quebec, participants suggested that the use of chlorine be a stand-alone trigger (i.e., any facility that chlorinates must prepare a pollution prevention plan – the 10,000 m^3/day threshold would not apply to a facility employing chlorination). Participants noted that "this should be an incentive to stop chlorinating." Participants in Quebec also encouraged Environment Canada to support the moratorium on wastewater chlorination in Quebec and promote it throughout Canada.

In Saskatoon, participants proposed that "it may be necessary to identify industries that use chlorine in a process that is not for disinfection. This should be indicated in the documentation."

Similarly, some participants see a need to shift the focus from the use of chlorine in the wastewater facility onto chlorinated water that may be entering a facility from a connected industry or plant. For example, in Quebec participants asked, "what about cities that do not use chlorine but where plants connected to the sewer system discharge large quantities of chlorine? Why not target these plants, since they have an impact on the environment?"

Ammonia criterion

In British Columbia some participants felt that ammonia should not be used as a selection criterion. Others recommended that the criterion be set higher; however, some participants felt that it should be set lower. The range extended

from 10 to 50 mg/L. In Quebec, participants felt that "the ammonia criterion of 20 mg/L is not directly related to the objective of no acute toxicity – this therefore poses a serious anomaly." In Ontario, participants suggested that the National Pollutant Release Inventory threshold for ammonia be used as the criterion.

Concern was expressed that the use of ammonia as both a criterion and a risk management objective would lead to "confusion." In Ontario, participants expressed concerns regarding the design of the flowchart used during the presentations, which they felt gave the impression that ammonia is the substance driving this initiative.

The characteristics of the receiving environment, in particular dilution and assimilative capacity, were seen by many participants as important factors that need to be considered in the calculation of the ammonia criterion. The lower sensitivity of marine environments with respect to ammonia was again emphasized by participants.

Concerns related to temperature were also raised in many sessions. Clarification was sought in some sessions regarding why the effect of temperature was not included in the proposed approach for ammonia.

The procedures for measuring ammonia and pH levels (monthly averaging, sample collection, timing of samples, etc.) was another area of concern and where clarification was sought. It was suggested that the criterion should not extrapolate results to the entire year. Participants would prefer that the Notice contain a specific year for the data used to determine annual ammonia concentration. Some participants felt that the number of samples specified is too small.

A key discussion area around the criterion for ammonia focused on other sources of the substance. In some sessions, the agricultural sector, including intensive livestock operations, was seen to be a major contributor, while other sessions noted mining and industry as significant sources of ammonia. Again, participants questioned the singling out of municipal wastewater systems. In many sessions, participants expressed a perception that the criteria and the targeting of municipal wastewater rather than other sources had been solely based on Environment Canada's capacity to administer the program. In the Prairie provinces, for example, participants noted that "criteria should be driven by environmental impacts, not just numbers." There is a need to identify and characterize non-point sources.

Some participants noted that the "concentration of ammonia is a poor criterion as it depends on per capita water use; and therefore discourages water conservation."

Many participants noted that it is important that the criterion for ammonia be harmonized with any provincial requirement. (See Chapter 2 of this report for the discussion on harmonization.)

Volume criteria

There was a divergence of opinion regarding the criterion for volume. While many participants supported it as a good starting point, others expressed concerns that as a first step it did not go far enough. Many participants emphasized that the proposed criterion for volume would not capture a large enough portion of the total volume of flow in Canada. In some sessions, participants recommended that a flow criterion set at 5,000 m^3/day would be a more appropriate first step. In British Columbia, for example, there was a suggestion that 75 percent of the wastewater volume be targeted in the short term and 100 percent in the long term. Many participants observed that the long-term strategy should expand to capture all systems.

Similarly, many participants expressed concern that the proposed criterion for volume would not capture the smaller but potentially significant polluters. For example, participants in the Atlantic sessions stated, "pollution is pollution – smaller systems may be polluting more in some cases." This was echoed in British Columbia, where it was stated that the volume criterion would not capture those smaller communities that may be having a greater impact on the environment, for example through cumulative effects within a watershed or region. Conversely, it was heard in British Columbia that larger coastal communities with well-designed outfalls do not impact the environment. It was suggested that the volume criterion consider the ratio between the discharge volume and flow in the receiving environment. Annual or seasonal discharges from lagoon systems was an issue raised in Saskatoon. A participant noted that "the impact of 100,000 m^3 per day, for one day, would be larger" than an average annual discharge of 10,000 m^3/day.

In many sessions, participants reiterated the concern that other significant sources, particularly agricultural sources, were not being captured. In Quebec, for example, participants questioned why the proposed criteria (especially the volume criterion) were not applied to the agriculture sector, "which is an extremely heavy polluter in terms of nitrogen, or to agri-food plants that are not connected to a municipal system." Participants suggested that the volume criterion be left in place for municipalities, "but something else should be adopted for the other two."

The sensitivity of the receiving environment was also a consideration for some participants. In Ontario, for example, participants observed that "while the 10,000 m^3/day criterion aims to capture a significant number of facilities, this approach may not capture flows to the most sensitive receivers." Participants there suggested that "priorities should be set based on environmental benefit, not flow,

and a measure of loading must accompany the flow criteria in order to capture low flow plants that have high ammonia."

In many sessions, the pertinence of volume of flow as a criterion was raised. In Edmonton, participants stated that "volume of flow is not a relevant criteria; should look at mass discharges." Similarly, in British Columbia, some participants noted that all discharges within a system should be considered in calculating flow volume. Again, some participants were concerned that the volume criterion is based on a wish to capture an administratively manageable number of facilities, rather than an environmental goal. In British Columbia there was a comment that, "the rollout of this strategy seems to be governed by Environment Canada capacity, not by public need."

In the Atlantic provinces, participants were particularly concerned that facilities discharging raw sewage would be selected based on the criteria. "The approach must 'catch' those who are not doing any treatment. More emphasis should be put on communities discharging raw sewage." Participants noted that, "criteria related to the requirement for pollution prevention planning should not be a barrier to addressing untreated effluents."

In the Atlantic provinces, concern was raised regarding the amalgamation of municipalities and pollution prevention planning. For example, a number of communities could have flow volumes under the criterion, yet discharge into the same coastline or embayment. Participants cautioned that the trend toward amalgamation could be halted to avoid triggering facilities.

In many sessions, participants noted the importance of providing information in advance to owners/operators of wastewater systems which are currently under the criterion for volume but could be eventually part of the process. In Edmonton, participants noted that, "Environment Canada should serve notice on smaller communities that more stringent parameters will apply in the future that will have an impact on their treatment processes."

Part 3 FOCUS ON: TIMELINES AND IMPLEMENTATION

At each consultation session, timelines were presented to participants for the preparation and implementation of the pollution prevention plans:

Proposed timelines

12 months after the publication of the final Notice:
Declaration of Preparation. A declaration, submitted to Environment Canada by owner/operators of selected systems, indicating that the pollution prevention plan has been prepared and is being implemented.

3 years after the publication of the final Notice:
Interim Progress Report submitted to Environment Canada by owner/operators of selected systems.

5 years after the publication of the final Notice:
Declaration of Implementation. A declaration, submitted to Environment Canada by owner/operators of selected systems indicating that the implementation of the pollution prevention plan has been completed.

Participants were asked the following questions:

Are the timelines for the preparation and implementation of the plan adequate?

Any suggestions?

Feedback from participants

There was a divergence of opinion across the country with regard to the proposed timelines. Many participants felt the timelines as proposed were acceptable, others felt they were too generous and that they failed to communicate a sense of urgency. In the Atlantic provinces, for example, participants noted that "timelines should be hard and fast or plans will be too soft and won't be met."

It was also noted that the time required depends on where one is starting from. For some facilities/regions, the time may be adequate, while for others it will be insufficient. Participants also noted that the proposed timelines may be especially difficult for owners who have many facilities that require plans. In addition, timelines may need to be adjusted to accommodate large-scale projects.

Many participants expressed strong concern that the timelines do not provide adequate time for budgeting and planning for infrastructure changes that may be required to support pollution prevention plans in a municipal setting. In many sessions, participants commented that municipalities have provincial approval processes that must be followed on projects such as this initiative. These processes may include the striking of technical committees, requests for proposals, hiring of consultants, presentations to budget committees, and public consultations. In addition, there are set budget periods when fiscal decisions are made. In British Columbia, a participant noted that "planning, in the formal sense, in British Columbia can easily take three to five years." Participants in many sessions recommended that the timelines associated with pollution prevention planning be tied to municipal budgeting and planning cycles. Similarly, timelines need to mesh with any applicable provincial requirements. Many participants suggested that the timeline for preparation of pollution prevention plans be changed from one year to two years.

Another concern for municipalities is capacity – there are many other "big" issues on the table across the country at this time that are placing pressure on municipalities. Drinking water is one example that was frequently mentioned. In Ontario, for example, participants suggested that "the timelines need to be coordinated with bigger scale municipal undertakings." Similarly, with so many facilities requiring plans at the same time, participants felt there would be a bottleneck created in terms of the availability of consultants, which in turn might increase fees. A phased-in approach was suggested.

Some participants noted that the timelines need to be clarified and made "firmer" in terms of which end points are negotiable or flexible and which are fixed, and in terms of what is required. Similarly, a clear definition of "implementation" is needed.

There was also some concern that the timelines could restrict the investigation and application of new technologies. In Ontario, participants noted that "time needs to be provided to explore low cost options and emerging technologies, such as attached growth for nitrification."

There was strong concern in many sessions that the flexibility of the timelines (particularly the lack of stipulated deadlines for the achievement of risk management objectives and the option to apply for waivers), would result in an instrument that lacks "teeth."

Part 4 FOCUS ON: ADMINISTRATION

Participants were asked at the end of each session:

> *What advice do you have for Environment Canada on the administration of Pollution Prevention planning under CEPA 1999?*

Feedback from participants

Participants across the country offered Environment Canada suggestions and advice for the administration and continued roll-out of the initiative.

Information Sharing
Many participants noted that there is a lot of data and information generated by many different programs, sources and jurisdictions, and this information should be accessible and exchanged amongst stakeholders. International information should also be exchanged, in particular information on climate change, circumpolar data, etc.

Suggestions around information sharing included:

- Environment Canada should establish an information clearinghouse to facilitate the exchange of information by developing a website or other mechanism.
- The Canadian Institute for Environmental Law and Policy (CIELAP) could act as a clearinghouse on pollution prevention information.
- Draw on existing data and information, such as:
    - The Canadian Water and Wastewater Association (CWWA) database on technologies.
    - Policies of the United States Environmental Protection Agency (USEPA).
    - Case studies (pollution prevention studies, demonstrations of small/medium/large facilities).

Communication and Education
Many participants felt that pollution prevention planning should be supported with communication and education aimed at both the general public and at politicians and decision makers. A key goal would be to build buy-in with these audiences.

In addition, stakeholders need ongoing information, especially as the long-term strategy develops. Similarly, wastewater systems not yet meeting the selection criteria but which will likely be captured under the long-term strategy should be informed now and continue to be "in the loop."

Some participants felt this communication role could be taken on by others in addition to Environment Canada. For example, at the Vancouver session, the British Columbia Water and Waste Association volunteered to "help promote the

message about the new proposed approach with communities throughout British Columbia and the Yukon."

In some sessions participants proposed the concept of pollution prevention planning pilot projects as a valuable exercise for Environment Canada to consider.

Technical Assistance and Support

There was a strong call for Environment Canada to provide technical assistance and support for municipalities as they develop pollution prevention plans. Such support would include sample P2 plans, advice and feedback, training, and workshops.

Information on costs, including cost/benefit analyses, should be provided as soon as possible. In the Atlantic provinces, participants would like access to "a model pollution prevention plan with information for financial impact analysis."

Chapter 2 - Overarching Themes

A number of key themes emerged during the consultations that were of a cross-cutting nature. These tended to be issues that spoke to the nature and approach of the instrument and its development and implementation in relation to wastewater effluents, rather than to the details or technical requirements. These issues also related to the long-term strategy.

In this report, these issues have been summarized under the following overarching themes:

- Harmonization and Working Together
- Compliance and Enforcement
- Performance Measurement
- Long-term Strategy Implications
- Funding

Harmonization and Working Together

Across the country, participants emphasized that the proposed approach needs to be harmonized with provincial/territorial environmental regulations and requirements for wastewater effluents. In addition, the proposed instrument must work in harmony with the requirements of the *Fisheries Act*, in order to provide "regulatory certainty." Participants would like to see a "one-window approach" to wastewater management. For example, in Ontario participants felt that Environment Canada's goal should be the development of a "single, consolidated approach to municipal wastewater effluent that recognizes other priorities and allows for the best allocation of resources."

One group advocated an alternative to this theme, suggesting Environment Canada should require provinces and territories to develop and file the pollution prevention plans on behalf of the municipalities.

Generally, participants believe Environment Canada needs to work closely with other federal departments, including the Department of Fisheries and Oceans, Health Canada and Industry Canada, provincial environment ministries, industry and other stakeholders.

Environment Canada and the Provinces/Territories

Participants noted that it is important that Environment Canada work together with the provincial and territorial governments to avoid "duplication, conflict and confusion." Concern was expressed that municipalities could end up reporting to two different parties (province/territory and the federal government) using different standards, practices and processes. Participants noted that harmonization should apply to approaches, processes and substances. In the

Atlantic sessions, participants noted that the risk management objectives in particular should be coordinated with other regulations and guidelines.

The issue of dilution and mixing zones was raised as a key issue where potential conflict between provincial requirements and the proposed approach exists. Participants at a number of sessions reported that provincial/territorial environmental regulations for municipal wastewater effluent consider mixing zones. In British Columbia, for example, some participants noted that requirements under the provincial *Waste Management Act,* which includes the Municipal Sewage Regulation and the Liquid Waste Management Planning (LWMP) process, allows dilution to be considered. Participants questioned how harmonization could be achieved given that the approach proposed by Environment Canada does not consider dilution. Participants stated that local governments have placed considerable investment into LWMP and that "everything is managed according to the concept of initial dilution zones." It was suggested that plans under the provincial LWMP process must be acceptable as a substitute for a pollution prevention plan. In the St. John's session, participants reported that Newfoundland and Labrador has "a regulation which considers the end of pipe discharges and a policy document which reflects on the impacts of mixing zone considerations."

There was some concern that the instrument proposed by Environment Canada would duplicate or complicate provincial efforts in managing wastewater effluents. Participants in some sessions noted that provincial requirements and regulations are already well-developed and managed through, for example, Certificates of Approval for wastewater facilities. In Quebec, participants observed that "changes to treatment plants require an application for an authorization certificate issued by the provincial government." In the Prairie provinces, participants were concerned that a municipality could develop a plan that is in conflict with a provincial authority. This concern was echoed in Ontario, where participants cautioned that the provincial Certificates of Approval may be in conflict with pollution prevention planning requirements, or there may be the need for plants to re-certify.

In some sessions, participants questioned whether the federal government is doing the provinces' work. In the Atlantic sessions it was stated that "ammonia discharges and the use of chlorine as a disinfectant in wastewater treatment processes are clearly regulated by the provinces – through the conditions imposed in wastewater treatment plant operating certificates or in water resource protection requirements." In Whitehorse, participants noted that territorial regulations already exist and that "the entire issue has been over-regulated."

Some participants wondered about the extent of consultation with the provinces that had taken place during the development of the instrument and their ongoing involvement. In Winnipeg, participants felt that "there should have been more

provincial involvement before the proposed pollution prevention planning approach was rolled out to municipalities."

Participants noted that information about the requirement for preparing and implementing pollution prevention plans and their associated timelines should be communicated through the province to all municipalities. Municipalities are more used to dealing with provincial regulators than the federal government. In Ontario, for example, participants observed that "Environment Canada and the provinces need to work together especially in the areas of communication, planning and enforcement." In the Edmonton session, it was suggested that the provinces (in this case Alberta Environment) create a sample pollution prevention plan for use as a template by municipalities.

Other suggestions and comments around federal/provincial relations included:

- It is important that timelines be agreed to by both federal and provincial jurisdictions.
- To avoid duplication, Environment Canada is encouraged to work through provincial environment departments or territorial water management boards.
- Environment Canada should consider using the classification component of the Operator Certification Program to select systems for which pollution prevention plan would be requested.
- If a facility's permit already has ammonia limits, then it should be exempt from this process for ammonia.
- There should be a fast-track or streamlined process to implement pollution prevention options through the federal and provincial environmental assessment process and Ontario approvals process.
- The screening criteria to determine if a pollution prevention plan is required should first assess whether the province has an acceptable management program for ammonia and/or chlorination of municipal wastewater. If there is, then a pollution prevention plan would not be required.

Some participants observed that municipalities are not used to working with the federal government – "municipalities are normally controlled by the province" (Ontario). In Quebec, concern was expressed that municipalities would experience confusion regarding the provincial and federal roles. Some participants felt stronger, noting that "municipalities do not want to be regulated by Ottawa – period" (Winnipeg).

Some participants felt that the pollution prevention planning initiative should be administered by the provinces on behalf of Environment Canada. In Ontario, participants noted that the province could "act as a liaison between municipalities and the federal government to funnel information."

Some participants called for the development of a formal structure to facilitate cross-government cooperation and collaboration. In Quebec, for example,

participants suggested that an "interprovincial harmonization committee" be created; in Ontario, participants suggested the establishment of a federal/provincial/ municipal group "that works together to develop a long-term strategy for the municipality."

Environment Canada and the *Fisheries Act*

Many participants felt that, in addition to harmonization with provincial requirements, pollution prevention planning should be harmonized with the requirements of the *Fisheries Act*.

A major area of concern was due diligence. Differing opinions were expressed on the implications of pollution prevention planning for potential *Fisheries Act* violations. Many participants expressed concern that municipalities would be open to prosecution under the *Fisheries Act*. For example, in Ontario, participants felt that pollution prevention planning would not provide protection against prosecution under the *Fisheries Act*, as "whole effluent toxicity could be caused by substances other than chlorine or ammonia." Some participants felt that pollution prevention planning would provide some measure of due diligence defense.

Many participants raised questions of clarification regarding the relationship between pollution prevention planning under CEPA 1999 and the *Fisheries Act*. Participants sought assurance that Environment Canada and the Department of Fisheries and Oceans had worked closely together to ensure that the proposed risk management objectives and criteria were consistent with the *Fisheries Act*. In British Columbia, concern was expressed that there is a risk that the strength of the *Fisheries Act* could be compromised as a result of this CEPA process.

Also, Ontario participants raised the issue that Environment Canada is focused on specific substances rather than adopting an overall approach to managing wastewater effluents as a whole.

Compliance and Enforcement

Some participants suggested that the enforcement measures and penalties for non-compliance with the requirements of the proposed instrument need to be clarified. There was concern that the instrument needs to have "teeth" to be effective.

Some participants pointed to the flexibility of the timelines as a potential cause of inaction and non-compliance. For example, some participants in British Columbia commented that the timelines may be strict on paper, but the built-in flexibility and options to extend the timelines through requests for time extensions may provide excuses for inaction. "There is no clear picture of what is expected of municipalities and no clear 'goalposts' for either risk management objectives or the timelines." In the Atlantic sessions, participants observed that the

"establishment and enforcement of timelines is critical to a successfully implemented management plan."

There was some concern that the proposal depends on "voluntary compliance," (i.e., the onus is on an entity to recognize that it is selected and then prepare a pollution prevention plan). Participants in British Columbia felt that Environment Canada is ignoring research that shows that voluntary measures are not successful. Some participants suggested that Environment Canada publish a list of entities required to prepare and implement pollution prevention plans under CEPA 1999.

Many participants see a need for transparency, accountability and public access to pollution prevention plans. In British Columbia, for example, it was noted that public confidence will not be achieved if plans are not made public. One participant suggested that the plans should be posted on a municipality's web-site. Some participants in Ontario thought that provinces should approve pollution prevention plans as part of the Certificate of Approval process. Other Ontario participants thought that pollution prevention plans should be reviewed and approved by Environment Canada.

Performance Measurement

Many participants suggested that there needs to be a follow-up process to determine if pollution prevention plans are successful. In Ontario, participants recommended that "a review period be established to measure whether pollution prevention planning is working by 2005." In the Atlantic sessions it was noted that "the effectiveness of pollution prevention plans will need to be measured, evaluated and verified. Measurement criteria will therefore need to be built into plans."

Part of the problem seems to stem from the perception that, as participants in the Saskatoon session commented, "there seems to be no real conclusion to the process." Another key source of concern for participants is that declarations, rather than pollution prevention plans, are submitted to Environment Canada. Many participants would prefer that Environment Canada review pollution prevention plans to ensure a consistent approach and content.

Long-term Strategy Implications

Many participants were concerned with the notion of preparing pollution prevention plans without knowing the components of the long-term strategy. In the Yukon, participants cautioned that the "goalposts don't move halfway through the five-year pollution prevention planning process." Participants were concerned that investments could potentially be misdirected and that mistakes could be

made in infrastructure development. For example, in the Edmonton session, participants noted that "efforts and investments may be concentrated on wastewater, only to have other sources of pollution, such as storm water, added in the long-term strategy." In the Atlantic provinces, participants observed that "the inclusion of other toxic substances could influence infrastructure decisions."

In addition, there was concern that it would be difficult to bolster political and public support when the full details and long-term requirements are unknown. In the Winnipeg session, participants wondered if a strong level of buy-in and commitment could be achieved when the end strategy is not known: "Political or senior management is not likely to support pollution prevention planning without knowing long-term impacts."

Many participants observed that information about the long-term strategy should be communicated to stakeholders as it evolves. For example, in Quebec, participants suggested that "any components of the long-term objectives should be relayed as soon as they are anticipated or known, so that investments can be appropriately guided." In British Columbia, there was a recommendation that consultations with local governments be undertaken during the early stages of the long-term strategy development.

Funding

Across the country, participants expressed concern about the availability and sources of funding to support pollution prevention plans. Some participants felt that the costs associated with the proposed approach were being "passed down to the municipalities" (Ontario).

Many participants observed that some communities would have significant difficulties funding the type of infrastructure projects that will need to be put in place. In Ontario, participants felt that some communities would be "hard pressed to find the necessary funds." Participants were also concerned that regional disparities would affect the ability to have a "level playing field" across the country.

Municipalities have other competing priorities, many of which also have human health or environmental drivers. Drinking water was the example mentioned most frequently by participants. In the Yellowknife session, participants observed that "there are limited financial resources that are allocated to a number of issues including housing, health issues and drinking water." Participants also noted that the availability (or lack thereof) of funds will affect the type of pollution prevention plan that is developed. Some participants in Ontario noted that they may not get support from their Council to address chlorine and ammonia because these substances are not a high priority. Some participants stated that municipalities

may have difficulty obtaining funds to achieve the RMOs if they are not a regulatory requirement.

In a number of sessions it was suggested that the federal government be the provider of funds for the preparation of pollution prevention plans and to upgrade treatment systems as required, and that all municipalities (even those not triggered) receive such funding. Participants in Ontario suggested that two types of funding be available: short-term to help with engineering studies (such as the Green Municipal Enabling Fund under the Federation of Canadian Municipalities) and long-term funding for capital/infrastructure investments. Some participants suggested a "funding formula specific to wastewater plants and required upgrades."

There was also concern regarding the equity of funding schemes to support pollution prevention planning. For example, a municipality may have previously applied its own funds to upgrade facilities to a level where they already meet the risk management objectives, and therefore do not have to prepare a pollution prevention plan. Some participants felt that communities in this position should also receive similar funding as may be provided to communities developing plans, which can be applied to other environmental infrastructure upgrades or programs. In other words, communities should be rewarded for having sound wastewater management practices in place.

Other suggestions regarding funding included:

- When determining the cost of plans, include such factors as energy requirements and associated greenhouse gas emissions.
- Funding must be applied equally to all affected – for example, water commissions should not be treated differently than municipalities in terms of eligibility for funding.

Next Steps

Environment Canada wishes to sincerely thank all those who participated in the 13 consultation sessions. The ideas, suggestions and comments received through the consultation process, as well as those received through the written submissions, will be considered in the development of the proposed Notice.

The proposed Notice will be published in the *Canada Gazette,* Part I, before June 23rd, 2003. Following this publication, there will be a 60-day comment period. The participants to the consultation sessions will receive a copy of the Notice. A final Notice will be published in 2004.