

Comments on
the Proposed Pulp and Paper Regulation
under the
Municipal-Industrial Strategy for Abatement (MISA)

Submitted by

Canadian Environmental Law Association
517 College Street
Toronto, Ontario
M6G 2A2

Pollution Probe
12 Madison Avenue
Toronto, Ontario
M5R 2S1

Great Lakes United
State University College at Buffalo
Cassety Hall
1300 Elmwood Avenue
Buffalo, New York
14222

April, 1993

Introduction

The following comments are in response to the release by the Ministry of the Environment and Energy of the "Draft Effluent Limits Regulation of the Pulp and Paper Sector," dated February, 1993. This draft limits regulation will be promulgated under the Environmental Protection Act and will require the province's 26 pulp and paper facilities to reduce its effluents of various pollutants.

To assist the Ministry, the following comments outline the concern raised with a specific recommendation. Before the regulation is reviewed, however, an overview to the regulation is provided along with, what we believe, is the context of the regulation and the terms of reference upon which it should be evaluated.

Overview to Regulation

The regulation includes limits that must be met by 1995 for: Biochemical Oxygen Demand (BOD), total suspended solids, total phosphorus, chloroform, toluene, phenol, 2,3,7,8-TCDD (dioxins) and 2,3,7,8-TCDF (furans). Also included are toxicity test for discharges from pulp and paper mills. Further, the limit of organochlorine discharge for the eight kraft mills, measured by AOX (Adsorbable Organic Halides) is set at 1.5 kilograms/tonne of pulp by December 31, 1995, and at 0.8 kilogram/tonne of pulp by December 31, 1999. The kraft mills must then submit AOX Elimination Plans to the government to plan for the goal of zero discharge of AOX by the year 2002. Initial AOX Elimination Plans are to be produced 6 months after the regulation is passed, interim plans by December 31, 1995 and final AOX Elimination Plans by December 31, 1998.

Context for the Proposed Pulp and Paper Regulation

The proposed pulp and paper regulation must be designed to achieve a number of objectives, including the virtual elimination of persistent toxic substances; non-toxic effluents; and a substantial reduction in the discharge of other toxic substances. When these goals are translated to specific goals in the pulp and paper sector, they would mandate:

- * zero discharge of AOX;
- * substantial reduction of other toxic compounds;
- * requirement for non-toxic effluents.

In our view, there are three primary reasons for the achievement of these goals.

1. Legal and Policy Requirements for Zero Discharge

In our view, the proposed pulp and paper regulation must conform to the requisites of the Great Lakes Water Quality Agreement (GLWQA). Although signed by the Canadian federal government, the province has fully accepted its provisions through the Toxics Substances Control Agreement of 1986. In the GLWQA, Article II commits the Parties to the goal of virtual elimination of persistent toxic substances. Annex 12 states that when designing regulatory strategies (such as the proposed regulation), those strategies must be undertaken in the philosophy of zero discharge. These sections read as follows:

Article II

Consistent with the provisions of this Agreement, it is the policy of the Parties that:

(a) The discharge of toxic substances in toxic amounts be prohibited and the discharge of any or all persistent toxic substances be virtually eliminated;

Annex 12

2(a) Regulatory strategies for controlling or preventing the input of persistent toxic substances to the Great Lakes System shall be adopted in accordance with the following principles:

(ii) The philosophy adopted for control of inputs of persistent toxic substances shall be zero discharge; and

(iii) The reduction in the generation of contaminants, particularly persistent toxic substances, either through the reduction of the total volume or quantity of waste or through the reduction of the toxicity of waste, or both, shall, wherever possible, be encouraged. [Emphasis added]

Moreover, the Municipal-Industrial Strategy for Abatement (MISA) has adopted the virtual elimination goal. In the 1986 Program and Policy statement, the goal of MISA is stated as follows:

MISA's ultimate goal is the virtual elimination of toxic contaminants in municipal and industrial discharges into waterways. The fulfilment of this goal is necessary to reduce the risk of damage to the ecosystem and to protect public health by minimizing the presence of toxics in

drinking water, fish and wildlife.¹

Further, the International Joint Commission has attempted to translate the goal of the GLWQA in the context of the pulp and paper sector. The following is an excerpt from their Sixth Biennial Report. It clearly states that zero discharge of AOX is the only appropriate strategy. The Commission states:

It is not possible to remove a persistent toxic substance from a source once that substance has been produced. Nor it possible to retrieve that substance completely once it has entered the environment. Therefore, the focus must be on preventing the generation of persistent toxic substances in the first place, rather than trying to control their use, release and disposal after they are produced. Technology applied at the end of the pipe attempts to control the release of persistent toxic substances. Changes to feedstocks, production processes or the finished products themselves can prevent the production and use of the substances and thereby eliminate such releases.
[Emphasis Added]

...

This approach raises the question as to whether the use of chlorine, the common precursor for the production of chlorinated organic substances, should be sunset. We know that when chlorine is used as a feedstock in a manufacturing process, one cannot necessarily predict or control which chlorinated organics will result, and in what quantity. Accordingly, the Commission concludes that the use of chlorine and its compounds should be avoided in the manufacturing process. We recognize that the socio-economic and other consequences of banning the use of chlorine -- and subsequent use of alternative chemicals or processes -- must be considered in determining the timetable.

...

The Commission therefore recommends that:

7. the Parties, in consultation with industry and other affected interests, develop timetables to sunset the use of chlorine and chlorine-containing compounds as industrial feedstocks and that the means of reducing or eliminating

¹ Ministry of the Environment, Municipal-Industrial Strategy for Abatement (MISA) - A Policy and Program Statement of the Government of Ontario on Controlling Municipal and Industrial Discharges into Surface Waters (June, 1986), p. 7.

other uses be examined.²

2. The Ecological Need for Zero Discharge

As the international Joint Commission mentions, the driving force for zero discharge is that fact that this is the only long-term strategy which will provide for the protection of the ecology. A large number of studies have now confirmed the disruptive ecological effects of chlorine-based compounds.³

In recent months, some commentators have been attempting to discredit the huge body of science that links the ecological disruption with organochlorines. However, recent studies continue to be published that support the legitimacy of a chlorine elimination strategy.⁴

3. Technological Feasibility

It can only be expected that industry resist change. In our view, a proactive, zero discharge pulp and paper regulation will force innovation and the development of new, marketable technologies. By and large, many, if not all, components of a

² International Joint Commission, Sixth Biennial Report under the Great Lakes Water Quality Agreement of 1978 to the Governments of the United States and Canada and the State and Provincial Governments of the Great Lakes Basin (Ottawa and Washington, 1991), pp. 25, 29 and 30.

³ For a quick summary, see: Conservation Foundation and Institute on Research of Public Policy, Great Lakes Great Legacy? (Washington, 1991). Also see: T. Colborn and C. Clement, (eds.) Chemically-Induced Alterations in Sexual and Functional Development: The Wildlife/Human Connection (New Jersey: Princeton Scientific Publishing, 1992).

⁴ Cite the new Swedish studies. For an in-depth review of the problems associated with the use of chlorine and an analysis of a strategy to deal with its elimination, see: T. Muir, et al. "Case Study: Application of a Virtual Elimination Strategy to an Industrial Feedstock Chemical - Chlorine" a background document to the Draft Final Report of the Virtual Elimination Task Force, March 31, 1993.

AOX free pulp and paper technology already exists.⁵

The proposed regulation must play a role in forcing the development of such new technologies in a timely and orderly fashion. These "technology forcing" regulations are common in other jurisdictions and should be promoted in the province.

Specific Comments

Purpose of Regulation

The purpose of the proposed regulation reads as follows:

The purpose of this Regulation is, through the application of monitoring and limits, to control the discharge to surface waters of substances listed in schedule 2, to assess the discharge to surface waters of substances listed in schedule 3, and to require mills to prepare plans for the elimination of AOX.

In our view, this regulation is inconsistent with the policy goals of the Great Lakes Water Quality Agreement and the overall objective of MISA as stated in the 1986 MISA Policy and Program Statement. [See Previous Section] The purpose of the regulation should be the virtual elimination of inputs of toxic substances from pulp and paper facilities in the province.

Recommendation

It is recommended that the purpose of the proposed regulation be amended to reflect the policy goal of the Great Lakes Water Quality Agreement and made consistent with the overall goal of MISA.

Application of Regulation (Section 2)

The proposed regulation is intended to apply only to existing facilities listed in schedule 1 to the regulation. The obvious question is simply this: what are the regulatory requirements for new facilities?

In the U.S., the Clean Water Act mandates standards for both existing mills and new facilities (which are called new source performance standards). In our view, the regulation should force new mills not just to use "Best Available Technology" but

⁵ See for a review, National Wildlife Federation and the Canadian Institute for Environmental Law and Policy, Prescription for Healthy Great Lakes (1991), pp. 32-34.

to employ new innovative technology. As a result, substantial expansion of existing facilities and new pulp and paper facilities in the province should be required to be zero discharge facilities for toxic substances.

Recommendation

It is recommended that the proposed regulation include new provisions for new and substantially expanded facilities. These provisions would be technology-forcing in nature by requiring new and expanded facilities to adopt the most advanced technologies anywhere, that is, clean production technologies for pulp and paper facilities.

Lethality Limits - Section 4; Sections 17-20

Section 4 provides for a lethality limit such that process effluents must pass acute lethality tests for both rainbow trout and Daphnia magna. We fully support these provisions. However, what should also be considered to have the chronic toxicity regimes as part of the regulatory package for process effluents. This could be phased in over time.

Recommendation

While supporting the lethality limits in the proposed regulations, consideration should be given to incorporating chronic lethality tests as regulatory requirements to ensure that the process effluent do not cause long-term harm to the ecosystem. Such provisions could be phased in over time.

Reporting - Section 26 - Public Access

Throughout the proposed regulation, and in particular in section 26, the dischargers are required to record and report on various matters. In some instances, there is explicit provision that such information is available to the public such as section 26 (4) where monitoring information under sections 11 to 21 where the discharger "shall make this report available at the discharger's plant during reasonable hours for inspection by the public."

In our view, the results of other reporting duties should also be made available to the public. There are provisions in sections 7 to 9 which may provide information which should be publicly accessible. Other information in section 26 should also be made available to the public, if it not already intended to do so. For example,

- * s. 26(10) - failure to discharger to meet lethality tests;

- * s. 26 (12)(13) - monthly plant loadings for regulated parameters emanating from process effluent monitoring streams;
- * s. 26(14) - plant loadings for regulated parameters from cooling water effluent monitoring stream; and
- * s. 26(21) - testing results from chronic toxicity test.

These are just a few of the examples of where such information should be made available to the public. In our view, all information should be made available unless the discharger could establish a legitimate reason for non-disclosure.

Recommendation

There remains some uncertainty as to what information emanating from the record and reporting requirements under the proposed regulation is available to the public. It is recommended that a presumption be established that all information is available to the public in a form that is accessible and understandable. Dischargers will have to establish legitimate reasons for non-disclosure.

Section 26 - Reporting - Timing

In a number of subsections of section 26, a discharger must report where the discharge does not meet some regulatory requirement "during normal business hours." Why should the reporting requirement be only during the normal business hours? Non-compliance with a prescribed parameter is an important matter and should be reported immediately or forthwith to the Director. This regulation should not set out a reporting requirement that is less rigorous than s. 15 of the Environmental Protection Act or s. 92 of the Spills Bill (Part X), both of which require immediate notification.

Similarly, with respect to section 26(20), by-passes should be reported immediately, and the reports should also include: estimated volumes, known or likely environmental effects, actions, if any, taken by the direct discharger to prevent recurrences and/or to remediate environmental effects.

Recommendation

Section 26 should be amended so as to require reports of non-compliance or exceedances "immediately" or "forthwith."

AOX Elimination Plan - Section 26(22)

The AOX Elimination Plan (AEP) is an important step in the realization of the goal of zero discharge. However, the AEP can be improved by the following reforms. First, the word "all" should be inserted ahead of the phrase "AOX generated by ..." in subsections (22) to (24).

Second, the Director should be expressly authorized to review and approve the AEPs and should be empowered to impose further terms and conditions to the Plans (i.e., where such conditions are, in the opinion of the Director, necessary to prevent, decrease or eliminate injury or damage to land, water, property, animal life, plant life, human health or safety).

Third, the submission of AEPs should be subject to public review by way of notice and comment. One option to achieve this objective is to regard the AEPs as an "instrument" for the purposes of invoking the notice and comment provisions under the proposed Environmental Bill of Rights law.

Fourth, a mechanism must be incorporated into the regulation that will translate the AEP into regulatory requirements. There are a number of models to accomplish this end, including similar provisions in the Massachusetts Toxic Use Reduction Law where the agency is authorized to set new "performance standards" flowing from the information provided in the plans. The end result of the EAP process should be to require the facility to implement the plan.

Recommendation

Apart from some wording changes noted above, it is recommended that:

- * the Director be given the power to approve the AEP, along with the inclusion of necessary terms and conditions;
- * AOX Elimination Plans be subject to public review. One option to this end is to deem the AEP to be "instruments" under the proposed Environmental Bill of Rights law. Similarly, the Environmental Bill of Rights mechanisms, including the request for an investigation and new cause of action should be applicable to breaches of the regulations or plans; and
- * the regulation include a mechanism which translate the AEP for each facility to be implemented within a reasonable timeframe. There are a number of mechanisms to realize this recommendation.