

THE CANADIAN ENVIRONMENTAL ASSESSMENT ACT AN OVERVIEW

INTRODUCTION

The constitutional division of power in Canada has resulted in two level of government dealing with the environment. The most intensive level of regulation is that found at the provincial level. The federal level, however, does have its own legislation.

I wish to discuss the provisions of the Canadian Environmental Assessment Act ("CEAA"). This Act has some application to industries and processes which involve the production or handling of chlorinated dioxins and furans. Included in this review is a consideration of the basic mechanism created by the Act.

Initially it should be noted that the provisions of CEAA are not likely to apply directly to any one person involved in an industry which may produce or deal with dioxins or furans. Rather it is the corporations which will operate facilities dealing with these chemical compounds that will have to come to grips with this Act.

PURPOSE

The Canadian Environmental Assessment Act came into force in January of 1995. The Act is a replacement and modification of the Environmental Assessment Review Process which has been authorized by a Federal Order in Council.

CEAA is a complete legislated regime designed to govern the affairs of the federal government.

The federal government may undertake programs or plans which will affect the environment in one fashion or another yet there is doubt as to whether the federal government may pass legislation which would directly affect matters of a purely local nature, this being within the exclusive jurisdiction of the provincial parliaments.

To deal with this concern, CEAA addresses the operations of the federal government. CEAA provides an environmental assessment process for any project undertaken by the federal government on its own initiative or when the federal government is to fund the process.

The stated purpose of the act is provide for careful consideration of the environmental affects of a project before actions are taken, to promote the concept of "sustainable development", to see that responsible parties carry out their obligations, to prevent the creation or undertaking of environmentally harmful activities in Canada and to ensure

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there is some public participation in the decision making process. CEAA is reflective of much new legislation in that it contains a purposes section, in this case s. 4.

WHEN IT APPLIES

The CEAA applies anytime that a federal government department or agency proposes a new project, purports to permit federal land to be used for a project or when the federal government will provide financial assistance to a group or individual to a proponent.

Certain operations of the federal government are carried out by Crown corporations or by Indian bands. It is significant to note that the mere issuance of a permit or licence by a federal department will not trigger the operation of CEAA.

You will recall that this was a concern under the EARP guidelines and notable in the case of the Friends of the Oldman River where the issue was a federal permit issued under the Navigable Waters Protection Act.

While at first glance it may appear that CEAA will only apply or principally apply to the federal government, it is clear the Act will also apply to a large number of individuals and organizations which undertake many kinds of projects and which receive some form of governmental assistance.

NATURE OF STUDY

The assessment process may include several portions including an initial screening, a mediation process and a follow up program. The process is an evolving one and there is great flexibility brought into the Act.

A list of the factors which shall be included in a review is set out in section 16:

- a) the environmental effects of the project, including the environmental effects of malfunctions or accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;
- b) the significance of the effects set out in a);
- c) comments from the public;
- d) measures that are technically and economically feasible that would mitigate the significant adverse effects of a project;

- e) any other relevant matter;
- f) the need for and the requirement of follow-up project; and
- g) the capacity of renewable resources that are likely to be significantly affected.

It is clear that the terms of the environmental assessment process are very broad. The experience in Alberta, which has similar legislation, is that nearly any valid concern can be raised and investigated.

It is important to note that a consideration of the technical alternatives to a project and the very need for the project are matters to be put on the table.

It would not be surprising for detailed scientific input to be an important and significant part of any assessment project. One of the areas where researchers are likely to be heavily involved is in the preparation of reports and studies which predict the likely effects of a project and proposed methods for dealing with the adverse consequences of the project.

Likewise proposals for mitigating and consequences of the project is likely to fall largely to the detailed information from experts.

THE INCLUDED, EXCLUDED AND RESIDUAL LIST

To determine whether or not a project which is likely to receive funding from the federal government is to be undertaken by a proponent reference must be made to the various lists which are regulated under the Act.

The Act creates several categories of undertakings or projects: First there are projects which will definitely require an assessment. Second, there are projects which clearly will not require an assessment. The third category, which is perhaps the largest category is the those projects which may require an assessment but which may not require one.

This last category which I call the residual category is the largest category and likely to create the most significant concern for developers. It is the one which will catch people unaware. The criteria for determining whether or not a residual category will require an assessment are listed in sections 18-20.

The production of furans and dioxins by any project will not, of itself require the production of an assessment. One might expect, however, that the production, of dioxins and furans may well weigh in favour of an assessment.

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LIKELY EFFECT

The effect of the CEAA as yet is difficult to assess. Clearly there is a new level of law and regulations which requires a proponent to meet. Whether or not the legislation will have a direct impact on the activities of developers, the CEAA will be a new level of legislation which the federal government will have to contend with as it attempts to administer itself and its undertakings.

One should note that the regulation of the federal government is, itself, a significant step.

This portion of the paper considers the Canadian Environmental Protection Act ("CEPA" or "the Act"). A brief overview of the Act is provided to establish the foundation for a more specific discussion of its application to the regulation of dioxins and furans.

THE CANADIAN ENVIRONMENTAL PROTECTION ACT OVERVIEW

"An Act respecting the protection of the environment and of human life and health". This is the full title of the Act and perhaps more accurately reflects the purpose of CEPA; it is aimed at the protection of both the environment and human health. The environment is clearly the dominant theme of the legislation and this is reflected in the fact that the Minister of the Environment is responsible for the administration of the Act. The Minister of National Health and Welfare has no direct enforcement responsibility but provides advice in relation to human health aspects and jointly recommends regulatory actions. There is obviously considerable overlap in the means of achieving these concurrent goals.

CEPA approaches its protection goals through the a number of mechanisms. It provides the authority to:

1. control the introduction of new substances into Canada;
2. obtain information/testing of existing and new substances;
3. control toxic substances throughout their life cycle;
4. regulate fuels;
5. regulate emissions, effluents and waste handling/disposal practices of federal entities;

6. create environmental objectives, guidelines and codes of practice;
7. control sources of air pollution in Canada which would violate an international agreement;
8. control nutrients in water conditions or cleaning products;
9. issue permits for ocean dumping; and
10. enter into agreements with the provinces and territories regarding administration of the Act.

Items 1, 2, 3, 6 and 10 are most relevant to the regulation of dioxins and furans and the discussion which follows will, therefore, focus on these.

AGREEMENTS WITH THE PROVINCES AND TERRITORIES

Protection of the environment is a responsibility shared by all levels of government (and others). CEPA recognizes the need for cooperation and allows the federal and provincial governments to enter into agreements concerning the administration of the Act. For instance, provincial enforcement officials can be designated as inspectors for the purposes of CEPA.

In some circumstances, provinces have in place environmental laws which are at least equivalent, and perhaps more stringent, than the requirements under CEPA. In anticipation of this, CEPA allows the federal government to issue an order to recognize the equivalency of the provincial legislation and to enter into an agreement to ensure enforcement of the equivalent provisions. Where such an order and agreement are in place, the relevant provisions of CEPA will not apply. Examples of an equivalency order and an agreement are provided in Appendix "A" and "B", respectively.

CONTROLLING THE INTRODUCTION OF NEW SUBSTANCES INTO CANADA

Any substance manufactured or imported in Canada in a quantity of at least 100 kg/year, before CEPA came into effect, was entered on the Domestic Substances List (section 25). There is no prohibition against the use of a Domestic Substance. Dioxins and furans do not appear on the Domestic Substances List as they do not meet the criteria listed above.

Any substance which does not qualify for listing as a Domestic Substance becomes a Non-domestic Substance (section 26). A Non-domestic Substance cannot be manufactured or imported unless it has gone through a toxicity assessment. To facilitate this assessment, certain information must be submitted to the Minister. The

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collection of information for assessment is further discussed below.

Section 26(3) outlines certain exceptions to the general prohibition against the use of Non-domestic Substances. If the criteria defined in one of the exceptions is met, a substance need not go through the assessment process even though it does not appear on the Domestic Substances List. I draw your attention to two of these exceptions in particular:

- (c) impurities, contaminants and partially unreacted materials the formation of which is related to the preparation of a substance;
- (d) substances produced when a substance undergoes a chemical reaction that is incidental to the use to which to substance is put ...;

Dioxins and furans, in the context that they are generally found, would appear to fall within one or both of these exceptions. As a result, although they are not Domestic Substances, section 26 would not require that they be assessed for toxicity and their use would not be regulated under this part of the Act. As we shall see, however, there are other mechanisms under CEPA which control such otherwise exempt substances.

CONTROL OF TOXIC SUBSTANCES

By definition (section 11), a substance is toxic if it enters the environment in a quantity/concentration that: (a) has an immediate or long-term harmful effect on the environment; (b) constitutes a danger to the environment on which human life depends; or (c) constitutes a danger in Canada to human life or health.

A substance which is assessed and found to be toxic will be entered on the List of Toxic Substances in Schedule I of CEPA. It can then become the subject of extensive regulations, defined in section 34. How, though, does a substance become a candidate for assessment?

Any substances new to Canada (Non-domestic substances), which do not fall within the exceptions discussed above, would go through a toxicity assessment. As we discovered earlier, dioxins and furans would be exempt from these requirements. There exists, however, something called the "Priority Substances List" (section 12). If the Ministers of the Environment and Health are satisfied that priority should be given in assessing whether a substance is toxic or capable of becoming toxic, that substance will be added to the Priority Substances List. In addition, any person may make a written request of the Minister that a substance be added to the Priority Substances List. The Ministers must consider such requests and, within 90 days, inform the person who made the requests as to how the Minister intends to deal with it.

The net effect of section 12 is that any substance can end up on the Priority Substances List, even if it appeared on the Domestic Substances List or was exempt from assessment under section 26. Not surprisingly, given the public perception and scientific evidence associated with dioxins and furans, they are first in line for assessment on the Priority Substances List. After information was collected from industry and others, the verdict reached was that these substances are toxic, as defined under CEPA. As a result, dioxins and furans appear on the List of Toxic Substances.

The Act itself contains no general prohibition against the release of toxic substances. Substances on the List are controlled under CEPA only to the extent defined in the regulations passed under s. 34 of the Act, which are referred to in Column II of the List of Toxic Substances. To date, the only regulations that have been passed in respect of dioxins and furans are the "Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations" and the "Pulp and Paper Mill Defoamer and Wood Chip Regulations". These were passed in 1992 and amended in 1993 and 1994, respectively. As a result, dioxins and furans are specifically regulated at the federal level only in the context of the pulp and paper industry.

Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations relate to maximum concentrations that may be released into the environment. Section 4 states that no operator (person in charge of a mill) shall release or permit to be released into the environment final effluent that contains a measurable concentration of 2, 3, 7, 8-TCDD or 2, 3, 7, 8-TCDF. This provision has generally applied since July 1, 1992 although certain chlorine bleaching plants that commenced operation before June 1, 1990 may have been allowed until January 1, 1994 to implement measures to comply with this regulation. The Regulation also sets out certain monitoring and reporting requirements. In addition, the Minister may request that the operator conduct other specified tests regarding the presence of PCDDs and PCDFs in the final effluent, the effect of operating conditions on the concentration of PCDDs and PCDFs and toxicological studies on the effluent, pulp and sludge.

The Pulp and Paper Mill Defoamer and Wood Chip Regulations are concerned with maximum concentration in products, namely defoamers. This Regulation contains the following prohibition in section 4:

- (1) No person shall use a defoamer at a mill that uses a chlorine process unless
 - (a) an analysis of a sample of each batch of the defoamer indicates that the defoamer contains
 - (i) 40 ppb or less by weight of dibenzofuran, and
 - (ii) 10 ppb or less by weight of dibenzo-para-dioxin; or
 - (b) a certificate provided by the manufacture of the defoamer indicates

in respect of a batch of that defoamer that the batch contains ...
(same as part (a))

- (2) No person shall manufacture, import, offer for sale or sell, for use in a mill in Canada that uses a chlorine bleaching process, a defoamer in which the concentration of
 - (a) dibenzofuran exceeds 40 ppb; or
 - (b) dibenzo-para-dioxin exceeds 10 ppb.

Certain information reporting and maintenance of records requirements are specified for manufacturers, importers, sellers and users of defoamers.

Section 34(6) of CEPA recognizes that an equivalency agreement can oust the application of regulations such as these passed in relation to toxic substances. This is the case with the order and agreement discussed above and found in Appendices A and B.

Under section 35 of CEPA, where a substance is on the List of Toxic Substances and the Ministers feel it is not adequately regulated and that immediate action is required in order to deal with a significant danger to the environment or human health, the Minister may make an interim order containing any provision that could be contained in a regulation under s. 34. Such an order would have the same effect as a regulation. It would have to be approved by the Governor in Council within 14 days and within 90 days, the Minister would have to recommend that a regulation to the same effect should be made under s. 34.

Using these emergency order powers, dioxins and furans (or any toxic substance) could become further regulated with very little advance warning. Alternatively, the Minister could go the route of proposing regulations and inviting public input. The authors are not aware of any initiatives at this time which would lead to further regulation dioxins and furans under CEPA.

To the extent that dioxins and furans are regulated, the release of toxic substances provision will apply. These are found in sections 36 through 40 of CEPA. Where a release of a Toxic Substance occurs in contravention of the regulations, a person who owns or has charge of the substance or who causes or contributes to its release must, as soon as possible, report it to an inspector, take all reasonable emergency measures and make a reasonable effort to notify any members of the public who may be adversely affected. If a person fails to take these measures, the inspector can take the measures or direct them to be taken by the persons outlined above. If the inspector decides to take the measures himself, he may enter any place or property and do anything reasonable in the circumstances. The costs of taking the measures can be recovered from the owner

or person in charge, or, to the extent of their negligence, from the person who caused or contributed to the release. The parties are jointly and severally liable for such costs.

OTHER PROVISIONS WHICH APPLY TO DIOXINS AND FURANS

Besides the List of Toxic Substances, there are other provisions under CEPA for controlling a given substance. For instance, dioxins and furans also appear on the List of Hazardous Wastes Requiring Export or Import Notification (Schedule II Part III). Substances are added or deleted from this list by order of the Governor in Council on the recommendation of the Minister of the Environment.

Wastes that contain more than 100 ng/kg of 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin equivalent of (a) total polychlorinated dibenzofurans that have a molecular formula $C(12)H(8-n)Cl(n)O$ in which "n" is greater than 1: or (b) total polychlorinated dibenzo-p-dioxins that have a molecular formula $C(12)H(8-n)Cl(n)O(2)$ in which "n" is greater than 1 appear on this List and are, therefore, subject to section 43-45 of CEPA. A person proposing to export or import a hazardous waste must give notice to the authority, body or person specified on the List of Hazardous Waste Authorities in respect of the country to or from which the export or import is proposed. The Minister is required to publish the List of Hazardous Waste Authorities in the Canada Gazette. Notices of proposed exports or imports are also published there, including the name or specifications of the hazardous waste, the name of the exporter or importer and the country of destination or origin.

The Schedules to CEPA also contain other types of "Lists". The substances found on these lists are controlled in different ways under the Act. Dioxins and furans appear only on the List of Toxic Substances and the List of Hazardous Wastes Requiring Export or Import Notification, as discussed above.

OBTAINING INFORMATION ON NEW AND EXISTING SUBSTANCES

In order to make an assessment of toxicity or to decide whether a substance should be otherwise controlled under CEPA, the Minister may collect data and conduct investigations, as outlined in s. 15. The Minister may also provide notice to a person requiring them to provide information and samples including:

- (a) in respect of a substance, available toxicological data, samples of the substance and information on the quantities, uses and composition of the substance; and
- (b) plans, specifications, studies and information on procedures, in respect of a work, undertaking or activity.

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Under s. 18, the Minister may also:

- (a) publish in the Canada Gazette and in any other manner that the Minister considers appropriate a notice requiring any person who is described in the notice and is engaged in an activity involving the substance to notify the Minister that the person is engaged in that activity;
- (b) send a written notice to any person engaged in an activity involving the substance requiring that person to provide the Minister with such information as is specified in the notice and is in the possession of that person or to which that person may reasonably be expected to have access; and
- (c) send a written notice to any person engaged in any activity involving the importation or manufacturing of the substance or any product containing the substance requiring that person to conduct toxicological and other tests that the Minister may specify in the notice and submit the results of the tests to the Minister.

Notices of this type were issued to various individuals in the pulp and paper industry in order to collect information regarding dioxins and furans.

The individual to whom the notice is directed must comply with the request within the time specified in the notice or, if no deadline is specified, within a reasonable time.

Under section 19 of CEPA, a person who received a notice requesting information can ask that the information requested be kept confidential. Some stakeholders have expressed concerns, however, that section 19 may not adequately protect confidentiality since there is a discretion to disclose information under certain circumstances.

ENVIRONMENTAL OBJECTIVES, GUIDELINES AND CODES OF PRACTICE

In order to carry out the functions and duties under the act, the Ministers are required to formulate environmental quality objectives and guidelines, release guidelines and environmental quality objectives and guidelines, release guidelines and environmental codes of practice (section 8). No such documents have been formulated under CEPA with respect to dioxins and furans. (There is one general objective under CEPA which speaks to zero discharge but this cannot be interpreted to mean that, in the absence of specific regulation, the acceptable standard is zero.)

Outside the realm of CEPA, some guidelines and standards do exist.

In 1991, The Canadian Council of Ministers of the Environment (CCME) issued "Interim

Canadian Environmental Quality Criteria for Contaminated Sites". For PCDDs and PCDFs (expressed in 2, 3, 7, 8-TCDD equivalents, using NATO International Toxicity Equivalency Factors):

The Interim Assessment and Remediation Criteria for Soil and Water is 0.00001 ug/g in soil. No corresponding value has been established for water. (These assessment criteria are approximate background concentrations or approximate analytical detection limits for contaminants in soil and water.)

The Interim Remediation Criteria for Soil are 0.00001 ug/g and 0.001 ug/g for agricultural and residential/parkland soil respectively. No value has been established for commercial/industrial setting. (These remediation criteria are intended for generic use and do not address site-specific conditions. They are considered generally protective of human and environmental health for specified uses of soil and water at contaminated sites, based on experience and professional judgment.)

Under the Remediation Criteria for Water, no values have been established for dioxins and furans for freshwater aquatic life, irrigation, livestock watering or drinking water. (Remediation Criteria for water are presented for specified uses of water likely of concern at contaminated sites. These criteria are taken from the Canadian Water Quality Guidelines (CCREM 1987) and Guidelines for Canadian Drinking Water Quality (Health and Welfare Canada 1989).

Health and Welfare Canada advises against consuming fish which contain more than 20 ppt or 2, 3, 7, 8-TCDD.

OFFENCES AND PUNISHMENT

Sections 111 to 126 of CEPA deal with offences and punishment. The maximum fines and prison terms are \$1,000,000 and five years, respectively, depending on the offence. Individuals may seek to defend against a conviction on the basis that they exercised all due diligence to prevent commission of the offence.

Inspection, investigation and other enforcement powers authorized under CEPA are beyond the scope of this paper.

SUMMARY

The Canadian Environmental Protection Act controls the manufacture, import, export and/or use of different substances to varying degrees, depending on the nature of the substance and its potential (perceived?) to do harm to health or the environment.

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Dioxins and furans are controlled under CEPA in two ways: 1) as Toxic Substances and 2) as Hazardous Wastes Requiring Import and Export Notification.

Although dioxins and furans have been assessed as toxic, as that term is defined in the Act, these chemicals are federally regulated only in the context of pulp and paper mill effluent and defoamers. There is no general prohibition against the release of dioxins and furans from other sources. This apparent shortcoming in the legislation may be seen to imply that dioxins and furans raise a significant concern only in the pulp and paper industry. On the other hand, provincial legislation generally prohibits the release of any substance that will cause an adverse effect on the environment. Certainly, the release of dioxins and furans at very low concentrations from any source would come under scrutiny under provincial laws. In the pulp and paper industry, we have seen that federal/provincial agreements have ousted the application of CEPA where equivalent provincial legislation exists. Perhaps, in the on-going power struggle between the federal and provincial governments with respect to jurisdiction over legislation of environmental protection, the feds have so far elected to address dioxins and furans only in that area which was seen to be the focus of public concern. Certainly, CEPA may play a role in the regulation of these chemicals where provincial legislation is inadequate; further regulation of dioxins and furans is always possible under the Act. In order to avoid unnecessary overlap, however, the federal government should be hesitant to expand its regulatory authority under CEPA where provincial legislation already adequately protects human health and the environment.

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