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Publication #146
ISBN# 978-1-77189-583-5

JOINT SUBMISSION BY THE CANADIAN ENVIRONMENTAL LAW ASSOCIATION AND THE CANADIAN ENVIRONMENTAL LAW RESEARCH FOUNDATION ON THE PROPOSED ONTARIO MUNICIPAL-INDUSTRIAL STRATEGY FOR ABATEMENT (MISA)

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September 17, 1986

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I. INTRODUCTION

The Canadian Environmental Law Association (CELA), founded in 1970, is a public interest environmental law group. Since 1980, CELA has focused both its casework and law reform efforts in the area of toxic chemicals, hazardous wastes and pesticides.

CELA has represented numerous citizen and environmental groups in relation to the contamination of surface and ground water supplies caused by industrial activities, leaky landfills and other sources. CELA has also co-authored with Pollution Probe an article on the need for a Safe Drinking Water Act in Canada and helped organize the first national conference on Critical Issues on Drinking Water Quality held in Ottawa, February 1983. As well, CELA presented a submission to the Inquiry on Federal Water Policy in 1984.

Through CELA's cases and research, CELA staff have become acutely aware of the fragile nature of our water resources and their susceptibility to chemical contamination. CELA has also become aware of major gaps in water quality laws, policy and enforcement at both the federal and provincial levels which need to be addressed.

The Canadian Environmental Law Research Foundation (CELRF) was founded in 1970 as an independent research organization. The

Foundation shares office space and works in close partnership with its sister organization, the Canadian Environmental Law Association.

The primary focus of the Foundation's research activities is toxic chemical contamination of the environment. With respect to procedural matters, attention is centred upon the interface between science and environmental law, the nature of the political, administrative and jurisdictional framework and the problems this creates for pursuing an integrated, holistic environmental protection and assessment process. The Foundation carries out research in environmental law and policy areas related to these and other issues and disseminates the results of that research by means of its publishing and conference programs. The Foundation's best known publication is Environment on Trial (CELRF, 1978) a comprehensive guide to Ontario environmental law. Others include Environmental Rights in Canada (Butterworths, 1981), and, most recently, The Regulation of Toxic and Oxidant Air Pollution in North America (CCH, 1986). The Foundation is also publisher of the Canadian Environmental Law Reports, the only environmental law reporter in Canada.

Since April of 1984, the Foundation has carried out a study of legal reforms required to facilitate citizen intervention across the U.S. - Canada border in transboundary pollution cases. The Foundation has since done further work in the transboundary area

by initiating in 1986 a study of standard-setting in the American and Canadian jurisdictions of the Great Lakes ecosystem.

A. THE NATURE OF THE ENVIRONMENTAL PROBLEM

The value of Ontario's water resources cannot be measured. Water quality is the number one environmental issue of concern to the Canadian public. As well, environmental matters generally continue to be at the top of the public agenda. The reasons for this concern are largely traceable to the "fall-out" of the so-called "chemical revolution" that began with World War II and brought about the massive introduction of synthetic organic chemicals into the marketplace. Since many of these compounds are not easily degradable, they remain in the environment and enter both surface and ground waters from a number of pathways. These include:

- industrial effluents and impoundments
- urban and agricultural run-off
- municipal sewage
- underground injection wells
- mining and petroleum development
- accidental spills
- illegal waste dumping
- primitive methods of waste disposal in landfills, and
- toxic airborne pollutants.

Often, because of long latency periods, effects on human health and the environment are not known until many years after the introduction of the chemical. The health effects produced by persistent chemicals and their impacts on the aquatic environment is the major environmental concern of our time. The Great Lakes Water Quality Board's 1985 Report on Great Lakes Water Quality, submitted to the International Joint Commission, established persistent toxic substances in the Great Lakes ecosystem as the major focus of the Board now and in the foreseeable future. Some of the chemicals present in the Great Lakes are known to produce adverse affects at the concentrations presently found in the ecosystem. Others are harmful at greater levels of concentration. The Board stated that emphasis must be placed on the prevention of further pollution, but the Board also called for strong efforts to develop effective and efficient responses to existing problems.

The stated goal of the regulatory measures proposed by the Great Lakes Water Quality Board is the prevention of entry of persistent toxic substances into the Great Lakes. In setting this objective, the Water Quality Board echoed the intent of the Great Lakes Water Quality Agreement, 1978, which called for "virtually eliminating the input of persistent toxic substances and controlling effluent to zero discharges." By virtue of the 1978 Great Lakes Water Quality Agreement, governments of the U.S., the Great Lakes states, Ontario and the Canadian federal Government have committed themselves to take "all reasonable and practical steps

to restore areas of the Great Lakes that have been adversely affected by persistent toxic substances." The goal of the agreement is to enlist the co-operative effort of these governments to identify raw materials, processes, products, by-products, waste sources and emission of persistent toxics, and to find out how much of a substance is being produced, discharged, transported and disposed, in order to reduce the discharges of all persistent toxic substances.

B. GENERAL COMMENTS ON MISA

MISA takes some steps to accomplish the objectives of the 1978 Great Lakes Water Quality Agreement and has the potential for reducing pollutants from point sources located in Ontario. The key question arising from the MISA proposal is: at the end of the day, after the MISA proposal is implemented, will there be any measurable improvement in the quantity and quality of the effluent discharged into the aquatic environment? More importantly, will the MISA approach lead to a significant improvement in water quality over what exists today? How these questions are answered will depend greatly on how MISA is developed, implemented and administered.

From what has been proposed, it is clear that a real reduction in total loadings from point source dischargers is possible. Whether that is accomplished depends on a number of variables:

1. the definition of "best available technology";

2. the legislative and regulatory framework under which MISA will be developed;
3. the role of public participation;
4. the approvals and enforcement system;
5. the collection and interpretation of baseline data collected under the monitoring regulation, and;
6. who pays the costs associated with implementing the program.

From what has been proposed in MISA, it is clear that only a portion of pollution sources will be addressed - point sources. A significant contribution to pollution loadings into the Great Lakes and other receiving bodies of water is from non-point sources, such as:

1. urban run-off and agricultural run-off;
2. atmospheric deposition; and
3. deposits from other jurisdictions.

If MISA is to be truly considered an ecosystem approach to tacking the water pollution problem, the Ministry of the Environment must in short order develop programs to abate the non-point source loadings into the Great Lakes and other receiving bodies of water.

Despite these limitations, MISA is a significant step forward towards implementing the objectives of the Great Lakes Water Quality Agreement, 1978. Since this is only the first step,

special care should be given to establishing a firm foundation for the next stages.

The CELA/CELRF comments will evaluate the MISA proposal and recommend measures that we hope will lead to the establishment of a firm foundation upon which the Province of Ontario can develop a workable and effective water pollution control system.

II. MISA - GOALS AND CONCEPTUAL APPROACH

In establishing the MISA proposal, the Ministry of the Environment adopts the language of the Great Lakes Water Quality Agreement, 1978. The "ultimate goal" of MISA is described as the virtual elimination of toxic contaminants in municipal and industrial effluents to water in order to reduce the risk of harm to human health and the environment. The approach that will be taken is to evaluate the assimilative capacity of individual bodies of waters and set a total loadings limit for each. In addition, control of individual sources will focus on technological capability in the industry sector to which each source belongs.

MISA's ultimate goal is a laudable one to form the basis of a water quality control strategy. By using the language of the 1978 Great Lakes Water Quality Agreement respecting persistent toxic substances, Ontario can be seen as adopting the approach of

the Agreement for all waters of the Province, an important step forward.

While the Province should be applauded for setting this goal, it is clear that the MISA is only the first step toward implementation of that goal. The goal of virtual elimination of toxic inputs to water must go beyond addressing toxic contaminants in direct discharges and address non-point sources of contaminants, such as atmospheric deposition, run-off from land and groundwater. To assess total loadings allowable to a water course and then only address point source discharges is, in some cases, to ignore the major contributors of toxic contamination. Thus, while the Ministry admits it lacks the technical information necessary to implement an ecosystem approach, it is important that this goal be set now as the basis of evaluating program development and setting research priorities into the future. This is the approach of the GLWQA.

It is not clear that even the limited interim goals of MISA can be readily achieved. One of the major limiting factors in all facets of implementation is the question of cost and the apportionment of responsibility for the financial burden of a cleaner environment. MISA purports to reinforce the polluter pays principle but it is clear from the Ministry of the Environment briefing session that little if any thought has gone into the issue of ability to pay for technological improvements and monitoring, and how the possible lack of such ability will affect achievement of

MISA's goals. It is our view that consideration should be given at an early stage to the considerable financial resources which will be required from both the public and private sectors if MISA is to be successfully implemented.

Overall, there are a number of changes in the existing approach to water quality management that we support. These include use of a cap on a source's discharge, focus on best available technology and support for public participation in the standard-setting process. We also support the conceptual shift from effluent concentration to one based on the assimilation capacity of a receiving body; however, we require more information on what the MOE means by assimilative capacity.

III. GAPS IN PROPOSED FRAMEWORK

However, we believe that there are serious gaps in the proposed approach, including the following:

- Failure to adequately address the complex problem of discharges to sewers. This is left to individual municipalities and the existing problems of inconsistent controls due to inconsistent resources is left unresolved;

- Continuation of the use of mixing zones. For persistent toxic substances, reliance on assimilative capacity of a watercourse amounts to false security;

- Failure to contemplate transboundary loadings and transboundary effects. Many of Ontario's waters are shared with other jurisdictions and failure to consider the impact of loadings from and on other jurisdictions means the physical connections are not taken into account;

- Reliance on existing abatement tools and approvals without evaluation of their appropriateness in this new context. One of the most serious criticisms of relying on existing procedures is that they exclude public involvement from crucial steps in the MISA implementation process.

- The exclusion of public involvement from the abatement and enforcement process is inconsistent with MISA's professed emphasis on the importance of public participation. There also is a need to consider funding to ensure that participation on the advisory committee and elsewhere is meaningful;

- Lack of a legislative basis for many of the elements of MISA. Failure to enshrine procedural protections in legislation and lack of a legislative basis for setting standards, in particular the lack of criteria for setting Best Available Technology (BAT) means MISA is primarily a policy document,

subject to change with the next change in government. Ontario's water management program has never been legally enforceable and the time is ripe to have the Ministry's commitment to this long-term strategy put into legislation;

- Lack of criteria for establishment of BAT, in particular, lack of criteria for determination of what is economically achievable. It is our concern that too much emphasis on short-term economic considerations in particular industries at the expense of long-term environmental protection will result from the presence of industry representatives at every stage of the MISA implementation process, while public involvement is confined to the advisory committee whose role will be to review the already-negotiated regulation.

- The failure to address the issue of costs.

IV. COSTS

From the description of the scope of the activities it is obvious that, for the MISA program to be successful, substantial financial resources must be devoted by both the public and private sectors. However, the question of cost is not raised in the white paper. Cost questions have to be addressed immediately and clarified:

- How much will MISA cost?

- Who will pay (i.e., what will the split be between federal, provincial, municipal and industry contributions)?
- Will there be financial subsidy for industry?

We recommend that the MOE produce calculations concerning the cost of MISA as soon as possible. Information on costs should be provided to the public for comment as soon as it is available.

V. LEGISLATIVE BASIS FOR MISA

The existing water quality management system in Ontario is grounded in the Ontario Water Resources Act and the Environmental Protection Act, but few of the important components are found in legally-enforceable instruments. For example, the MOE's water management programs for quality and quantity are outlined in policies and guidelines found in the so-called Blue Book, not in regulations. In legal terms, if requirements are not put into statute or regulation, the duties imposed are not enforceable, but are merely "directives".

From information received at the briefing session, it appears that no changes are contemplated in either statute to bring MISA into force and only some of the components of the strategy will be put into regulations. This means that many of the important elements of the strategy will be matters of policy, not legally safeguarded. This is true for the procedural protections for

public involvement, access to information, scheduling of MISA implementation, and the criteria for determining BAT and water quality impacts. Such policies can be varied internally within the MOE, without any public scrutiny. It is our view that such important protections should be put into legislation.

A further issue is whether there is a basis in existing legislation for the parts of MISA that will be put into regulations. Two regulations are proposed: the monitoring regulation and the Best Available Technology Economically Achievable (BATEA) regulations (one per industry). It is questionable whether there is authority in the statutes in absence of amendments to make the contemplated BATEA regulations.

A rule of administrative law is that the authority to make regulations must be given explicitly in a statute and that the regulations must not go beyond the scope of the power conferred. In addition, regulations cannot legally conflict with the terms of a statute; that is, for example, if a statute prohibits an action, a regulation cannot permit it.

MISA states (at page 16) that the monitoring regulation and effluent limits regulation will be promulgated under the Environmental Protection Act (EPA). The regulation-making provisions of the EPA are found in section 136(1), which authorizes the Lieutenant-Governor-in-Council to make regulations, inter alia: classifying and exempting contaminants and their sources, prohi-

biting or controlling the deposition of contaminants into the environment from any source, prescribing maximum permissible amounts or concentrations of contaminants and requiring persons responsible for sources to monitor, record and report data to the MOE.

Because the regulations on BAT will specify permitted concentrations and not technology, there is not a problem with lack of authority to specify technology. However, there is nowhere in the statute the authority to do so on the basis of economic considerations, and it is submitted that regulations controlling the deposition of contaminants into the environment must be based on the purpose of the legislation only, the protection of the natural environment.

The purpose of the EPA is stated in section 2: "to provide for the protection and conservation of the natural environment." There is no provision in the Act allowing for the balancing of environmental protection against industrial convenience or economic viability. It is our submission that basing an entire regulatory approach on technology that is economically achievable requires an amendment to the legislation to authorize such a conflicting intention.

Further, if MISA will be implemented by regulations passed pursuant to the OWRA, the OWRA should be amended to bind the Crown, as is the case under the EPA today. Otherwise, government owned

sewage treatment plants would be immune from regulation, a situation which should not continue to exist, in any event.

VI. DEVELOPMENT AND IMPLEMENTATION OF MISA

A. TIMING

MISA proposes to set effluent limits based on BAT for all major industrial sectors, by 1989. During a three year span, 1986-1989, the MOE envisions starting and completing the pre-regulation monitoring program (1986-1988), and the industrial monitoring regulation (1987-1988). The first effluent regulations are expected to be impleted by early 1988 and completed by mid-1989. The schedule for municipalities is equally tight. The municipal monitoring regulation takes effect in mid-1988 and is scheduled to be completed by the end of 1988. the municipal effluent limits regulation will be phased in the beginning of 1989 and completed by the end of the year. The process for setting effluent limits based on water quality impact is partially under way with the MOE's Pilot Studies project. Water quality assessments by industrial dischargers are scheduled to begin in mid-1987 and continue until completed in 1995. Abatement of discharges will begin in mid-1987 and be implemented according to the abatement scheduling imposed by the regulation on individual industries.

Essentially, what the MOE proposes to do within three years is develop and implement a monitoring regulation for eight industrial sectors and municipal sewage treatment plants, collect baseline data for those sectors on effluent discharges, negotiate and establish an effluent limits regulation, begin to monitor receiving bodies of water and develop water quality assessments by dischargers.

If the U.S. experience is any indication, delay will be the rule. The 1972 U.S. Federal Water Pollution Control Act (FWPCA) authorized the EPA to set nationally uniform standards based on pollution control technologies available, specifying the amounts of pollution which may legally be discharged by any point source in each industry category. Municipal sewage treatment effluent limitations were also mandated. The goal was to implement industrial and municipal effluent limitations to make all surface waters in the U.S. fishable and swimmable by 1983 and eliminate all discharges by 1985. The U.S. regulation followed a two phase approach for existing and new sources. The first phase called for effluent limits based on Best Practical Technology (BPT); the deadline was 1977. The second phase was to establish effluent limits based on BATEA by 1983. Amendments promulgated in 1977 under the Clean Water Act refined the two stage approach for existing sources and added greater variety to the second stage. BAT deadlines for non-conventional toxic pollutants were modified and are to be implemented by 1987. The end result was that the BPT limitation was not completed five years after the original

deadline for compliance. The Best Conventional Technology (BCT) and BAT programs are also behind. Some reasons cited for the delay experienced by the EPA are:

- setbacks in court;
- inherent difficulties in regulating toxic chemicals; and
- changes in administrative regulatory policy caused by changes of government.

To avoid problems similar to those experienced in the U.S., the MOE must strive to abide by the timeframe established under MISA and provide the resources necessary to meet the established deadlines.

CELA/CELRF also recommends that if the present government is committed to implementing the MISA program in an effective manner it must adopt a policy based on legislation which provides no exemptions to the deadlines established under MISA.

B. SCOPE

1. Industrial Dischargers

The MISA proposal will apply to eight industrial sectors:

- electric power generation
- industrial minerals
- inorganic chemicals
- iron and steel

- metal mining and refining
- organic chemicals
- petroleum refining
- pulp and paper.

The eight sectors comprise 200 of Ontario's 300 direct dischargers. There is no explanation of what industries constitute the remaining sectors, nor why the remaining sectors are not brought into the system. The Ministry of the Environment should identify the remaining sectors and provide a timetable indicating when they will be brought under MISA. There is no way for the public to evaluate if the eight sectors selected by the MOE to be regulated are the most pressing or whether other sectors should be brought in at this time. Adding to the vagueness of the MOE's proposal is the fact that no explanation is provided of what types of specific plants fall within each of the eight sectorial groupings. We have no idea how broad or narrow each sector is. For example, does the organic chemical sector extend only to the manufacture of organic chemicals or does it also apply to the use of organic chemicals in the manfacturing sector? Does petroleum refining include manufacturing of petroelum products, such as plastics and rubber, or is it limited to the discharges from petroleum refineries?

The MOE should refine the concept of industrial sectors. A broadly based concept of a sector may include operations which may be dissimilar. The experience in the U.S. courts has been one of forcing the United States Environmental Protection Agency

(U.S. EPA) to refine the lists of plants that comprise a sector. The U.S. EPA developed regulations based on industrial categories and sub-categories.

The U.S. Supreme Court, in E.I. DuPont de Nemours and Co. v. Train, 1977, ruled that the U.S. EPA had authority to establish effluent limits for industrial categories and sub-categories by regulation rather than by issuing permits to individual dischargers containing effluent limits, provided that some allowance is made for variations in individual plants. A discharger could petition for a variance from the sectorial regulation by demonstrating they were fundamentally different from the norm within the sector by virtue of differences in the:

- industrial process
- control technology
- costs structure, and
- energy consumption.

CELA/CELRF recommends that:

- Regulations be drawn up for all industrial sectors that are considered to be priority polluters.

- Sectors that have been excluded be identified and scheduled for regulation.

- Sectors be more accurately defined to include dischargers with similar operations. It may be advisable to break down into categories and sub-categories.

2. Municipal Dischargers

The municipal sector, consisting of 400 sewage treatment plants, treats wastewater from some 12,000 industries. In Ontario, more industries discharge into the municipal sewer system than discharge directly into bodies of water. MISA proposes to regulate sewage treatment plants as point-source dischargers. This means that what comes out of the end of the treatment plant will be regulated under MISA, but control of toxic substances going into the sewage treatment plant will be left to the municipalities. Muncipalities will be required to enforce municipal sewer bylaws, which by and large are inadequate. Most prohibit very few toxic chemicals and concentrate mainly on conventional pollutants. In addition, most municipalities are incapable of enforcing even the minimal list of pollutants prohibited by existing municipal sewer by-laws. Furthermore, treatment plants are incapable of successfully treating toxic chemicals and, as a result, they pass through the system into the receiving body. Other toxic chemicals entering the sewage treatment plant are retained in sludge, which is then applied to farms or incinerated. Adding to the limited control of toxics entering the sewer system is the fact that most municipal bylaws contain a clause which enables a discharger to enter into agreements with the municipality that

permit them to discharge prohibited substances for a fee paid to the municipality in advance.

Storm sewers are another source of contamination inadequately supervised by municipalities under the municipal sewer bylaws. Urban run-off, contaminants from spills, dumping of household contaminants and illegal industrial dumping all can be transmitted via the storm sewers into a receiving body of water. They are designed to carry excessive storm water but, in fact also carry toxic contaminants. Some older sewer systems have combined storm and sanitary sewers. During heavy rainfall, overflow in the storm sewer system leads to mixing with the sanitary sewer system. As a result, much of the municipal sewer effluent containing toxics from industrial and household sources is discharged directly into receiving water, such as creeks and streams. MISA's proposal to regulate sewage treatment plants as point sources does not extend to storm sewer systems.

CELA/CELRF recommend that:

- The Province assume jurisdiction over the enforcement of municipal sewer bylaws. An acceptable alternative is for the MOE to provide funds to municipalities so that they may bolster their enforcment capabilities. Arrangements should be developed between the MOE and municipalities to permit the Enforcement Branch to be summoned to deal with persistent violators of municipal sewer bylaws.

- The priority pollutants list that is to be applied to the industrial sectors under MISA also be applied to the municipal sewer bylaws. The present list of substances in the municipal bylaws is insufficient to stem the flow of toxics.

- Toxic chemicals which cannot be treated and effectively removed by the sewage treatment plant should not be permitted to be disposed of into municipal sewer systems.

- Storm sewers be regulated as point-source polluters. Municipalities have information on where storm sewer outlets on located and which body of water they discharge into.

- The MOE and federal government assist municipalities to finance upgrading of sanitary sewer systems and storm sewer systems.

- Pre-treatment standards for industrial discharges into the municipal sewers should be developed.

- The fines section in the Municipal Act should be amended to provide that levels of fines for contravening municipal sewer bylaws are consistent with those contemplated in Bill 112.

C. BEST AVAILABLE TECHNOLOGY ECONOMICALLY ACHIEVABLE

The core of the MOE's abatement program under MISA revolves around the identification of priority hazardous pollutants and the establishment of discharge limits for each pollutant based on the limits which can be obtained by the best available technology that is economically achievable. The Ministry will develop regulations setting effluent limits for major industrial sectors and the municipal sector. Effluent limits will be based on the use of the best available technology that is economically achievable (BATEA). A combination of control technologies can be used by industry to meet the effluent limits. These include: on-site treatment, in-plant treatment, recycling and water re-use, process change, substitution or replacement of materials used in the process. In the case of municipal treatment plants, pre-treatment for industries discharging into sanitary sewers will be considered. Once effluent limits are set, the actual choice of methods or technologies to be used will be up to individual dischargers as long as sector effluent limits are met. In establishing the appropriate controls, factors such as air quality and solid waste disposal will be taken into account. It would be unacceptable to use an abatement process that would reduce pollution in water while significantly aggravating air quality or sludge disposal problems.

Despite BATEA being the core of the MISA proposal, the white paper fails to adequately define what is meant by BATEA. The

lack of an adequate definition will create problems during the implementation stage. As we have seen, the reason why many delays were experienced in the U.S. concerning the implementation of BAT is that there was confusion over what criteria should be included and how criteria within the definition should be balanced. A description of BAT is contained in the U.S. Clean Water Act, but the American courts found it to be somewhat vague and thus relied on the legislative history to interpret the meaning of BAT. Unfortunately, the legislative history of BAT was also rather vague. Ultimately, the EPA was given authority by the courts to describe in the Federal Register what it considers BAT to be in a generic sense. The EPA's description of BAT is over one hundred pages long! One thing that can be learned from the U.S. experience is that, without a clear statement of what BAT is, with reference to a specific sector, there is little chance of a successful application to industry on a sector basis.

Under the MISA proposal, there is presently no method by which BATEA can be adequately defined. As the MISA proposal now stands, the only description of BATEA will be in the industrial sector-specific regulations. This raises a number of concerns. For example, how is one to know whether each sector is being treated in a fair and uniform manner? How is one to determine whether the same water quality objectives have been given an equal consideration in all sectors? There are no answers to these questions in the MISA proposal. As presently planned, BATEA will be established in an entirely discretionary manner by

the MOE with input from sectoral technical committees and a public advisory committee. From the description provided in the white paper, there are no guarantees that the sectoral technical committees and the public advisory committee will be given an equal degree of input. Without an adequate dsescription of what constitutes BATEA, how are these committees to know what BATEA is supposed to be? The definition of BATEA will ultimately be purely discretionary unless it is described generically, preferably in a statute so that it has a stronger basis from which to develop the regulations.

Some may say that BATEA should be premised upon a cost/benefit analysis so that the cost of purifying that next percentage of discharge does not exceed the benefits. Others will argue that cost-effectiveness is more appropriate so that the least expensive technology to achieve a given benefit is selected. What costs are to be included in such a consideration? Are they internal or external costs, or both? How are the "benefits" to the environment, indigenous species and humans calculated? Is the goal to reduce the quantity of the effluent or to increase the quality of the discharge in that it contains less toxic contaminants? The answers to these questions will be value-based. Therefore, it is important to make explicit the values of BATEA that are proper for its determination, instead of relying on cost/benefit analysis.

The white paper makes reference to the existence of 800 different chemical compounds that have been found in the Great Lakes system. MISA proposes to establish an abatement program based on BAT effluent limits for all major specific toxic pollutants, but it fails to provide information on which specific chemicals will be regulated. A list should be provided cataloguing the toxic chemicals regulated by MISA and those excluded. A process should be established to periodically review the list to include new toxic chemicals introduced into the industrial process. The public should be allowed to participate in such a review.

There should also be a periodic review of the performance of each discharger, as the MISA proposal recommends. However, other than stating that there will be a periodic review to examine and upgrade the effluent limitation as technology and knowledge improve, the white paper sheds very little light on how these periodic reviews will be triggered, how they will be administered and how any further changes in the effluent limits or technology in use will be incorporated. These periodic reviews should be mandated by an amendment to the Environmental Protection Act and further developed by means of regulations. The regulations should establish dates or intervals during which periodic reviews must take place. They should also establish an administrative framework for these periodic reviews which provides for public participation in a meaningful way. Finally, the legislation and the regulations should provide the MOE with the authority to require the installation of new proven technology on existing

industries. This could be achieved by putting a time limit on discharge permits. The installation of newer technology to meet lower effluent limits should be a condition for renewal of a company's permit. All information and recommendations derived from the periodic review should be made available to the public.

D. THE MONITORING REGULATION

The monitoring regulation is intended to produce a large data base on toxic contaminants from direct dischargers. This data base will build on existing industrial and municipal data bases by:

- measuring contaminant loadings and variations over time;
- relating known environmental degradation to specific pollution sources; and
- acting as the trigger for abatement and enforcement.

The quality of the information obtained through the monitoring regulation must be highly reliable if the results are to match the purpose underlying the development of the regulation.

1. Pre-Regulation Phase

The framework for developing and implementing the monitoring regulation does not appear to be capable of producing the quality of reliable information required to make the MISA proposal effective. The first weakness in the proposal rests with the pre-regulation phase and how that phase will be carried out. In order to assist in the development of the monitoring regulation,

technical committees will be established. The technical committees will not include representatives of public interest environmental groups. The committees will include representatives of industries, federal and provincial government representatives, municipalities and the public in the form of representation from professional associations such as Ontario Engineers' Association. In light of the very important foundation that will be established at the pre-regulation phase, it is crucial to add representatives of public interest environmental groups to the committees. Intervenor funds should be provided so that environmental groups may retain the services of a technical expert to represent their persepective on the technical committees. It is not sufficient to have public participation in the advisory committee whose function it is to review and comment on the draft regulations as they are developed. It is important to have public interest representation during the very important development of the draft regulations.

2. Monitoring Phase

The monitoring mandated by the Monitoring Regulation will be done by the industries and municipalities. In other words, the industrial and municipal sectors which will be regulated will be asked to provide the data base which will be used to develop the sector's BAT effluent regulation. The process has a built-in conflict of interest. On the one hand, the regulation requires that data be produced on the quantity of toxics discharged, based on a discharger's units of production. On the other hand, indus-

tries are motivated by their own self interest and will have a vested interest in developing information which will lead to a minimum of expenditure and activity later in the process.

The MOE states a high degree of accuracy will be ensured in three ways: the discharger must follow established sampling, flow measurements and laboratory analytical procedures; the discharger's laboratory must abide by a quality assurance and quality control program approved by the MOE laboratory; and the MOE will randomly collect samples to verify discharger's samples. The procedure is problematic. At any step along the process, there is room for error and oversight. In addition, the monitoring regulations and procedures may not be stringent enough due to the lack of public input on technical committees during the pre-regulation phase. We find little reassurance that it is an offence under the Environmental Protection Act to provide misleading information. To be punished, a perpetrator must be caught. In order to catch perpetrators, the MOE must develop the expertise to know as much or more about the industrial process than the producing company. The Ministry must also develop the capability to evaluate the accuracy of a discharger's data.

E. WATER QUALITY IMPACTS

In the event that BAT effluent levels are not sufficient to protect particularly sensitive receiving water bodies, the MOE proposes to complement the BAT effluent levels with an approach

that will impose more stringent site-specific effluent limits based on water quality concentrations. To establish the water quality impact limits, assessment will be made to see if the BAT effluent levels are sufficient for protecting water quality at a given site. The assessment will consider receiving water impacts to confirm whether BAT effluent limits are sufficient or whether more detailed receiving water studies are required. To pave the way for the implementation of the water quality impact effluent limits, the MOE will review a number of guidelines, including the MOE's publication "Water Management" (1984). Six pilot studies are also being conducted to assess the impact of various discharges on receiving water bodies.

We are in agreement that there should be more stringent limits available if the BAT effluent limits are insufficient to protect water quality. However, we have concerns with what the white paper proposes.

1. Total Loadings

One of the MISA proposal's key claims is that effluent limits will be set based on BAT or water quality impact in conjunction with information on total loading of the receiving body of water. However, the MOE acknowledged at a public meeting that it has no way of calculating total loadings since the monitoring regulation will examine discharges from existing point sources. No calculation will be made for non-point source contributions such as urban and agricultural runoff, toxic rain or discharges from

other jurisdictions. There is also no way of calculating what toxic loading is already present in the water. The MOE must clarify what it means by total loadings and take steps to ensure that a true total loading approach is implemented.

2. Best Management Practice

The white paper introduces the possibility of a program known as Best Management Practice for programs designed to control on-site spills, leaks and runoff from raw materials, storage and handling areas. However, no description or other information is provided in the white paper concerning what is meant by Best Management Practice. In addition to further explaining what is meant by Best Management Practice, the MOE should also commence developing programs for control of non-point source pollution.

3. Sensitive Water Bodies

Under MISA, sensitive and confined aquatic areas may require more stringent reduction programs. Towards this end, the Ministry of the Environment is currently conducting six pilot studies across the Province to assess and evaluate the impact of various discharges on receiving water environments. The pilot studies will examine waterbodies with different beneficial uses such as drinking water supply and fish habitats. The MOE will prioritize areas where more stringent effluent limits are required.

MISA lacks a definition of what is meant by the term sensitive and confined aquatic areas. Does the term mean waterbodies that

are in a pristine state or waterbodies that are severely contaminated and require remedial action? Because MISA lacks such a definition, it is difficult to determine what criteria will be employed to determine the priority of sensitive and confined aquatic areas. Priority should be given to cleaning up bodies of water that are badly contaminated, and standards should be established that will prevent the contamination of lakes in a more pristine state. In addition, the MOE should not set weaker effluent limits for bodies of water that are not important sources of drinking water or fish habitat. Because of the interrelatedness of bodies of water in the Great Lakes ecosystem, uniform standards should be established regardless of the end use to which the water is directed.

CELA/CELRF recommend that:

- The term "sensitive and confined aquatic area" be defined in a way that will include the need to clean up the more polluted bodies of water as well as protect the more pristine.

- The end use of water in a receiving body not be a factor in establishing BAT effluent limits and water quality impact effluent limits. In other words, bodies of water that are not significant drinking water sources and fish habitats should be regulated similarly to bodies of water that are used as water supplies and fishing grounds.

- A criteria be provided for establishing a prioritization of sensitive water bodies.

- A program be established to rehabilitate polluted water bodies.

4. Mixing Zones

A mixing zone is defined in the white paper as an area of water contiguous to a point source where the water quality does not comply with the Province's water quality objective. In setting water quality impact effluent limits, MISA retains the concept of a mixing zone, although the acceptability of its size will be reviewed. In other words, the effluent limits established under BAT and the water quality impact approach have to be met by dischargers beyond the mixing zone in order for them to be in compliance. Within the mixing zone, dischargers may exceed the effluent limits.

We consider the concept of a mixing zone to be a contradiction of the stated aim of MISA, that of moving away from a pollution control system based on dilution and dispersion. Measuring non-compliance on the basis of effluent limits beyond the mixing zone is nothing more than the adoption of the dilution and dispersion system.

We recommend that the concept of a mixing zone be abolished and the measurements to gauge compliance be taken at the spout of the discharging pipe.

VII. ABATEMENT AND ENFORCEMENT

The stated changes in the white paper regarding abatement and enforcement include the following: requiring dischargers to sample their effluents and reporting this data to the MOE for review; requiring dischargers to notify the MOE of effluent violations; evaluation of violations according to Ministry abatement policies; informal and formal (control order) responses to violations with a reasonable time to comply; stiffer penalties for conviction; periodic review of control documents and more control of discharges to municipal sewer systems. In comparing these provisions with the existing system of abatment and enforcement, little change is apparent. Given the widespread lack of compliance with the existing system evidenced by studies such as the Canada-Ontario report, Inventory of Major Industrial Point Source Discharges in the Great Lakes Basin (1985), this is a serious shortcoming of the MISA proposals.

Abatement and enforcement come into play when there has been a violation of the statute or regulations. Under the MISA program, site specific standards will be built into the certificate of approval of each discharger.

In designing a program to deal with violations of legally mandated requirements, there are a number of considerations. The most important and the most difficult step is ensuring detection of the violation. The MISA program proposes to detect violations in one of three ways: self-reporting by the discharger, review of submitted data and MOE inspections. This is essentially the existing approach used by the MOE to detect violations. The only difference may come if the amount of information dischargers are required to submit to the MOE for review is increased by continuous monitoring of certain process and the information is thoroughly reviewed by the MOE. If this happens, the ability to detect violations of effluent limitations becomes comparable to the ability to detect waste violations under the manifest system contained in the generator regulations, one of the strongest detection mechanisms in the Minstry's arsenal. The key to achieving detection, however, is to specify the data which must be collected and reported in such a way that circumventing the requirement is either obvious or very difficult, and to ensure that the data are reviewed on a routine basis by the Ministry. MISA is not clear on the monitoring that will be required of dischargers; it says merely there will be a requirement to "sample," "records will be required" and "additional data" will be required. As we already noted, the MOE's periodic review is also vague. The MOE must commit sufficient staff resources to ensure detection. A more serious omission is the lack of discus-

sion of ways to improve detection of sewer-use bylaw offences. (The provincial role vis-à-vis sewers is discussed infra.)

A. MOE RESPONSE TO A VIOLATION

The usual purpose of an enforcment program is deterrence: the punishment of violations of mandatory requirements so that the offender and potential offenders will be deterred from committing a similar violation. Thus, aside from detection, the action in response to a detected violation becomes of paramount importance. MISA proposes the following responses: informal or formal notification of the violation with an opportunity to remedy the problem, control order (including requirement and direction under the OWRA) or prosecution. It appears from the discussion in MISA that the evaluation and criteria used in deciding the appropriate response will be those found in the MOE policy manual on abatement and enforcement.

B. CONTROL ORDERS

The use of control orders seems to be MISA's only vehicle for "variances" from the strictures of the regulations. Without a variance provision contemplated by the regulations, the control order and the procedures for their negotiation become the focal point for industries that cannot or are reluctant to comply with the regulatory requirements. We are concerned about the reliance on the existing control order process, which we consider outdated

and flawed. We recommend that this is an appropriate time for the Ministry to revamp control order procedures and enshrine them in legislation. An example of an appropriate change would be the requirement of meaningful public review of the control order. Further recommendations for change can be found in Dr. Robert B. Gibson's study of the control order process, "Control Orders and Industrial Pollution Abatement in Ontario" (CELRF, 1983).

The major findings of the study are that the effectiveness, efficiency and fairness of industrial pollution abatement efforts in the province would be improved by a number of major changes including:

- Current legislation should be amended to allow for abatement requirements concerning discharges that pose uncertain but possibly significant environmental risks as well as discharges that can be shown beyond a reasonable doubt to be environmentally deleterious.

- Legislative and policy changes should be made to ensure more open and participative deliberations on the setting of enforceable standards, guidelines, facility-specific abatement requirements and additional discharge reduction incentives.

More specific recommendations are provided in the study concerning adoption of a revised approach to industrial pollution abatement, including:

- enforceable standards, which would address uncertain as well as known pollution problems and which would have to be met without regard to technical, financial or socio-economic factors;

- guideline criteria, which would be applied with flexibility through enforceable control orders;

- control orders, which would allow time for compliance with standards and provide a vehicle for requiring maximum practical adherence to the guidelines.

C. PENALTIES

Much attention has been focused over the past number of years on the need for higher penalties for violations of environmental legislation. This has resulted in the introduction of Bill 112 which proposes increased fines under the EPA and OWRA. This is undoubtedly a step in the right direction because fines had not been increased for a number of years (since 1971 for the EPA) for general offences. However, these proposed amendments will increase the discrepancy between the fines available under provincial environmental legislation and those available under munici-

pal bylaws. Municipal fines are limited to a maximum of $2,000 by a provision in the Municipal Act. Many bylaws have a maximum lower than $2,000. The need to raise the maximum allowable fine for bylaw violations is all the more compelling when one considers that more than 11,000 of the 12,000 effluent dischargers in the province discharge into a sewer system, not directly into Ontario's water courses.

VIII. THE APPROVALS PROCESS

Because of the nature of the new regulations, which enact a combination of BAT effluent and water quality limits, applicable controls for industries are determined on a case-by-case basis. These individualized controls are formalized by the certificate of approval. MISA contemplates that all requirements for monitoring and Best Management Practices as well as the effluent limits will be included in the certificate of approval. However, no changes in the legislative basis for certificates or in procedures for their establishment are contemplated. Such changes should be considered in order to develop a more comprehensive regulatory approach.

A. CERTIFICATES OF APPROVAL

The requirement for a certificate of approval is found in section 8 of the Environmental Protection Act, which makes it an offence to construct or change any plant or equipment or alter a process when the result is likely to be release of a contaminant to the environment other than water (the corresponding provision for water is the OWRA, section 24). This language makes it clear that approvals are not necessary for the operation of a polluting industry, only for changes. Thus, there are industries in Ontario that do not operate under an approval. The changes required by MISA will, if they require the installation of new equipment, necessitate the conclusion of a new approval. However, if they do not require such new equipment (e.g., re-use or recycling option is adopted by a company), it is not clear from MISA whether an approval will be required or modified. If no modification to an existing approval or no new approval is required, there is no vehicle for imposing the site specific effluent limits, BMP specifications or monitoring requirements, since these are not expected to be put into regulations. A better way of ensuring the mandatory nature of the site specific requirements would be to amend the approval provisions in such a way that a permit or licence is required to operate a facility with potential to harm the environment. This approach could be implemented by adopting an approach used by the MOE when it brought all existing landfill sites under the terms of certificates of approval under Part V of the EPA. At the point when

dischargers apply for certificates of approval, or re-apply as the case may be, the MOE should insert relatively uniform conditions for abatement for all companies within the relevant industrial or municipal sector where they belong.

The importance of the certificate of approval as the primary regulatory document raises the issue of the procedure followed in issuing the approval and whether this should be modified to reflect the new document's importance. Approvals must be made by the Director of Approvals on the basis of plans and specifications submitted by the applicant. Negotiation between the MOE and the applicant can take place; the applicant has the right to appeal a refusal of a certificate so negotiation is a way of minimizing the number of appeals. The public is not involved: there is no notice requirement, no right to review the terms and no right to appeal the final certificate. It is appropriate that the public be involved in this final and crucial stage of the MISA implementation process. It is disconcerting that the MOE wishes to rely on the U.S. approach to setting water quality standards with the sole exception being the public hearing requirement, which is an integral component of the U.S. system. We recommend that the approval process be opened to guarantee public participation. In addition, the appeals process should be amended under the EPA to permit the public the opportunity to appeal aspects of the certificate of approval they feel are inadequate.

IX. PUBLIC PARTICIPATION

It was stressed at the MOE informational meeting that public awareness is key to the success of MISA. Participation by the public is to be provided in the form of public comments (on the white paper and draft regulations), membership on the advisory committee and full disclosure of data. As the white paper explains, many of the specific details of the MISA proposal, such as the establishment of BAT effluent limits, will be negotiated between government, industry and the municipalities through the establishment of technical committees. The input by the public into these negotiations is relegated to offering comments on whatever the committees propose.

The public participation provisions as they are presently proposed in MISA prevent public interest environmental groups from playing an important role in the establishment of site specific BAT effluent regulations. The U.S. approach to setting BAT effluent limits, which the MISA process essentially adopts, is open to a thorough review by the public. Obviously, a thorough public review is one aspect of the U.S. BAT effluent setting process which MISA has not adopted. We recommend that public interest groups be given a more vital role in the establishment of effluent limits.

The public comment periods will also be of limited use unless the MOE is required to provide certain documents detailing the considerations, alternatives and rationale for its proposed regulations. Such a record is presently required in the U.S. and thus allows the public to know what has been considered and what has not. Public comment periods will be only as valuable as the information provided.

The public participation provisions are discretionary in two senses. The first is that it is not mandated by statute or regulation, and the second is that there is no requirement that any comments be actually considered. The MOE is not required to keep a record which would include comments received and its responses thereto. Thus, one is left with the feeling that comments are prepared more to ease the public's conscience that to form part of a joint planning and development process. This is most unfortunate. The public's role in enforcement is limited to private prosecutions in cases where the MOE is reluctant to charge a company found to be violating the legislation or regulations. It was made clear at the informational meeting that the MOE did not have the resources to monitor all certifictes of approval for compliance. Instead, the MOE is relying on companies to monitor their own performance. This is augmented by periodic MOE sampling to verify the companies' results. In the U.S., the public can make use of a complaint procedure if there is a violation of a statute. Once a complaint is filed with the authorities, an investigation must be undertaken and a public

hearing held into the violation or a court action can be taken by the public seeking injunctive or declaratory relief. Minnesota, Michigan, Wisconsin, New York and Illinois are states which provide this forum for public intervention.

In order to facilitate meaningful public participation, we recommend that the public participation provision in MISA be mandated by statute or regulation. Included in that mandate should be:

- full public disclosure and access to information of information used or developed during the development, implementation and enforcement of MISA;

- intervenor funds be provided to needy public interest groups so that they may retain technical experts to represent their interests on the technical committees and any other committees that may be established as part of the MISA program.

X. CONCLUSION

Despite some major limitations which we have discussed in the text of our comments, MISA is a good first step and a significant step foward towards addressing the water pollution problem in Ontario. The program could be much better. It could be improved by adopting a more comprehensive approach to the problem of toxics that will take into account not only point-source dis-

charges but also non-point source discharges from runoff, air deposition and also discharges from outside jurisdictions. Such an approach should be adopted in cooperation with the federal governments of Canada and the United States, and the governments of the Great Lakes states.

In addition, the MISA proposal can be improved by rectifying weaknesses contained in the white paper. Some of the weaknesses which should be addressed include the lack of a legislative base for many MISA components; the lack of improved enforcement methods and the lack of adequate public participation provisions. These areas are explored more thoroughly in our recommendations.

XI. RECOMMENDATIONS

MISA is a significant first step forward. CELA/CELRF hope that the following recommendations if adopted will lead to the establishment of a firm foundation on which to build a comprehensive water pollution control program for Ontario.

A. GOALS AND CONCEPTUAL APPROACH

- The MOE should adopt a true ecosystem approach by developing and implementing programs that will address pollution from non-point sources such as runoff and atmospheric deposition.

- The MOE should initiate joint efforts to control water pollution from point sources and non-point sources with the governments of Canada, the U.S., the Great Lakes states, Québec and Manitoba. Only by including non-point source loadings and transboundary loadings from other jurisdictions can a true knowledge of total loadings be obtained. Since there are many contributors to the pollution of Ontario's water, some of them outside of Ontario's jurisdiction, joint programs should be developed with other governments.

B. COSTS

- Consideration should be given at an early stage to the issue of costs.

- The MOE should produce calculations concerning the costs of MISA and who will pay these costs.

- Information on costs should be provided to the public for comment.

C. LEGISLATIVE BASIS FOR MISA

- Important components of MISA should be given legally enforceable instruments under the Environmental Protection Act and regulations developed on the basis of the legislative requirements.

- Components of MISA which should be given legislative and regulatory backing include:
  1. the MOE's water managment program for quality and quantity;
  2. the so-called Blue Book and amendments containing the priority toxic pollutants with a process for additions to the list;
  3. legislative authority for the monitoring regulation and Best Available Technology Economically Achievable regulation under the Environmental Protection Act;
  4. procedural protections for public involvement;
  5. access to information;
  6. scheduling of MISA implementation;
  7. the criteria for determining BAT and water quality impacts.

- The OWRA should be amended to bind the Crown.

D. DEVELOPMENT AND IMPLEMENTATION OF MISA

1. Timing and Scope

- To avoid problems with delays, the MOE must abide by the timeframe established under MISA and provide the resources to meet established deadlines.

- The MOE must adopt a policy that forbids the granting of exemptions from compliance schedules and effluent limits established under MISA.

- The MOE must identify the remaining sectors not currently under the MISA proposal and explain why they have been excluded at this time.

- Regulations should be drawn for all industries that are considered to be priority polluters.

- A timetable must be provided indicating when the sectors excluded from MISA will be scheduled for regulation.

- The MOE should refine the concept of industrial sectors to more accurately define dischargers having similar operations. It may be advisable to break down sectors into categories and sub-categories.

2. Municipal Dischargers

- The Province should assume jurisdiction over the enforcement of municipal sewer bylaws. An acceptable alternative is for the MOE to provide funds to municipalities so that they may bolster their enforcement capabilities. Arrangements should be developed between the MOE and municipalities to permit the

Enforcement Branch to be summoned to deal with persistent violators of municipal sewer bylaws.

- The priority pollutants list developed under MISA and any subsequent additions should be included in the municipal sewer bylaws.

- Toxic chemicals which cannot be treated and effectively removed by the sewage treatment plant should not be permitted into the municipal sewer system.

- Storm sewers should be regulated as point source discharges because municipalities know the location of storm sewer outlets and also the body of water they discharge into.

- The MOE should assist municipalities to finance upgrading of sanitary sewer systems and storm sewer systems.

- Pre-treatment standards for industrial discharges into municipal sewers should be developed.

- The fines section in the Municipal Act should be amended so that levels of fines are consistent with those contemplated in Bill 112.

3. Best Available Technology Economicaly Achievable

- A thorough and clear statement of what constitutes BATEA must be provided.

- A list of the toxic chemicals to be regulated under MISA should be provided and a process established to add new chemicals.

- The MOE should more fully develop the concept of periodic reviews. A legislative and regulatory mandate should be given for these periodic reviews establishing:
  1. administrative process;
  2. triggering mechanism for review;
  3. the means for implementing changes recommended after a review has been completed;
  4. public participation in the review.

- Periodic reviews should be held shortly before the expiration of a certificate of approval. This would necessitate making certificates of approval valid for four, perhaps five, years. Periodic review should commence the last year before the certificate expires. Awarding of a new certificate would include as conditions the recommendations produced during the review period.

4. Monitoring Regulations

- The monitoring requirement in MISA should be explained in greater detail.

- The MOE should develop the expertise to know as much or more about the industrial process, the best available technology and scientific methodology for evaluating the impact of toxic substances on receiving water bodies than industry and their consultants. The MOE must develop the capability to evaluate the accuracy of a discharger's data.

- Data from the monitoring regulation should be made available to the public.

5. Water Quality Impact Guidelines

- MOE must provide a regulation containing criteria for determining when BAT effluent levels are not sufficient and when water quality impact guidelines are required.

- More information must be provided on what is meant by Best Management Practice.

- The term sensitive and confined aquatic areas must be defined in such a way that will include the need to establish more

stringent effluent limits for polluted bodies of water as well as the more pristine.

- Bodies of water that are not significant sources of drinking water or fish habitat should be regulated in a similar fashion to those that are. This should be done in recognition of the interrelatedness of waters within the Great Lakes ecosystem, and also to prevent some bodies of water from becoming pollution havens.

- A program should be established to rehabilitate polluted water bodies.

- Abolish the use of mixing zones since they are contradictory with the purpose of MISA. Measurements to determine compliance with effluent limits should occur at the spout of the discharge pipe, and not beyond the mixing zone.

E. ABATEMENT AND ENFORCEMENT

- Since the MOE proposes to detect violations by relying on information provided by the discharger, the MOE should specify the data which must be collected and reported in such a way that circumventing the requirement is either very devious or very difficult, i.e., similar to the manifest system in the generator regulation.

- The system of control orders and abatement should be improved to achieve the aims of MISA. Changes should be based on the recommendations contained in Dr. Robert Gibson's study of control orders and industrial abatement. The major recommendations are as follows:

  1. current legislation should be amended to allow for abatement requirements concerning discharges that pose uncertain but possibly significant environmental risks as well as discharges that can be shown beyond a reasonable doubt to be environmentally deleterious;
  2. legislative and policy changes should be made to ensure more open and participative deliberations on the setting of enforceable standards, guidelines, facility-specific abatement requirements and additional discharge reduction incentives;
  3. enforceable standards, which would address uncertain as well as known pollution problems and which would have to be met without regard to technical, financial or socio-economic factors;
  4. guidelines, criteria which would be applied with flexibility through enforceable control orders; and
  5. control orders, which would allow time for compliance with standards and provide a vehicle for requiring maximum practical adherence to the guidelines.

Approvals

- Amend the Environmental Protection Act and the Ontario Water Resource Act to make it a requirement that a certificate of approval is required for the operation of all industries that discharge emissions into the environment.

- Amend the EPA and the OWRA to provide for public participation in the approval process.

- Amend the EPA and OWRA to provide for notification to the public that an industry has applied for a certificate of approval.

- Amend the EPA and OWRA to permit the public to appeal the terms of a certificate of approval if they are considered to be insufficient.

Public Participation

In order to facilitate meaningful public participation in MISA, we recommend:

- Public participation in MISA be mandated by statute or regulation.

- Full public disclosure and access to information of information used or developed during the development implementation and enforcement of MISA.

- Intervenor funds be provided to needy public interest groups so that they may retain technical experts to represent their views on technical committees or any other committes that may be established.