COMMENT

Hazardous Wastes Law In Canada And Ontario: At The Skull and Crossroads

*by Joe Castrilli**

I. INTRODUCTION AND BACKGROUND

In the late 1970's, the Canadian Council of Resource and Environment Ministers increasingly perceived the need for action to deal with the environmental and health problems posed by toxic and hazardous wastes.[1] In October 1978, a federally sponsored workshop in Toronto, resulted in the decision by federal, provincial and industrial representatives to establish a Task Force to begin initially concentrating on the problem of hazardous waste definition in anticipation of subsequent comprehensive management of such wastes at the appropriate government level.

This summary comment on existing and prospective federal and Ontario programs addresses not only the problem of hazardous waste definition but problems of coordination between levels of government; legislative/regulatory control gaps within each level of government; problems in the flow of scientific/technical information to those expected to develop regulatory programs; and the roles of the public and industry. It concludes with recommendations for new directions in government legislation and policy in this area.

II. THE NATURE OF THE ENVIRONMENTAL AND HUMAN HEALTH PROBLEMS ASSOCIATED WITH HAZARDOUS WASTES

The federal government estimates that at least 32,000,000 tonnes of industrial wastes are generated annually in Canada (excluding agricultural, mining and pulp and paper wastes). Of this quantity, 3%, or approximately 1 million tonnes, are regarded as toxic or hazardous.[2]

**Associate Editor, CELR.*

Editor's Note: This article, in somewhat modified form, was prepared under contract to the Hazardous Waste Management Division, Environment Canada, Ottawa and submitted in March 1980 as a contribution to the work of the Federal Task Force on Hazardous Waste Definition. Views expressed here are those of the author and not necessarily those of the Department or the Task Force.

The Task Force on Hazardous Waste Definition (hereinafter the Task Force)[3] and the federal government generally,[3a] define hazardous wastes as those discarded materials or substances in solid, semi-solid, liquid or gaseous form which, due to their nature and quantity, require specialized waste management techniques for handling, transport, storage, treatment and disposal because they may cause or contribute to adverse, acute or chronic effects on human health or the environment when not properly controlled. Such wastes may contain: toxic chemicals; pesticides; acids; caustics; solvents; infectious, radioactive, ignitable or explosive substances or other materials in sufficient amount to cause death, cancer, birth defects, mutations, disease or infertility upon exposure.[4]

Environmental and health damage from such wastes may occur through:

- contamination of domestic groundwater supplies;[5]
- surfacewater contamination through direct dumping[6] and runoff;[7]
- direct physical contact with, or accumulation in, the body or the food chain;[8]
- air and odour pollution;[9,10]
- fire and explosions.[11]

The federal government acknowledges that:

> At present, the management of hazardous or toxic wastes on a national basis throughout Canada is not acceptable. In all geographic regions in Canada, some more so than others, hazardous wastes are being handled and disposed of in a manner that endangers public health and/or the environment.[11a]

The International Joint Commission's Great Lakes Water Quality Board has characterized the hazardous wastes problem as a "dilemma."[12] The European Community has recognized the threat posed by "toxic and dangerous wastes" as well.[13]

III. THE NATURE OF EXISTING REGULATORY CONTROL LAW AND ITS ADEQUACY

A. The Federal Role

There is no hazardous waste management law at the federal level in Canada.

This is the case notwithstanding the federal government's admission that toxic and hazardous wastes now rank as one of the highest priority environmental concerns in all regions of the country.[14]

The federal Environmental Contaminants Act, while welcome, is not a hazardous waste management law. It is a statute directed to control of the manufacture of new substances and to addressing problems resulting from certain substances already in use (e.g. PCBs, PBBs). Federal officials, however, admitted as late as November, 1977, that the Act's program suffers from severe funding and manpower constraints which limit choices of priorities for toxic substance study.[15] Moreover, the Act's reactive statutory processes of dealing with problems from individual substances, while arguably appropriate in relation to toxic substance control,[16] is a procrastinator's dream come true in so far as timely, comprehensive management of many waste substances at once is concerned.

The recently enacted Transportation of Dangerous Goods Act[17] may only provide a partial answer to the hazardous wastes problem - or no answer at all. The Act's purpose is to promote public safety in the transportation of dangerous goods. It authorizes the government to set safety standards and establish procedures for the handling of dangerous goods by rail, truck, air or water. Accidents resulting in the escape of such substances are required to be reported immediately to the appropriate authorities. The owner of the dangerous goods and anyone in control of them at the time of the accident are required to take all reasonable measures to repair or remedy any dangerous condition or reduce or mitigate any danger to life, health, property or the environment resulting from the occurrence. In addition the federal government can recover emergency clean-up costs from the owner or person who caused the accident.

However, the Act has been criticized for limiting the government's legal remedies to narrow principles of recovery based on fault and negligence - as opposed to strict liability, for example - as well as making it extremely difficult for members of the public to recover damages they might suffer. The Act has been further criticized for not creating a compensa-

tion scheme, funded by industry, which would allow the public to recover losses arising out of accidents in which they were innocent parties.[17a] Moreover, because of potential constitutional limitations, provincial environmental law recovery schemes might be inapplicable to railway or related transportation accidents that are arguably under exclusive federal jurisdiction.[17b]

Perhaps of greatest concern to the hazardous waste manager, however, is the possibility that "dangerous goods" are not necessarily synonymous with "hazardous wastes," and that there could be gaps in national regulatory, including waste tracking, coverage as a result. This concern was raised during House of Commons committee proceedings on the dangerous goods bill[17c] and has been voiced within the federal bureaucracy as well.[17d]

Nonetheless, the federal environment minister, John Roberts, has welcomed the passage of the Act, arguing that it will make it possible to control the international and interprovincial shipment of hazardous wastes "from cradle to grave," through development of a nation-wide manifest (waste tracking) system to assist federal and provincial governments in the overall management of hazardous wastes.[17e] If this is to be realized, the Ministry of Transport - the sole federal department responsible for the Act - will have to develop an environmental sensitivity for which it has not been traditionally noted.

Unfortunately, the role of Environment Canada is generally perceived - rightly or wrongly - to be in the main, limited to technology development, demonstration and information transfer.[18,19] Because this departmental activity takes place outside any statutory framework, it is especially vulnerable to political vagaries and perceived changes in government priorities and funding availability. As a result, one could at times question the federal commitment to fulfilling any role in this area.

B. Difficulties and Approaches in Waste Definition

This seeming vacuum at the federal level thus catches the government on a cleft stick of its own making when it urges development of a definition of hazardous wastes. Industry spokesmen have noted that there are problems

in establishing the scope and framework of a definition of hazardous wastes where there is no special legislation on the subject. They contrast the situation here with that in Europe and in the U.S., where legislation preceded definition. In Canada, without legislation, the industry foresees a risk of duplicated effort and/or problems of implementation.[20]

By contrast, in the United States, section 1004(5) of the Resource Conservation and Recovery Act of 1976 (RCRA) defines a hazardous waste, and section 3001 of the Act requires the identification and listing of such wastes.[21] Under the latter provision, the U.S. Environmental Protection Agency (US EPA) must:

- develop criteria for determining characteristics by which hazardous wastes can be identified;
- specify those characteristics; and
- list as hazardous, particular wastes.

It can be argued that this specification and listing process was adopted because the statutory definition of hazardous wastes was quite broad and general, if not vague. Moreover, it would appear that most countries in western Europe which have a hazardous waste program refine their statutory definitions with follow-up regulatory definitions which employ the list approach, the criteria approach, or both.[22]

Nonetheless, it is clear that an identification process is a key component of any hazardous waste management program, since whether or not a waste is deemed "hazardous" will determine whether a particular jurisdiction's full regulatory apparatus should be brought to bear.[23,24]

C. Ontario Policy and Law

Approximately 80 million gallons of liquid industrial wastes are generated every year in Ontario. As a result, the Ontario government has been compelled to develop a program to control the movement of such wastes. However, the program is still in its infancy and it is clear that the province is now looking to the federal government for direction and guidance on the

question of what should, in fact, be defined as a hazardous waste[25] - years after promulgation of the province's waybill regulation for industrial waste tracking.[26] Ontario law already defines both "hazardous" and "hauled liquid industrial waste,"[27] and waste registration and classification regulations are being developed.[28]

1. The Exemption of Waste Oils from Control

One potential problem with Ontario's regulatory program, however, is that "liquid industrial wastes" are defined differently in the waybill regulation and in the province's general waste management regulation. For example, "waste that is wholly used or recycled" is not meant to be included under the waybill's ambit.[29]

This is a potentially serious omission. Approximately 6.5 million gallons of waste oil annually are spread on about 2,000 miles of unpaved Ontario roads for dust control purposes.[30] Waste oils used for predominantly rural road oiling may present environmental and health problems.[31] In 1978, the Ontario Ministry of the Environment (MOE) released guidelines to restrict the amount of polychlorinated biphenyls (PCBs) in waste oil used to control dust on unpaved roads. Waste oils in storage for purposes of road oiling are subject to random spot sampling and analysis by the MOE. Where waste oils are found to have PCB levels above 25 parts per million (ppm) they are not permitted to be used for road dust control.[31a,32] These are guidelines, however, and have no legal effect. The MOE is now considering a road oiling regulation under The Environmental Protection Act 1971.[33]

The failure of the MOE to control waste oils appears to be a function of administrative manageability, as well as the difficulty the MOE has experienced in defining waste oil for regulatory purposes. Both problems were highlighted in an exchange between Murray Gaunt, Liberal environment critic and Ed Turner, Waste Management Branch, MOE, before a 1978 standing committee of the Ontario Legislature.[34]

Generally, in spite of recent Ontario initiatives such as the spills bill,[35] the waybill regulation and the Minister's seven-point program on industrial wastes,[36] there are still serious gaps in the province's regulatory efforts in this area.

2. The Waybill Regulation and the Problem of Illegal Dumping

The purpose of the waybill regulation is to require the generators and haulers of liquid industrial wastes, as well as the operators of disposal facilities, to provide information to the MOE respecting the nature and quantity of wastes they have from the point of generation to that of ultimate disposal. However, some industry spokesmen, while calling it a first step, have questioned its efficacy, suggesting that "...there are many loopholes in it and it doesn't mean very much unless it is policed."[37] Other industry spokesmen have said that the waybill system has not provided comprehensive information as to where all the wastes are going and has not provided a detailed analysis of the type and quantities of wastes requiring disposal."[38] Others have criticized the system as follows:

> Lack of effective enforcement of regulations requiring waste to be disposed of in proper facilities is the most glaring weakness of the regulatory program. The waybill system is fundamentally flawed. There must be some mechanism to assure cradle to grave tracking of each and every shipment of chemical waste and this is not the case today. Under the present system the generator has no knowledge of the ultimate disposal site for his waste. Likewise the treatment or disposal site is not advised of the source of its waste....We feel it would be most advantageous to require that the generator actually designate the final site. Because then he will know and he can be held responsible for having assured that it be directed to a permanent facility.
>
> This lack of accountability through the waybill process subverts the intent of the waybill system. A single uniform waybill system should be prepared by the generator of chemical waste and should accompany the shipment while it is in the custody of the transporter and given finally to the treatment or disposal site operator. The treatment or disposal site operator should acknowledge receipt of the materials and copies of the completed form should be filed with the provincial government and with the generator. In this way, the generator can be held responsible for the disposal of his waste. In this way also the ministry can be in a position to account for delivery of all chemical waste to proper disposal facilities. At the present, the transporter makes the determination of where the waste will go. For conventional waste such a system is perfectly adequate but for chemical waste we feel that responsibility should fall to the generator who can better determine which site is capable of handling the particular types of waste which he generates...[39]

The waybill system also does not record liquid industrial wastes that are either stored[40] or disposed of[41] on the generator's premises. This has also been criticized by industry spokesmen:

> In cases where the generating industry attempts to fulfill the function of final disposal with on-site disposal operations, those facilities should be subjected to the same regulatory requirements as those operated by the waste service industry...The environmental damage which can be done by an improper site operated by a generator is every bit as severe and threatening as is possible contamination from a site which accepts wastes from many generators. If generators are not required, by use of a waybill system, to account for all wastes which emanate from their facility, the possibility exists that clandestine dumping of these wastes may be an alternative disposal strategy chosen by irresponsible generators who wish to avoid the regulatory apparatus which an effective waybill system will create.[42]

Indeed, clandestine or illicit dumping of liquid industrial wastes persists as a key problem in many western jurisdictions, including the United Kingdom,[43] the U.S.[44] and Canada[45]. In Ontario, its occurrence underscores the continued weaknesses of the waybill system. The problem was admitted to by members of the waste hauling industry itself, during 1978 Ontario standing committee hearings.[46] The Ontario government also admitted during these hearings that there are enforcement problems in this area.[47]

More recently, the province released a report which indicated that seven certified waste disposal sites were not specifically designated for liquid industrial wastes but were receiving them anyway. Two additional sites, which were not certified at all under Ontario law, were also reported to be accepting liquid industrial wastes.[48] One of the two companies was subsequently convicted in, November 1979, under The Environmental Protection Act, 1971 for illegally operating a waste disposal site (in reality a worked out gravel pit).[49] This conviction came at a time when the company was seeking government approval to establish, on the same land, the largest landfill site in Canada. Ironically, the approval sought specifically indicated that the site would not be used for liquid industrial waste disposal.[50]

3. Abandoned Sites

Liquid industrial or hazardous waste contamination from abandoned or inactive sites is also a problem that plagues many jurisdictions. Closed or abandoned sites have been reported to threaten public health and the environment,[51] including surface and groundwater.[52] They can also delay new

development projects wanted by industry.[53] Moreover, because clean-up measures are frequently expensive, delicate and relatively untested, the prospects for success are often uncertain.[53a,54]

Ontario statute law does not require identification and remedial control of sites closed before provincial waste management law came into force in 1971. However, in 1979, the province commenced a program to locate long abandoned sites. This appears to be, in part, a response to frequent pressures for development on or near lands which may have had dumps on them.[55]

The special project turned up approximately 800 dumps previously unknown to the MOE. The university search team indicated that there might be 2,000 to 3,000 more unrecorded sites in southern Ontario alone. Potential problems with, or contents of, the sites are not yet known, though the search team reported that few, if any, were likely to contain hazardous wastes. However, the team's report also recommended research by specialists in industrial waste.[56]

A 1977 report to the International Joint Commission respecting Great Lakes pollution, advised that based on discrepancies found in two MOE documents, there might be as many as 2,400 unaccounted for dumps in Ontario. However, it made no findings with respect to how many, if any, might contain industrial or hazardous wastes.[57]

Ontario statute law is not the only legislation that is silent on the problem of long-closed sites. The much newer RCRA itself fails to address the serious difficulties presented by inactive and abandoned dump sites. Moreover, the US EPA appears reluctant to regulate inactive sites because of the potentially "enormous technical, legal and economic problems" that might follow.[58] For example, in many cases it is difficult to take enforcement action because ownership has been transferred or relinquished and legal liability and financial responsibility may therefore be difficult to establish. Many of these constraints apply in Ontario as well.[58a]

In the absence of a clean-up fund for abandoned industrial waste sites, remedial measures in Ontario or other parts of Canada, would be inadequate. As a response to the problem, Ontario has recently issued a report which

reviews the options respecting establishment of a perpetual care fund for waste disposal sites which would cover both existing and abandoned operations. Establishment of such a fund would require new legislation.[59]

4. Waste Reduction and Recovery

Federal and Ontario law and policy are especially lacking in the areas of waste reduction, re-use, reclamation, recovery and related management options.[60] Indeed, these matters are conspicuous by their absence from Ontario's seven-point program on industrial waste. This is not surprising, since the program is centred almost exclusively on disposal.[60a]

In contrast, however, the European Community directive on toxic and dangerous wastes deals with such matters as prevention, re-use, recycling, extraction of raw materials and energy as appropriate steps to be encouraged by member states.[60b] Similarly, NATO documents[60c] support many of the same approaches.

Environmental groups at the 1978 Ontario standing committee hearings on liquid industrial wastes argued that government guidance and legislation were needed to encourage industry to engage in waste reduction at source.[61] Opposition environment critics also argued for greater government initiative to ensure waste prevention, reduction and recovery.[62]

By comparison, the US EPA has specified desired management options for hazardous waste prior to ultimate disposal in secure sites. These include:

- reduce the generation of hazardous waste;
- separate and concentrate hazardous waste;
- utilize waste through exchange or recovery.

A recent U.S. General Accounting Office study noted that, according to state and industry officials, these techniques have not gained general acceptance or wide use because they are more expensive than land disposal. They are expected to become more competitive as more stringent controls over disposal and increased enforcement cause disposal costs to rise.[63]

IV. NEW DIRECTIONS FOR LAW AND POLICY

A reasonable direction for the evolution of government policy and law - and for the moment no distinction is made as to federal or provincial - would be the establishment of mandatory provisions for reclamation, re-use and recovery of hazardous wastes to the maximum extent feasible in conjunction with controls directed to better waste tracking, waste reduction and abandoned site control.[64] Currently, with the single exception of Ontario's waybill regulations, one cannot find any of the above matters in our law.[65]

Given the national dimensions of the crisis, it is reasonalbe to conclude that it is only solvable through the combined jurisdictions of the federal and provincial governments. The International Joint Commission has been advised by both the U.S. and Canadian governments that, while responsibility for control of hazardous wastes rests primarily with the state or provincial level of government, federal governments are responsible for certain aspects of siting and interstate, interprovincial and international transportation of waste materials.[66] Yet, it is equally reasonable to argue that by resorting to the knee-jerk response, "It is primarily a provincial matter," Ottawa has failed to resolve what statutory role, if any, it should play in the hazardous waste issue. In the process, it has succeeded in confusing the public, industry and the provinces. Federal inaction quite possibly has been an underlying factor in the absence of planning, fiscal and institutional arrangements necessary to solve the problems associated with increasing quantities of toxic industrial waste.

A. Constitutional Aspects

It is submitted that there is a constitutional basis for hazardous waste management law at the federal level. Under The British North America Act, 1867, Parliament was authorized "to make laws for the peace, order and good government of Canada." While this clause has been subject to much judicial scrutiny, there are areas of ambiguity. However, it has been held to be capable of supporting federal legislation where the subject matter has attained "national dimensions"[67] or become a matter of "national concern."[68] The information available respecting the hazardous waste problem in Canada should permit it to fall under this clause.

The Task Force was advised by Transport Canada that it found constitutional authority to control transportation of dangerous goods not merely as undertakings or connections of an interprovincial nature but as a matter of public safety under the peace, order and good government clause. Transport further advised that this broader constitutional basis would permit it to place statutory responsibilities on the shipper/manufacturer of dangerous goods and not simply on the carrier.[68a] The Environmental Contaminants Act is similarly justified on this basis to control manufacturers of toxic substances.

B. Controlling Both Hazardous Wastes and Dangerous Goods: A Transportation Example

The need for federal hazardous wastes law may be nowhere better exemplified than in the area of transportation of such materials. To date Environment Canada has been hesitant to assert any federal environmental jurisdiction over hazardous wastes beyond that presumed to exist under transportation of dangerous goods legislation. Yet, it has been advised that the criteria for hazardous wastes (from US EPA) as compared with that for dangerous goods (from DOT Canada) are not compatible, except for reactive, flammable and infectious materials. The criteria for corrosivity, toxicity, radioactivity and the more exotic hazards of phytotoxicity, carcinogenicity, teratogenicity, mutagenicity and bioaccumulation either vary markedly or are non-existent.[69] In short, dangerous goods can be conceived of as a small circle partially overlapping a much larger circle known as hazardous wastes. Such a dangerous goods bill, quite simply, would not be adequate to deal with hazardous wastes transport.

Moreover, the prospect of ten markedly different provincial hazardous waste waybill or manifest systems, piggy-backed onto the obviously narrow dangerous goods system, would be very unsatisfactory, especially for interprovincial transport of such wastes. Uncoordinated and varying provincial waybills, in the absence of some common federal waste tracking requirements, could result in lost or mishandled waste shipments, confusion for industry and a lessening in the likelihood of compliance.[70]

The argument for at least a federal hazardous waste waybill law seems to be compelling, both on constitutional and regulatory grounds. While beyond the scope of this comment, the same conclusions may be valid for federal law on other aspects of hazardous waste management as well.

C. Abandoned Site Fund

Among the key provincial initiatives to date has been the Ontario proposal noted above[70a] to establish a perpetual care fund for clean-up of existing and inactive or abandoned sites. The fund could be financed through an industry surcharge, based on type, toxicity or weight/volume of waste disposed. The Ontario proposal, and similar ones in other jurisdictions,[71] have been controversial because industry argues that they should not have to pay for the sins of their predecessors.

However, there is precedent for such an approach in a proposed Ontario mining bill under which the gravel industry would be required to contribute to a rehabilitation fund for abandoned pits and quarries.[72] While the gravel industry has complained on the same grounds as the waste industry,[73] the province supports the approach because of environmental and social benefits to be gained from rehabilitating thousands of acres of land left derelict by the industry.[74]

D. Waste Facility Siting: The Role of the Public and Industry

One of the most important components of managing hazardous wastes is the siting of new facilities. Yet the lack of adequate sites in Ontario has reached almost crisis proportions.[74a] Under Ontario law, a public hearing is required before a decision may be made as to whether a certificate of approval should be issued for a waste disposal site for hauled liquid industrial or hazardous wastes.[75]

Notwithstanding the views expressed by government[76] and industry[76a,77] that the public is largely responsible for blocking the establishment of new sites, hazardous waste siting proposals have often been rejected on technical, not emotional, grounds. Public intervenors, despite the lack of adequate funding, have frequently shown that the industry has simply

not done its technical homework by the time of provincially required public hearings. For example, in the 1977-1978 Nanticoke liquid industrial waste treatment and landfill proposal, the findings of both the Environmental Assessment Board[78] and the Director of Environmental Approvals for the Ontario Ministry of the Environment[79], based largely on public intervenor evidence included:

- a finding of inadequate hydrogeological investigation by the company;
- a finding of unsatisfactory provision of leachate handling;
- a finding of unsatisfactory provision for monitoring and site management;
- a finding that the wrong discharge point was chosen;
- a finding of unsatisfactory provision for contingencies;
- a finding of unacceptable further deterioration of groundwater quality; and
- a finding that there was a lack of demonstration that effluent quality would be acceptable.

The example demonstrates the need for government to seriously consider public funding of intervenors not public castigation of them. It has been said that sophisticated public interventions can result in sounder environmental siting decisions, with an additional benefit being that resource recovery and waste reduction opportunities will be enhanced because cheap, inadequate disposal will no longer be acceptable. If anything, there has been some suggestion in the Ontario Legislature that the provincial government may be moving in the opposite direction, i.e., toward funding or compensating companies who are unsuccessful at future hearings.[80]

If the establishment, operation and decommissioning of such facilities should be a provincial responsibility[81], then it is submitted that it should be carried out on the basis of the "polluter pays" principle. There should be a substantial and continuing financial contribution to the program by the waste generators themselves.

V. CONCLUSIONS

Hazardous wastes pose serious potential threats to public health and the environment unless they can be properly managed. Yet Canada lacks a coordinated national program to deal with them. With some exceptions, the federal government has not provided leadership on this issue, notwithstanding its substantial technical knowledge in this area. It has a larger constitutional jurisdiction than it seems ready to accept. It lacks both a coherent plan and adequate statutory authority and thus appears to have little credibility with the public, industry or the provinces on this issue. Under these circumstances, an attempt to define and identify hazardous wastes, while a welcome sign of concern, is simply not good enough.

The provincial situation is characterized by problems of illegal dumping, inadequate or no waste tracking capability, abandoned sites, insufficient enforcement, new programs with serious loopholes, increasing quantities of toxic waste for which insufficient disposal sites exist, and public concern, if not intransigence, partly resulting from past government and industry performance.

It is submitted that a reasonable overall direction for government policy and law - federal and/or provincial - would be the establishment of mandatory provisions for reclamation, re-use and recovery of hazardous waste materials to the maximum extent feasible in conjunction with controls directed to better waste tracking, waste reduction and abandoned site control. Government should fund citizen intervenors for waste facility site hearings because such public interventions can result in sounder environmental siting decisions, with the additional benefit being that resource recovery and waste reduction opportunities will be enhanced because cheap but inadequate disposal will no longer be acceptable.

VI. NOTES

1. Correspondence from R.J. Fry, Chief, Hazardous Waste Management Division, Environment Canada, Ottawa July 19, 1979.

2. Statement of E. Carey, Chief, Hazardous Waste Management Division, Environment Canada to the Second Meeting of public interest groups and the Canadian Environmental Advisory Council, November 21-22, 1977, Ottawa. See Canadian Environmental Advisory Council. Reports of the First and Second Meetings of Public Interest Groups with the Canadian Environmental Advisory Council. Report No. 7, May 1978. p.71.

3. Task Force on Hazardous Waste Definition. Minutes of the Second Meeting, October 18-19, 1979. Environment Canada, Ottawa.

3a. Supra note 2.

4. Task Force on Hazardous Waste Definition. Report of the Sub-Group on Criteria. Draft Working Paper as adopted by the Task Force. January 15, 1980, Environment Canada, Ottawa.

5. "Old cyanide dump called threat to Niagara-on-the-Lake's wells," The Globe and and Mail, March 22, 1979.

6. R. Hanley, "Dumping of Acid Into Arthur Kill Alleged in New Jersey," The New York Times, February 20, 1980.

7. S. Oziewicz, "Fencing Arsenic-Laden Site Useless, MOH Says", The Globe and Mail, November 14, 1979. (Contamination of Moira River system near Belleville, Ontario feared).

8. U.S. Environmental Protection Agency. Office of Solid Waste Management Programs. Report to Congress: Disposal of Hazardous Wastes (SW-115, 1974). See also M.H. Brown. "Love Canal and the Poisoning of America." The Atlantic Monthly. December 1979.

9. U.S. Environmental Protection Agency. Office of Solid Waste Management Programs. Hazardous Waste Disposal Damage Reports. Washington, D.C. June 1976. (Poison fumes reported to have overcome workers in a Maryland landfill).

10. F.F. Marcus, "Cleaning Up Toxic Waste: A Long and Dirty Road; Rural Abuse." The New York Times. April 22, 1979 p. E5, (A 19-year-old Louisiana truck driver died from hydrogen sulfide gas formed by the reaction of the alkaline spent caustic he was dumping into a waste pond with the acid waste already there).

11. B.A. Franklin, "Cleaning Up Toxic Waste: A Long and Dirty Road; Urban Neglect". The New York Times. April 22, 1979 p. E5, (10,000 drums of reactive chemical waste burst into explosive flame forcing the closing of a bridge and the sending of 43 firemen to hospitals for treatment near Philadelphia, Pa.).

11a. Supra note 2.

12. International Joint Commission. Sixth Annual Report on Great Lakes Water Quality to Canada and the United States. 1978.

13. Council of European Communities. "Directive on Toxic and Dangerous Wastes of 20 March 1978." Official Journal of the European Communities. 31.3.78 No. 1 84/43.

14. T.E. Rattray, Director, Waste Management Branch, Environment Canada, Ottawa. "The Federal Approach to Hazardous Waste Management," a speech delivered at the Proceedings of the 26th Ontario Industrial Waste Conference June 17-20, 1979 Toronto, Ontario.

15. Supra note 2, p.73.

16. Indeed, the Act has been strongly criticized for this step-by-step approach. The Act has been said to be better-suited to coping with single chemical-single effect relationships than with the often subtle and indirect effects of chemical complexes, often acting in minute quantities over long periods of exposure. See R.H. Hall and D.A. Chant. Ecotoxicity: Responsibilities and Opportunities. Canadian Environmental Advisory Council. Report No. 8. August 1979. The Act has also been generally criticized as being an inadequate information-gathering tool. Supra note 12.

17. Bill C-18. As passed by the House of Commons, July 16, 1980.

17a. Canadian Environmental Law Association. Submission to the Standing Committee on Transport Regarding Bill C-18, An Act to Promote Public Safety in the Transportation of Dangerous Goods. June 1980.

17b. House of Commons. First Session, 32nd Parliament. Minutes of Proceedings and Evidence of the Standing Committee on Transport Respecting Bill C-18, An Act to Promote Public Safety in the Transportation of Dangerous Goods. Comments of Mr. Benjamin, committee member. Issue No. 12. Page 42. July 10, 1980. Ottawa.

17c. Supra note 17b. Comments of Mr. Benjamin. Page 59.

17d. Infra note 69 and accompanying text.

17e. Environment Canada. News Release, "Dangerous Goods Act Welcomed by Roberts." July 23, 1980. Ottawa.

18. Supra note 2, p.72 regarding the current focus of Environment Canada activities.

19. See, Environment Canada Press Release. "Hazardous Waste Management Study Announced by Environment Canada." 79-26 October 1979. Edmonton, Alberta.

20. Dr. John D. McIrvine, Canadian Industries Ltd. "Summary of Industry Viewpoint from Workshop on Definition of Hazardous Waste" in Proceedings of Hazardous Waste Seminar sponsored by Environment Canada, October 26, 27, 1978 Toronto, Ontario. pp. 5-2, 5-3.

21. 42 U.S.C. sections 6901-6987. U.S. EPA issued its proposed section 3001 regulations in December 1978. See 43 Federal Register. 58946 (December 18, 1978).

22. North Atlantic Treaty Organization. Committee on the Challenges of Modern Society. Disposal of Hazardous Wastes: Recommended Procedures for Hazardous Waste Management. Number 62 (June 1977).

23. U.S. environmental groups have criticized the proposed U.S. EPA regulations as giving inadequate coverage to potentially hazardous wastes because of insufficient listing, limited identification of characteristics, and inadequate testing procedures. See "The Hazardous Waste Crisis: EPA Struggles to Implement RCRA; Amendments Needed," 9 ELR 10060. April 1979.

24. In Michigan, it has been argued that the lack of a definition of hazardous wastes in a proposed bill has resulted in a Governor's Task Force reporting

that there are 4.8 million tons of hazardous wastes requiring disposal per year in the state while the Michigan Department of Natural Resources estimates only 1.3 million tons per year of such wastes. Testimony of J.L. Dauphin, West Michigan Environmental Action Council, to the Special House Legislative Committee on Hazardous Waste Legislation. Lansing, Michigan. March 5, 1979.

25. See, for example, correspondence of E.W. Turner, Ontario Ministry of the Environment to the Task Force on Hazardous Waste Definition, undated, where it is noted that the formulation of a definition of hazardous wastes is deemed very critical to the province and its regulatory programs.

26. See O. Reg. 926/76. Transfers of Liquid Industrial Waste. This regulation, promulgated under The Environmental Protection Act, 1971, came into force April 1, 1977.

27. R.R.O. 1970, Reg. 824 as amended, Section 1. This regulation is also promulgated under The Environmental Protection Act, 1971.

28. Hon. H. Parrott, Minister of the Environment. Statement to the Standing Committee on Resources Development on "A Seven-Point Program for the Disposal of Liquid Industrial Waste." Legislative Assembly of Ontario. October 17, 1978, Toronto, Ontario.

29. Supra note 26, section 1(vii)

30. Hon G.R. McCague, Minister of the Environment. Statement to the Legislative Assembly of Ontario on Guidelines for Waste Oil Use. April 28, 1978. Toronto, Ontario.

31. The provincial government has been undertaking studies to determine whether there are any adverse environmental or health effects associated with the practice of using waste oils for road oiling. Comments of E.W. Turner, Waste Management Branch, Ontario Ministry of the Environment to the Standing Committee on Resources Development, Legislative Assembly of Ontario. Vol. R-34. October 18, 1978. Page R-1120-1. Toronto, Ontario

31a. Supra note 30.

32. Ontario Ministry of the Environment. Interim Guideline Respecting the PCB Content of Waste Oils for Specific Applications. April 1978.

33. L.F. Pitura, Waste Management Branch, Ontario Ministry of the Environment. "Ontario Industrial Waste Disposal-Guidelines, Regulations and Related Activities," a speech delivered at the Proceedings of the 26th Ontario Industrial Waste Conference. June 17-20, 1979. Toronto, Ontario.

34. See Standing Committee on Resources Development. Legislative Assembly of Ontario. Vol. R-34. October 18, 1978. Pages R-1125-2 and R-1130-1,2. Toronto, Ontario:

> Mr. Gaunt: ... The problem in the waybill system is that waste oils are exempted; we've talked about that, and I think it is a problem. You have the study of road-oiling and the investigation of environmental health hazards associated with road-oiling etc.... The problem as I see it with waste oil, or at least the biggest problem, is the possibility

that waste oil may contain PCBs.... These things are appearing all over the place; they are appearing in everything from little water courses to mother's milk. Nobody seems to be able to put a handle on the source. So obviously they are coming form somewhere, and obviously they are coming from a source that enjoys fairly widespread use. For that reason, it seems to me that road-oiling could conceivably be a possibility.

Therefore, I come back to the question, is there anyway outside of requiring that all waste oils come within the jurisdiction of the waybill system, to ensure that waste oil doesn't include PCBs? Aside, of course, from a very elaborate testing system, where we have to go into every service station in the province and test their waste oil. Aside from that - which is a possibility, but I suggest is a very expensive one - is there a way to ensure that waste oil does not contain PCBs, aside form putting it under the waybill system?

Mr. Turner: ... I don't think even a waybill system will ensure that waste oils don't contain PCBs. The facts are that, based on our assessment of the problem, most waste oils in storage throughout the province when we sampled them did, in fact, contain levels of PCB. I think we mentioned it, the estimates that up to levels of 1,100 parts per million were found.

Since then more recent assessments indicate that the levels are generally below about 100 parts per million. The problem with including waste oils in the waybill system is a very practical one, and that is that there are some 26,000-odd service stations in the province which generate waste oils - garages and industrial complexes - and for each one of these to be...covered by a piece of paper or two, would make the waybill system as we envisage it rather unmanageable....

One other complication - this is not an excuse, but a very practical complication - is that it is practically impossible to legally define waste oil. In our waybill regulation, we have had to rely on commonly accepted jargon, such as liquid industrial wastes and waste oils,contrary to the wishes of the legal services branch. But the definitions of liquid industrial waste and waste oils are extremely complicated....

35. The Environmental Protection Amendment Act, S.O. 1979, c.91. This Act requires anyone involved in a spill of any contaminant to report the accident immediately, clean up the spill and restore the environment to its previous condition. It also provides for establishment of a compensation fund for victims of such spills.

36. Supra note 28. The seven-point program includes waste facility establishment; interim waste storage; waybill monitoring; waste classification; regulation development; transboundary movement and; perpetual care including long-abandoned waste disposal site inventory and control.

37. Comments of Alex Thomas, of Thomas Waste Removal Ltd. in "Toxic waste dumped in fields, sewers," The Globe and Mail. June 8, 1977. See also "Environment Minister Kerr agrees that liquid waste being dumped illegally," The Globe and Mail. July 6, 1977.

38. Testimony of R. Day, President, Tricil Ltd. to the Standing Committee on Resources Development. Legislative Assembly of Ontario. Vol. R-35. October 18, 1978. Page R-1500-1. Toronto, Ontario.

39. Testimony of R.L. Hanneman, National Solid Waste Management Association to the Standing Committee on Resources Development. Legislative Assembly of Ontairo. Vol. R-36. October 19, 1978. Page R-1050-1. Toronto, Ontario.

40. James F. MacLaren Ltd. Consulting Engineers, Planners and Scientists. Development of Treatment and/or Disposal Sites for Liquid Industrial Wastes and Hazardous Wastes. An Interim Summary Report to the Ontario Ministry of the Environment. Page 2-3. August 1979.

41. Supra note 26. Section 1(vi).

42. Supra note 39. Page R-1055-1.

43. In Britain, the problem was so bad that in 1964 the government established a working party, the Key Committee, to investigate the extent of "fly-tipping" as clandestine dumping is known in that country. The committee, which reported in 1970, documents numerous cases of pollution through the burial or dumping of cyanides, pesticides, tar sludges and other wastes. See, generally, Nicholas Hildyard, "Down in the Dumps: The problem of toxic waste disposal in Britain and the U.S.," The Ecologist Vol. 9, No. 10. December 1979. Cornwall, United Kingdom.

44. A spokesman for the New Jersey Department of Environmental Protection noted that the illegal dumping of industrial waste has become a thriving industry. See "Toxic Dumping Crackdown Gets Mixed Results," The New York Times, April 15, 1979. See also the comments of D.M. Costle, administrator of the U.S. EPA who indicated that the newly established federal manifest system for hazardous waste tracking was "directed specifically at the midnight dumper who surreptitiously dumps wastes in sewers, fields or in the woods." Phillip Shabecoff, "U.S. Issues New Rules to Control Disposal of Hazardous Chemicals," The New York Times, February 27, 1980. P. A16.

45. Supra note 37. See also Environment Council of Alberta. The Management and Disposal of Hazardous Waste: Background Information. Bulletin No. 1. January 1980. Page 13. Edmonton, Alberta.

46. See Standing Committee on Resources Development. Legislative Assembly of Ontario. Vol. R-38. October 20, 1978. Page R-1040-1. Toronto, Ontario. The following is an excahnge between Ian Deans, M.P.P. and Alex Thomas, President of an Ontario waste hauling company:

> Mr. Deans: Do you have any direct knowledge personally of illegal dumping?....
>
> Mr. Thomas: Yes, I've been told about, and have seen illegal dumping.
>
> Mr. Deans: All right; we hear of people driving along just dumping it in the ditch as they drive. We hear of others who just inadvertently leave the drain cock open so that it

dribbles out along the road. We heard yesterday of people taking it in drums and disposing of it in the woods. That wasn't here incidentally that was in the States. We hear of people who just simply own a piece of property and take it out and just dump it on that piece of property.

Mr. Thomas: That's right. It can be mixed with sewage and dumped in an area that is for sewage landfilling, if you will, or on their own property; in gravel pits, it can be put in under the guise of being dust control.

Mr. Deans: And you believe that is happening?

Mr. Thomas: I know it is happening.

47. Supra note 46. Page R-1120-1. The following is the testimony of Ed Turner, MOE:

Mr. Turner: ....Now there are a variety of types of materials that are hauled around. Liquid industrial wastes are one type. We have a number of people in the business of hauling septic tank sewage sludge. The comment is frequently made by people in the business...that someone can get a certificate of approval to haul septic tank sludge and with that certificate they then go into the business of hauling liquid industrial wastes. My only comment on that is if the ministry finds out about it then we will prosecute, and I believe we have prosecuted for this very thing on a number of occasions. But it's extremely difficult to find out. If somebody has approval to haul septic tank sludge and they have approval to dispose of it on a farm, and that's part of the whole management system, then short of us going there and sampling every batch that's dumped we really have no way of telling whether or not somebody has slipped a batch of liquid industrial wastes in there. It's really down to this fundamental problem of enforcement.

48. Hon. Harry Parrott, Minister of the Environment. Details on Waste Site Identification Program. Released June 22, 1979. See also Appendix "A" to that report. List of Waste Disposal Sites Accepting Liquid Industrial Wastes. May 1979. The problem of toxic wastes going to landfills not permitted to accept them has also been noted in Edmonton, Alberta. See Environment Council of Alberta. The Management and Disposal of Hazardous Waste: The Administration and Regulation of Hazardous Waste. Bulletin No.2. January 1980. Page 25. Edmonton, Alberta.

49. See, Final Argument of the Canadian Environmental Law Association on behalf of the Maple Against Dumping Subcommittee to the Ontario Environmental Appeal Board on the applicztion and appeal under the Environmental Protection Act by Superior, Sand, Gravel and Supplies Ltd. and Crawford Allied Industries to establish a waste disposal site in the Town of Vaughan. January 1980.

50. Application for Certificate of Approval under the Environmental Protection Act for a waste disposal site filed by Crawford Allied Industries. March 30, 1976. Exhibit 3 before the Ontario Environmental Appeal Board.

51. U.S. General Accounting Office. Report to the Congress by the Comptroller General of the United States. How to Dispose of Hazardous Waste - A Serious Question That Needs to be Resolved. December 19, 1978. CED-79-13. Washington, D.C. pp. 23-24.

52. International Joint Commission. Great Lakes Water Quality Board. 1978 Annual Report. July 1979. Windsor, Ontario. Page 70.

53. See "Editorial: The Riverview Dump," The Detroit News. December 17, 1979. (Discovery of an old chemical dump buried on the site of a proposed marine terminal was seen as likely to delay the project's start-up).

53a. Supra note 51.

54. "New Jersey Will Clean Up 12 Toxic Waste Sites Under $3 Million Plan," The New York Times. March 5, 1980. Page B2.

55. Section 46 of The Environmental Protection Act forbids the use (building on) land that has been a landfill site within 25 years of site closure, without approval from the Minister of the Environment. This provision is meant to prevent methane gas explosions from occurring in such buildings. (Landfills generate methane gas for years, sometimes decades, as dumped material decomposes).

56. M. Keating,"800 'lost' dumps are tracked down; contents unknown," The Globe and Mail. December 11, 1979.

57. J.F. Castrilli. Control of Water Pollution from Land Use Activities in the Canadian Great Lakes Basin: An Evaluation of Legislative, Regulatory and Administrative Programs. Prepared for IJC-PLUARG Task Group A (Canadian Section). Windsor, Ontario 1977. p.204.

58. Supra note 21. 43 Federal Register 58984.

58a. See, for example The Director, Ministry of the Environment v. Mississauga (1979) 9 CELR 24 (Ontario County Court) where it was held that despite the existence of high levels of methane gas escaping from a closed waste disposal site, the Ontario Ministry of the Environment cannot issue control orders under the EPA imposing newobligations on either current or former owners of a site, once the use of the site has ceased.

59. Ontario Ministry of the Environment. Perpetual Care for Waste Management Facilities. Interim Report. August 1979.

60. An exception to this general statement is the Canadian Waste Materials Exchange which is operated for Environment Canada by the Ontario Research Foundation. The Waste Exchange attempts to find new industrial uses for industrial waste materials based on the concept that "one man's garbage is another man's gold." The exchange is really a clearinghouse that brings together waste owners and prospective buyers or users. The program is seen as only a modest contribution to alleviating the need for waste disposal. See testimony of Dr. R. Laughlin, Ontario Research Foundation to the Standing Committee on Resources Development. Legislative Assembly of Ontario. Vol. R-34. October 18, 1978. Toronto, Ontario.

60a. Supra notes 28 and 33.

60b. Supra note 13.

60c. Supra note 22.

61. Testimony of W. Glenn, Pollution Probe to the Standing Committee on Resources Development. Legislative Assembly of Ontario. Vol. R-37. October 19, 1978. pp. R-1415-2, R-1420-1,2. Toronto, Ontario.

62. Comments by M. Gaunt (Liberal) and M. Bryden (NDP) before the Standing Committee

on Resources Deveolopment. Legislative Assembly of Ontario. Vol. R-37. October 19, 1978. pp. R-1615-1, R-1630-2, and R-1635-1. Toronto, Ontario

63. Supra note 51, pages 17 and 18. Certainly, recovery, reclamation and re-use are seen by the international community as technical solutions that are generally available. See International Joint Commission. Great Lakes Water Quality Board. 1977 Annual Report - Appendix F: Report on Hazardous Waste Disposal. July 1978. Windsor, Ontario.

64. The issue of waste facility siting is, of course, of integral importance, but is discussed separately below.

65. Legislation, to include a manifest or waybill system, has recently been recommended by an Alberta provincial advisory committee. See Alberta Environment. Hazardous Waste Management Committee. Hazardous Waste Management in Alberta. (Undated though the committee was established in September 1979). Edmonton, Alberta.

66. International Joint Commission. Great Lakes Water Quality Board. 1977 Annual Report. July 1978. Windsor, Ontario.

67. Attorney-General of Ontario v. Attorney-General of Canada, /1896/ A.C. 348

68. Johannesson v. West St. Paul, /1952/ 1 S.C.R. 292 (federal power over aviation); Munro v. National Capital Commission, /1966/ S.C.R. 663 (national capital commission); Reference re Offshore Mineral Rights /1967/ S.C.R. 792 (minerals off the shore of British Columbia); and The Queen v. Hauser, Supreme Court of Canada decision of May 1, 1979 (control of narcotics).

68a. From author's notes taken during a meeting of the Task Force, October 18 and 19, 1979, Ottawa. See also House of Commons. First Session, 32nd Parliament. Minutes of Proceedings and Evidence of the Standing Committee on Transport Respecting Bill C-18, An Act to Promote Public Safety in the Transportation of Dangerous Goods. Submission of the Hon. Jean-Luc Pepin, Minister of Transport wherein he indicates that the Bill is founded on the constitutional heads of peace, order and good government and the criminal law so as to cover both manufacturers and carriers. Issue No. 1. Page 1A-3. May 29, 1980. Ottawa.

69. Correspondence from A.D. Pittuck, Contaminants Control Branch, Environment Canada (Co-ordinator for transport regulations) to P.G. Rodgers, Hazardous Waste Management Division, Environment Canada. October 16, 1979. Ottawa, Ontario.

70. This very problem has been outlined in P.G. Waldrop, Hazardous Waste Manifests: Toward a Common System. Great Lakes Basin Commission. November 1979. Ann Arbor, Michigan. (This is, of course, a review of the U.S. situation).

70a. Supra note 59.

71. "Manufacturers' Fees Weighed for Cleaning Chemical Waste Sites," The Wall Street Journal. April 12, 1979. (A U.S. House of Representatives subcommittee is exploring the idea of imposing fees on chemical manufacturers to pay for cleaning up abandoned dump sites).

72. Bill 127. The Aggregates Act, 1979. (Ontario). Part IV. Abandoned Pits and Quarries. First Reading, June 14, 1979.

73. See testimony of B.G. Armstrong, Aggregate Producers Association of Ontario to the Standing Committee on Resources Development. Legislative Assembly of

Ontario. Vol. R-7. January 22, 1980. Page R-1035-1: "....the association cannot see any justification for requiring the present and future operators of pits and quarries and their customers to pay for rehabilitating pits and quarries that have been abandoned in the past...."

74. Ontario Mineral Aggregate Working Party Report. A Policy for Mineral Aggregate Resource Management in Ontario. December 1976. Chapter 5.

74a. See, for example, "Waste disposal sites called inadequate," The Globe and Mail, June 2, 1977; Gwen Smith and Jock Ferguson, "Hazardous chemical waste: where it goes, nobody knows," The Globe and Mail, August 18, 1980; and Gwen Smith, "Ontario's controls on waste called 'a game of sham,'" The Globe and Mail, August 26, 1980.

75. The Environmental Protection Act 1971 S.O. ch.86 as amended. Part V. Waste Management.

76. Hon. H. Parrott, Minister of the Environment. "Liquid Industrial Wastes - Beyond the Seven-Point Program," a speech delivered at the Proceedings of the 26th Ontario Industrial Waste Conference. June 17-20, 1979. Toronto, Ontario.

76a. Supra note 63.

77. See generally industry testimony befor the Standing Committee on Resources Development. Legislative Assembly of Ontario. Vol. R-35. October 18, 1978. Toronto, Ontario.

78. Ontario Environmental Assessment Board. Report on the Public Hearings on the Applications by Nanticoke Waste Management Limited to the Ontario Ministry of the Environment for Approval of a Waste Disposal Site which would include liquid waste treatment and landfill facilities designed to handle Hazardous Industrial Wastes. April 20, 1978. Toronto, Ontario.

79. Decision of the Director of Environmental Approvals, Ontario Ministry of the Environment. Re Nanticoke Waste Management Limited. (1978) 7 CELR 129. Toronto, Ontario.

80. The Ontario Ministry of the Environment advised Browning-Ferris Industries, a multi-national industiral waste disposal firm involved in an application for a dump site and solidification plant in the Township of Harwich, Ontario, that it would pay up to $100,000.00 of the company's costs if its proposal is rejected by the Environmental Assessment Board. Hansard. Legislative Assembly of Ontario. Third Session, 31 Parliament. December 20, 1979. pp. 5845-46. The Province, however, has refused to fund either members of the public or the Township so that they may be properly prepared for the public hearing.

81. Supra note 28. The Ontario Minister of Environment stated in October 1978 that the government might have to acquire one or more sites itself.