Transportation of Dangerous Substances

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As a result of increasing public awareness of hazards created by unregulated transport of certain goods, federal and provincial legislatures are developing legislation to deal with the problem. The author provides a detailed comparison of the Canadian and American approaches from federal, provincial and state perspectives and considers recommendations made in the aftermath of the Mississauga train derailment.

Due au public concerné sur les risques de transportation de certains produits qui ne sont pas suffisament ou non-règlementer, les legislatures federal et provincial ont développé une loi sur ce sujet.

L'auteur nous fourni une comparaison détaillé des approches prit par le Canada et les Etats-Unit baser au point de vue federal, provincial et les états. En plus, l'auteur considère les recommendations faite, suite à la séquelle du déraillement à Mississauga.

INTRODUCTION

Scope of the Problem

During the 1970's the North American public became increasingly aware of the multitude of problems created by the proliferation of dangerous chemicals.[1] In 1977 alone, Canadian railways carried 1,295,062 tons of sulphuric acid, 89,807 tons of explosives, 48,891 tons of sodium hydroxide, and 47,419 tons of other types of inorganic chemicals.[2] Stemming from the industrial chemical revolution which started in the 1940's,[3] the scope of the problem did not become evident until the late 1970's,

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[1]D. M. Costle and E. C. Beck, "Attack on Hazardous Wastes: Turning back the Toxic Tide," (1980) 9 *Capital Univ. Law Review* 426; W. Goldfarb, "The Hazards of our Hazardous Policy," (1979) 19 *Natural Resources Journal* 249; H. Eschwege, "Implementing the Resource Conservation and Recovery Act: Problems of the Present Recommendations for the Future," (1980) 9 *Capital Univ. Law Review* 467.

[2]Commons Debates, First Session, 31st Parliament, November 27, 1979, at 1765 (Mr. Bill Blaikie).

[3]Costle, *supra*, footnote 1, at 425.

at which time it dramatically captured the attention of North Americans with such incidents as that at Love Canal[4] and the Mississauga railway accident.[5]

In this article one of the most important aspects of the problem, the transportation of dangerous goods, will be examined. The transportation aspect is crucial because of the potential for exposure of a great number of people to dangerous substances both during routine loading and unloading procedures and as a result of accidental releases during transport.[6] For example, the 1979 Mississauga train derailment resulted in explosions of propane gas tank cars and the release of large quantities of deadly chlorine gas.[7] This in turn forced the evacuation of almost a quarter of a million people from homes and businesses for periods of up to five days. That there were no casualities was due in large part to the fact that, "notwithstanding that the train had entered one of the most concentrated population centres in the country, at the precise point of the derailment there was to the immediate south only industrial property, and to the north and northwest, . . . there existed one of the few large areas of undeveloped land remaining in the greater Toronto region."[8]

The Mississauga derailment was by no means an isolated incident. Between 1974 and 1978 the shipper who had the contract ". . . to take the nuclear waste from Chalk River to the United States plant . . . had 152 accidents while moving nuclear material."[9] And after the Mississauga derailment occurred, 54,000 litres of highly flammable vinyl chloride were spilled near MacGregor, Manitoba.[10] This chemical has been shown

[4]A small neighbourhood surrounded Love Canal in which a brew of chemicals had been deposited. Troubling incidents such as an abnormally high incidence of birth defects and miscarriages led President Carter, in 1978, to declare Love Canal the first national disaster area for events other than "an act of God." *Ibid*, at 426. In December 1979, the Department of Justice and the EPA filed the largest environmental protection action up to that date charging the chemical company responsible with violating federal pollution laws and endangering human health and the environment at Love Canal. See *Environmental Quality*, the 11th annual report of the Council on Environmental Quality, December 1980 at 220-221.

[5]See *infra*, footnote 7.

[6]See Doniger, D. D., "Federal Regulation of Vinyl Chloride; Short Course in the Law and Policy of Toxic Substances Control," (1978) 7 *Ecology Law Quarterly* 497, at 533, with respect to accidents involving vinyl chloride transportation in the United States.

[7]*Report of the Mississauga Railway Accident Inquiry*, the Hon. Mr. Justice Samuel G. M. Grange, at 1.

[8]*Ibid.*, at 4.

[9]Commons Debates, First Session, 32nd Parliament, Volume 124, No. 62, at 2976, July 16, 1980 (Hon. Flora MacDonald).

[10]The derailment occurred on March 10, 1980 when 31 cars of a Canadian National Rail Freight went off the track. Railway officials stated that approximately 15 derailments "of varying degrees" occurred between 1975 and 1979 within an 80 km. radius of the MacGregor accident.

to be a carcinogen to which even minimal exposure may be very dangerous.[11]

The following story which appeared in the *Globe and Mail* illustrates both the magnitude and the nature of the problems associated with the transportation of dangerous goods.

> A truck fire on the busy Burlington skyway spread clouds of chlorine fumes over a wide area yesterday, forcing at least 200 people to abandon their homes along Hamilton's Beach Strip and more than 600 to flee from their vehicles in the blocked bridge . . . The firemen who arrived first did not go in with masks on because they thought it was just a normal truck fire; they did not know chemicals were involved. The driver carrying the load, from Conrail in Niagara Falls, N.Y., could not tell them because he did not know what was in his trailer, and the waybill describing the load was destroyed in the truck cab. . . [12]

No one really knows the magnitude of the chemical problem in New Brunswick because there have been so few controls and no requirement that shipments be reported to a central agency. However, dangerous goods are transported within the province. For example, the province has been spraying pesticides on its forests since the early 1950's and continues to do so. These are transported into the province, mostly from Ontario and Quebec.[13] And, on April 1, 1981, the Saint John, N. B. *Telegraph Journal* carried a story wherein a union representative employed at Canadian International Paper in Dalhousie voiced his concern for the public with respect to "possible accidents resulting from the trucking of chemicals to the paper plant."[14] More generally, a recent report on hazardous wastes in the Maritime provinces states that about 138,000 tonnes of hazardous waste is generated in the Maritime provinces each year,[15] with about 53% of this amount originating in New Brunswick.[16] With the report recommending improved treatment facilities and a waste exchange system,[17] an increased traffic in such wastes is anticipated in the near future.

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[11]For example, workers in vinyl chloride plants in the U.S. have contacted angiosarcoma, an extremely rare and incurable cancer, at a rate as much as 3,000 times higher than the general population. Vinyl chloride is a petro chemical gas which is converted into polyvinyl chloride, the second most widely used plastic in the United States. *Supra*, footnote 6, at 500, 501.

[12]*Globe and Mail*, national edition, February 11, 1981 (Hamilton).

[13]Interview of Kirk Gordon of N. B. Environmental Services, March 3, 1981.

[14]The union representative referred to possible acid and chlorine spills, citing cases where four foot glass containers of chlorine had been transported lying unattached on the truck floor.

[15]*Hazardous Waste Inventory Report*, Environmental Protection Service, Atlantic Region (revised November, 1980).

[16]A summary report on hazardous waste, Maritime provinces, at 2. (Obtained from N.B. Environmntal Services). For the purposes of this survey, the term "hazardous waste" was defined as "any waste of a solid, liquid, contained gaseous, or sludge state which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, could (1) cause or contribute to an increase in mortality or illness; or (2) pose a present or potential hazard to human health or the environment when improperly treated, stored, transpoted or disposed." See footnote 15, at 2.

[17]*Ibid.*, at 3.

New Brunswick's regulation of dangerous goods transport has until now amounted to little more than investigation after a spill occurs.[18] While there have been few incidents to date, it is not possible to wait for a major spill before acting, since that major spill may have catastrophic effects. What, then, is being done and could be done to prevent such a catastrophe from occurring? And, assuming that such accidents are to some degree inevitable, what emergency procedures should be required to minimize harm to the public and to the environment?

In this article the term "dangerous goods" will be defined and then the issue of who has jurisdiction over the regulation of dangerous goods transportation will be considered. It will be seen that there is no simple solution and that any solution will involve federal and provincial levels of government. Next the approach taken by the United States will be reviewed, followed by an examination of the paucity of Canadian federal-provincial regulation in the past. The federal government has been working for a number of years on a comprehensive regulatory scheme, the first stage of which is the federal *Transportation of Dangerous Goods Act*[19] and, while this scheme has not been implemented to any real degree, the approach being pursued will be examined as will current provincial approaches. Finally, this article will consider some recommendations as to the method of regulating the transportation of dangerous goods.

Definition of Dangerous Goods

The term "dangerous goods" is not universally used either in scientific or legal literature or in the relevant Canadian and American legislation. Terms such as "dangerous substances," "hazardous mterials," "hazardous wastes," "dangerous chemicals" and "toxic substances" are used interchangeably.

The Honorable Jean-Luc Pepin, Minister of Transport, has suggested the following interpretation of "dangerous goods" in the context of federal legislation on the transportation of such materials:

> [D]angerous goods are those materials, substances and organisms which by their nature, present serious risk to transport personnel, transport equipment, property, the public and the environment.[20]

This definition identifies the type of substances with which this paper is concerned.

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[18]*Supra*, footnote 13.

[19]S.C. 1980, c. 36. Proclaimed in force November 1, 1980.

[20]Submission of the Hon. Jean-Luc Pepin, Minister of Transport, to 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. House of Commons, First Session, 32nd Parliament, Issue No. 1, at 1a-2. (May 29, 1980).

However, the new *Transportation of Dangerous Goods Act (TDG Act)*[21] defines "dangerous goods" more precisely as "any product, substance or organism included by its nature or by the regulations in any of the classes listed in the schedule."[22] This schedule consists of nine classes of dangerous goods with the ninth being "Miscellaneous products, substances or organisms considered by the Governor-in-Council to be dangerous to life, health, property or the environment when handled, offered for transport or transported and prescribed to be included in this class.[23]

The draft regulations further subdivide Class 9 into:

(a) Division 9.1: miscellaneous products, substances and organisms
(b) Division 9.2: environmentally dangerous substances
(c) Division 9.3: dangerous wastes.[24]

The net result would appear to be a very comprehensive definition of the term dangerous goods, one which in no way limits the scope of the *TDG Act.* Ontario in its own *Dangerous Goods Transportation Act,* 1980[25] has chosen to reproduce the definition of dangerous goods as well as the schedule found in the *TDG Act.*[26]

Although the U.S. *Hazardous Materials Transportation Act* refers to "hazardous materials," it also defines that term quite broadly as a "substance or material in a quantity and form which may pose an unreasonable risk to health and safety or property when transported in commerce."[27]

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[21]S.C. 1980, c.36.

[22]Ibid., s. 2.

[23]The other eight classes are: Class 1 — explosives, including explosives within the meaning of the *Explosives Act;* Class 2 — gases: compressed, deeply refrigerated, liquified or dissolved under pressure; Class 3 — flammable and combustible liquids; Class 4 — flammable solids; substances liable to spontaneous combustion; substances that on contact with water emit flammable gases; Class 5 — oxidizing substances; organic peroxides; Class 6 — poisonous (toxic) and infectious substances; Class 7 — radioactive materials and prescribed substances within the meaing of the *Atomic Energy Control Act;* Class 8 — corrosives.

[24]Transportation of Dangerous Goods Draft Regulations, October, 1980, Part III, s. 13 (1) (c).

[25]This Act is in bill form: Bill 189, Fourth Session, 31st Legislature, Ontario, 29 Elizabeth II, 1980.

[26]There is one exception; the Ontario bill omits Class VII of the Federal Act re radioactive materials.

[27]49 U.S.C. s. 1802 (2)(1975). Also, the *Federal Water Pollution Act* requires the Environmental Protection Agency administrator to promulgate regulations designating as "hazardous materials," materials which, when discharged in any quantity into the waters of the United States, would "present an imminent and substantial danger to the public health or welfare. . .". 33 U.S.C. s.1321 (b)(2)(A)(1976).

JURISDICTION

Having defined dangerous goods, consideration must be given as to which level of government has the power to regulate the transportation of dangerous goods and which agency or agencies should be responsible for the administration of such regulations. The answers to such questions will depend in large part upon whether the issue is viewed as one relating to transportation or to the environment. At any rate, it will first be necessary to examine the constitutional basis for regulating this subject matter.

Constitutional Aspects

The division of powers set out in the *British North America Act,* 1867[28] bears no relationship to the actual needs of present governments in handling such complex problems as transportation of dangerous goods. An integrated approach should be taken to most environmental problems and the transportation of dangerous goods should not be an exception. Both the provincial and federal governments have control over certain aspects of transportation.[29] Three heads of power in s.92 of the *B.N.A. Act,* s.92(13) Property and civil rights, s.92(16) All matters of a merely local or private nature in the province, and s.92(10) Local works and undertakings, appear ample to cover most provincial concerns that may arise in the field of environmental law. Federal powers to legislate with respect to environmental concerns is derived principally from two heads of power under s.91 of the *B.N.A. Act.* These are s.91(27) criminal law power, and the general power to legislate for the peace, order and good government of Canada.

Briefly stated, neither level of government can impose its will on the other, subject to the qualification that the federal government may be able to affect provincial activities more than incidentally when the subject matter of the legislation reaches levels of national concern. Although neither level of government can simply delegate any of its powers to the other,[30] either level may delegate powers and responsibilities normally within its jurisdiction to boards or agencies created by the other level of government, or to joint boards.[31] The federal and provincial governments can also pass legislation within their respective powers which together form a comprehensive solution to any given problem. Such co-operative

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[28]30 and 31 Vict., c.3 (U.K.).

[29]Hogg, P. W., *Constitutional Law of Canada* (1977) at 321-335.

[30]*A.G.N.S.* v. *A.G.Can.* (Interdelegation Case), [1951] S.C.R. 31.

[31]*P.E.I. Potato Marketing Board* v. *Willis* [1952] 2 S.C.R. 392.

federalism is precisely what is required in the transportation of dangerous goods and fortunately the two levels of government have proceeded in this manner.[32]

As already mentioned, the comprehensive legislation required relates to two major areas of government control, transportation and environment. However, the federal government decided to enact its legislation as a transportation statute and to remove nearly all reference to the environment,[33] explaining its approach as follows:

> [T]he value of the bill rests on its implementation and its regulation, which calls for the co-operation of both the federal government and the provinces. The provinces have generally supported this bill under its present title, and it was within the realm of the provinces that there was objection to calling this or implying that this was also an environmental bill. The inclusion of such a reference [to "protection of the environment"] in the title might be misleading since the words could be construed at some future date to allow for amendments to the act which might involve the environment, remedial measures, compensation, and new regulatory powers which are outside the ambit of this bill. It would also raise objections from the provinces that the bill is ultra vires the federal government.[34]

For this reason "Bill C-17, to promote public safety and the protection of the environment in the transportation of dangerous goods,"[35] eventually became "Bill C-18, an Act to promote public safety in the transportation of dangerous goods."[36]

The federal statute, then, is a transportation statute and will protect the environment only to the extent that this concern coincides with public safety. Transport Canada found constitutional authority to control the transportation of dangerous goods not only as undertakings or connections of an interprovincial nature, but also on the basis of the "constitutional heads of peace, order and good government and the criminal law"[37].

The federal government's decision to bring its legislation in under the latter two heads of power is significant because the new federal Act,

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[32]See for example comments of The Hon. Don Mazankowski (then Minister of Transport) made at the time of the second meeting of Bill C-25, to promote public safety in the transportation of dangerous goods, Commons Debates, First Session, 31st Parliament, November 27, 1979, at 1760.

[33]Incidental references made to the word "environment" in the *Transportation of Dangerous Goods Act*, S.C. 1980, c.36 proclaimed in force November 1, 1980. See sections 15(1)(2), 17(2) and class 9 in the schedule.

[34]Mr. Robert Bockstael (Parliamentary Secretary to the Minister of Transport), Commons Debates, Volume 124, No. 62, First Session, 32nd Parliament, at 2976, statements made on third reading of the *Transportation of Dangerous Goods Act*, July 16, 1980.

[35]Commons Debates, Fourth Session, 30th Parliament, at 3329, February 16, 1979.

[36]*Supra*, footnote 34.

[37]*Supra*, footnote 20. See also Castrilli, J., Comment, "Hazardous Waste Law in Canada and Ontario: At the Skull and Crossroads," (1980), 9 *C.E.L.R.* 152, at 160.

while already proclaimed in force with respect to those modes of transportation within federal jurisdiction, provides also for its coming into force upon proclamation by the Governor-in-Council with respect to transport *in* a province should the federal government and that provincial government fail to reach agreement on the administration of the *TDG Act* in that province.[38] The provincial governments can, of course, legislate with respect to the transportation of dangerous goods in their respective provinces. Ontario has such an Act in bill form which is intended to complement the federal Act.[39] The provinces also have the constitutional jurisdiction to deal with the environmental aspects of the transportation of dangerous goods. It remains to be seen if and how the provinces will exercise that jurisdiction.

Administrative Agencies

The question next arises as to which departments or agencies within the two levels of government will be responsible for enforcing regulations regarding the transportation of dangerous goods. In the United States the approach taken has led to a "complex regulatory tangle"[40] with at least four federal agencies involved in controlling transportation of hazardous materials.[41] Although the *Transportation of Dangerous Goods Act* seeks to consolidate relevant regulations, the administration of the statute must be left to the provinces and to the Canadian Transport Commission and its five modal committees for air, pipeline, motor vehicle, water and railway transport.[42] Other agencies such as the New Brunswick Occupational Health and Safety Commission also have some interest in imposing safety standards on the transportation of dangerous goods.[43] The administrative details for the *TDG Act* are still being discussed and basic environmental considerations respecting the transportation of dangerous goods have barely been considered in New Brunswick.[44] As the program is implemented, governments in Canada must be careful not to replace an under-regulated activity with a "complex regulatory tangle."

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[38]*T.D.G. Act*, S.C. 1980, c.36, s.32(2).

[39]Bill 189, the *Dangerous Goods Transportation Act* 1980, Fourth Session, 31st Legislature, Ontario, 29 Elizabeth II, 1980.

[40]*Supra*, footnote 6 at 624.

[41]Three are within the Department of Transport (Materials Transportation Branch, Federal Railroad Administration, and the Coast Guard) and the fourth is the Occupational Health & Safety Administration.

[42]*Supra*, footnote 7, at 108 and 187.

[43]See "Who Imposes Safety Standards When Transporting Chemicals?", *Saint John Telegraph Journal*, April 1, 1980, wherein this issue is raised.

[44]Conversation with Mr. Kenneth Brown, head of Toxic Substances Section of Environmental Services, Province of New Brunswick, February 1980.

THE AMERICAN APPROACH

Introduction

Since the mid 1970's the United States federal government has enacted a number of statutes dealing with the management of dangerous goods.[45] In 1979, thirty-two American states either amended or enacted new hazardous waste legislation.[46] In December, 1980, the *Comprehensive Environmental Response, Compensation, and Liability Act* became law establishing a $1.6 billion fund for the cleanup of spills of hazardous substances and of inactive hazardous waste disposal sites.[47] As the U.S. has had a greater range of experience in this area, a consideration of the American approach will serve three purposes: to indicate some of the programs Canada should be developing; to identify some of the problems the Americans have experienced so that Canadians can avoid those pitfalls; and to indicate ways in which an integrated approach can be developed for the whole of North America since many of these dangerous goods cross international as well as state or provincial borders.

Hazardous Materials Transportation Act (HMTA)

The *HMTA* authorizes the Department of Transportation (DOT) to develop criteria for the labelling, shipping, and handling of hazardous materials.[49] The Act defines "hazardous materials[50] and authorizes the Secretary of Transportation to designate which forms and quantities of substances are hazardous.[51] The Secretary has delegated his responsibilities under the Act to the Materials Transportation Board (MTB).[52] Although the main concern of Congress and the DOT has been the risk of acute toxicity, fire and explosion, at least one writer suggests that the HMTA may support a MTB decision to protect workers and others against the long term health effects of carcinogenic chemicals such as vinyl chloride.[53]

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[45]Goldfarb, *supra*, footnote 1.

[46]Cohen, H. M., "New Developments In State Hazardous Waste Legislation," (1980) 9 Capital *Univ. Law Review 1468, at 488.*

[47]Part of the fund (87.5%) is to be financed by a tax on oil and specified chemicals; the remaining 12.5% will be appropriated. See *Environmental Quality*, the 11th annual report of the Council of Environmental Quality, December, 1980 at 222.

[48]49 U.S.C. sections 1801-1812 (1975). U.S.C. refers to the United States Code.

[49]*Ibid.*, s. 1804.

[50]*Supra*, footnote 27.

[51]*Supra*, footnote 48, section 1803.

[52]*Supra*, footnote 6, at 615. See 49 C.F.R. section 1.53(a)(5) (1977). C.F.R. refers to the U.S. Code of Federal Regulations.

[53]*Supra*, footnote 6, at 614.

Recently, the DOT has revised its hazardous materials transportation regulations in order to encompass the transportation of hazardous waste and to regulate its intrastate, as well as interstate, transportation.[54]

Resource Conservation & Recovery Act[55] (RCRA)

In October 1976, the U.S. Congress passed the RCRA which required the Environmental Protection Agency (EPA) to establish a regulatory program to manage all hazardous wastes from the cradle to the grave[56] with subtitle C of the *Act*[57] providing the EPA with direct regulatory authority over transporters of hazardous waste. In fact, this Act has been said to be "the environmental legislation most clearly applicable to the transportation industry."[58]

The RCRA defines a "hazardous waste" as any "solid waste"[59] or combination of solid wastes which may:

> (a) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or
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> (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.[60]

One of the major elements of the RCRA's approach to hazardous waste management is a manifest system for tracing hazardous wastes from generator, to transporter, to disposal facility.[61] Generators of these wastes must initiate the manifest system "to assure that all such hazardous waste generated is designated for treatment, storage or disposal in . . . facilities . . . for which a permit has been issued . . ."[62] and must properly label and containerize hazardous wastes delivered to transporters and disposal facilities. The role of the transporter has been explained as follows:

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[54]49 C.F.R. Sub-chapter C.

[55]42 U.S.C. section 6901 (1976).

[56]Eschwege, *supra*, footnote 1, at 468.

[57]42 U.S.C. sections 6921-6931 (1976).

[58]Frye, "Recent Developments in the Transportation of Hazardous Materials," (1978) 10 *Transportation Law Journal* 97, at 98.

[59]A "Solid Waste" is defined at 42 U.S.C. section 6903 (27) as any solid, liquid, semi-solid or contained gaseous waste which are not regulated under the *Federal Water Pollution Control Act*, 33 U.S.C. section 1151 *et seq.* or the *Atomic Energy Act* of 1954, 42 U.S.C. sections 2011-2254 (1976).

[60]42 U.S.C. section 6903 (5) (1976).

[61]Goldfarb, *supra*, footnote 1 at 253.

[62]42 U.S.C., section 6922 (5) (1976).

> The duties of a transporter involve record keeping and reporting, accepting only properly labelled and containerized wastes, complying with the manifest system, and, most important, transporting all such hazardous wastes only to the permitted disposal facility which the generator indentifies on the manifest. . . . The manifest system terminates with the receipt of the wastes by the owner or operator of the disposal facility and his notification to the generator.[63]

Regulations have now been promulgated under the authority of this Act establishing the responsibilities of generators and transporters of hazardous wastes.[64] For hazardous waste which is subject to the HMTA, the RCRA requires that regulations made by the EPA for hazardous waste transporters must be consistent with DOT regulations under the HMTA.[65] The EPA has expressly adopted in the RCRA regulations certain DOT regulations governing the transportation of hazardous materials.[66] This ensures consistency with the requirements of the DOT and avoids the establishment of duplicative or conflicting requirements with respect to these matters.

The regulations entitled "Standards Applicable to Transporters of Hazardous Waste"[67] apply to "persons transporting hazardous waste within the United States if the transportation requires a manifest. . . ."[68] The manifest is required when a generator "transports, or offers for transportation, hazardous waste for off-site treatment, storage, or disposal."[69]

A transporter must not transport hazardous wastes without having received an EPA identification number from the EPA Administrator.[70] Furthermore, he cannot accept hazardous waste from a generator unless it is accompanied by a manifest[71] which must travel with it.[72] The transporter must deliver the entire quantity of hazardous waste which he has accepted from a generator or another transporter to the facility listed on the manifest or to an alternate facility.[73] A transporter of hazardous

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[63]Goldfarb, *supra*, footnote 1, at 253-4.

[64]40 C.F.R. Parts 262 nd 263 (effective November 1980).

[65]42 U.S.C. section 6923 (b) (1976).

[66]Environment Reporter-Federal Regulations at 161, 1951.

[67]40 C.F.R. part 263.

[68]*Ibid.*, section 263.10 (a).

[69]*Ibid.*, section 262.20 (a).

[70]*Ibid.*, section 263.11 (a).

[71]*Ibid.*, section 263.020(a).

[72]*Ibid.*, section 263.20(c).

[73]*Ibid.*, section 263.21(a).

waste must keep a copy of the manifest for a period of three years from the date the waste was accepted by the initial transporter.[74] In the event of a discharge of hazardous waste during transportation, the transporter must take appropriate action to protect human health and the environment including the giving of notice to the proper authorities.[75]

States are authorized to administer and enforce a hazardous waste regulatory program in lieu of the federal program if the EPA decides that the state program is equivalent to that of the federal government and is consistent with those of neighbouring states.[76] Although a state may elect to be more stringent than required by federal law, none may impose less stringent requirements.[77] It should be noted that the EPA is the primary enforcement authority where a state program has not been approved.[78] This approach has been criticized:

> "there is a good deal of uncertainty about RCRA's mode of implementing hazardous waste management programs, which is to authorize state programs with supportive federal supervisory and enforcement power. Experience with similar statutory schemes indicates that many states will institute their own environmental protection programs in areas covered by federal legislation only where there is sufficient inducement to overcome the natural inclination to save money and "let the Feds take the heat."[79]

Violation of any standard promulgated under the Act could result in the imposition of a civil penalty of not more than $25,000 per day of noncompliance.[80] This is more than the $10,000 civil penalty provided in the HMTA.[81] Any person who knowingly transports hazardous waste to a facility which does not have an EPA permit or who makes a false statement in any manifest, record or report is subject to a criminal penalty consisting of a fine of not more than $25,000 for each day of the violation or to imprisonment for not more than one year.[82]

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[74]*Ibid.*, section 263.22 (a).

[75]*Ibid.*, section 263.30.

[76]42 U.S.C. section 6926 (1976).

[77]Goldfarb, *supra*, footnote 1, at 254.

[78]*Ibid.*, at 254.

[79]*Ibid.*, at 259.

[80]42 U.S.C. section 6928 (a) (1976).

[81]49 U.S.C. section 1809 (1976).

[82]42 U.S.C. section 6928 (d) (1976).

Toxic Substances Control Act of 1976[83] (TSCA)

The purpose of the TSCA is to "prevent unreasonale risk of injury to health or the environment . . . [associated with] the manufacture, processing, distribution in commerce, use, or disposal of chemical substances . . .[84] This Act empowers the EPA to require special handling of chemicals suspected of being dangerous as well as to seize them or to ban their use.[85]

Two aspects of the TSCA that may have a significant impact on the transportation industry are the regulation by the EPA of chemical substances and mixtures determined to be toxic and the requirement that EPA be notified of any information indicating that a chemical substance or mixture presents a substantial risk to health or the environment.[86] As more substances come within the regulations of the TSCA, "transporters of these substances will have to be aware of and comply with an increasing number of performance standards."[87] However, if the EPA Administrator determines that the risk of injury could be prevented or sufficiently reduced under another federal law administered by the EPA, then action can be taken under the TSCA only if the Administrator determines that it is in the public interest to protect against the risk under this Act.[88] This means that actions to control hazardous materials relating to waste management will be taken under the RCRA rather than the TSCA.[89]

Other American Statutes

The *Federal Water Pollution Control Act*[90] requires the EPA Administrator to promulgate regulations designating certain materials as "hazardous materials."[91] There is a prohibition on the discharge of such substances from vessels and also from on-shore facilities, which are defined in the Act to include motor vehicles and rolling stock.[92]

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[83]U.S.C. sections 2601-2629 (1976) effective January 1, 1977.

[84]Frye, *supra*, footnote 58, at 112.

[85]15 U.S.C. section 2605 (1976).

[86]Frye, *supra*, footnote 58, at 112.

[87]*Ibid.*, at 113.

[88]15 U.S.C. section 2605 (c) (1976).

[89]Frye, *supra*, footnote 58, at 113.

[90]33 U.S.C. section 1321 (1976).

[91]*Ibid.*, section 1321 (b) (2) (A).

[92]Frye, *supra*, footnote 58, at 115.

The *Occupational Safety & Health Act* of 1970[93] had as its primary purpose "the reduction of safety hazards and the assurance, so far as possible, of safe and healthful working conditions for every working man and woman."[94] The Occupational Safety & Health Administration (OSHA) was set up to carry out these objectives.[95] Whether the regulations under this Act are applicable to the transportation industry will depend on whether other federal agencies such as the DOT exercise statutory authority to prescribe or enforce standards or regulations affecting occupational safety or health.[96]

Use of United Nations Shipping Descriptions

A United Nations committee has developed a system of classification of dangerous goods which includes a list of the principal dangerous goods.[97] The recommendations of the U.N. committee were intended to represent a framework flexible enough to facilitate accommodation of national regulations.[98] The U.N. regulations seek to meet the need for "a certain uniformity at the world level for all modes of transport."[99]

A proposal to allow the optional use of United Nations shipping descriptions and identification numbers on certain hazardous materials transported in the U.S. was made by the MTB of the DOT on July 26, 1979.[100] This proposal applied only to tank cars and not to small packages, the regulations for which would remain unchanged.[101] Ultimately it formed part of a package of regulations adopted by the Department of Transportation on May 7, 1980 and scheduled to be phased into operation over the following three years.[102]

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[93]29 U.S.C. section 651-678 (1976).

[94]Frye, *supra*, footnote 58, at 106.

[95]*Ibid.*, at 106.

[96]*Ibid.*, at 107-109.

[97]United Nations' Transportation of Dangerous Goods — recommendations (1978).

[98]*Ibid.*, at 1.

[99]*Ibid.*, at 2.

[100]*International Environment Reporter*—Current Report, August 8, 1979, at 803.

[101]*International Environment Reporter*—Current Report, October 10, 1979, at 908.

[102]*Environment Reporter*—Current Developments, May 16, 1980 at 69.

THE CANADIAN APPROACH — PRIOR TO 1980

Federal Legislation

Prior to 1980, there was little federal regulation of the transportation of dangerous goods and what regulation existed was not specifically directed toward this problem. Neither the *Clean Air Act*[103] nor the *Canada Water Act,*[104] two major federal pollution control statutes, address this issue. They are designed with two purposes in mind: ". . . to deal with control of air or water pollution that is within the ambit of federal responsibility, and . . . to provide a framework for co-operative federal-provincial air and water pollution control efforts."[105]

Other federal acts such as the *Pest Control Products Act*[106] are only slightly, if at all, concerned with the subject of transportation of dangerous goods. One of the principal statutes dealing with transportation in Canada is, of course, the *National Transportation Act*[107] (NTA) which provided for the establishment of the Canadian Transport Commission[108] (CTC). The *National Transportation Act*[109] required the CTC to perform the functions vested in the Commission by that Act, the *Railway Act,*[110] the *Aeronautics Act*[111] and the *Transport Act.*[112] The CTC has used its power to make a wide variety of rules and regulations[113] "for the attainment of the objects" of the NTA[114] but their net effect amounts to no more than a piecemeal approach to the transportation of dangerous goods.

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[103]S.C. 1970-71-72, c.47.

[104]R.S.C. 1970 (first supplement), c.5.

[105]*Canadian Environmental Law,* Volume 1, Law 4.1 (Butterworths).

[106]R.S.C. 1970, c. P.10.

[107]R.S.C. 1970, c. N-17.

[108]*Ibid.*, s.6. The objective of the C.T.C. is "to promote the coordination and harmonization of all operations by carriers engaged in transport under federal jurisdiction through effective economic regulation, research and participation in policy development and in respect of rail, to foster optimum development of safety regulations consistent with the public interest." The 13th Annual Report of the Canadian Transport Commission 1979, Minister of Supply and Services.

[109]*Supra,* footnote 107, s.21.

[110]R.S.C. 1970, c. R-2.

[111]R.S.C. 1970, c. A- . . . .

[112]R.S.C. 1970, c.T-14.

[113]Ibid., s. 26.

[114]Consolidated Regulations of Canada 1978, Chapters 1142-1229.

New Brunswick Legislation

New Brunswick has minimal legislation and regulations dealing with the transportation of dangerous goods. The *Fire Prevention Act*[115] provides that the Lieutenant-Governor in Council may make regulations "governing the transportation, handling, sale and storage of petroleum products."[116] It appears, however, that no such regulations have been made.[117]

The *Pesticides Control Act,*[118] which has proclaimed in force December 1, 1979, provides that "[n]o person shall store or transport a pesticide in a manner that may allow the pesticide to come directly or indirectly into contact with human, animal or plant life in a manner that could be injurious to that life."[119] A pesticide can only be transported in the container or package in which it was originally stored for sale or in a type approved by regulation.[120] Also, pesticides may not be transported by motor vehicle together with commodities such as food, drink, household furnishings and clothes unless the pesticide is separated from such commodities in a manner sufficient to prevent their contamination by the pesticide.[121]

Regulations under the *Clean Environment Act*[122] are relevant in that they deal with what happens after a spill or discharge occurs; for example, notification of the Director of the Pollution Control Branch is required in the event of a water polluting incident.[123]

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[115]R.S.N.B. 1973, c.F-13.

[116]*Ibid.*, s. 30.

[117]A check of the index regulations revealed no regulations affecting transportation of petroleum products.

[118]R.S.N.B. 1973, c. P-8.

[119]*Ibid.*, section 21.

[120]*Ibid.*, section 23.

[121]N. B. Regulation 77-20, s.20. The power to make regulations under the *Pesticides Control Act* is found in section 32 of the Act. Only one other section of the regulations deals with transportation, that being section 23(2) re treated seed.

[122]R.S.N.B. 1973, c. C-6.

[123]N.B.R. eg. 76-154, specifically sections 3 and 12.

THE CURRENT CANADIAN APPROACH

Federal Legislation: *The Transportation of Dangerous Goods Act*[124]

Background

In 1973 concern about the multiplicity of existing regulations covering the transport of dangerous goods, led then Transport Minister Jean Marchand to invite approximately 20 federal government departments concerned with such shipments to form an inter-departmental committee which would undertake a coordinated review of the subject both for Canadian and international purposes.[125] The committee recommended the establishment of a single code covering all types of transportation and of a permanent secretariat to deal with the task.[126] The secretariat on the transport of dangerous goods was established in 1974, but it was not until February 16, 1979 that a government bill on the subject had second reading.[127] At that time the Honourable Bud Cullen (for the Minister of Transport) stated that Bill C-17 represented the first of three prongs of a comprehensive safety program for the transportation of dangerous goods.[128]

> The second prong will be the development of multimodal regulations under the authority of the bill to ensure that dangerous goods are properly identified as being dangerous and that they enter, pass through, and leave the transportation system in a safe and economic way. The third prong will be the development of an emergency response program in co-operation with other federal agencies and with the provinces.[129]

The bill reappeared in November 1979 as Bill C-25.[130] At that time the Minister of Transport stated several reasons for regulating all modes of transport in one bill: (1) "The increasing use of intermodal transport made it necessary to seek to harmonize the regulations for all modes, so that consignors of dangerous goods need only follow one set of rules when preparing their goods for shipment." (2) "True safety in transport could only be achieved by regulating pre-transport, . . . in-transit, . . . and post-transit activities. . . ." (3) "[M]uch of the existing legislation . . . was

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[124]S.C. 1980, c.36.

[125]Canadian Environmental Control Newsletter, No. 59, at 561.

[126]*Ibid.*

[127]Commons Debates, Fourth Session, 30th Parliament, February 16, 1979, at 3329. The first proposal for a transportation of *Dangerous Goods Act* was tabled in the House of Commons in May, 1978, but that piece of legislation died on the order paper when that session of parliament came to an end. It was reintroduced in November, 1978 and second reading debate started on February 16, 1979. See Commons Debates, First Session, 31st Parliament, November 27, 1979, at 1761 (Hon. Don Mazankowski).

[128]*Ibid.*, at 3330.

[129]*Ibid.*

[130]Commons Debates, First Session, 31st Parliament, November 27, 1979, at 1760.

written in terms of specific substances . . . or dealt with specific matters. [Such] rather narrowly focused regulations . . . often proved incompatible and therefore unenforceable." (4) "[B]oth exporters and importers were being faced . . . with contradictions between Canadian regulations and those of other countries."[131]

The bill reappeared a third and final time for second reading on May 2, 1980 in the form of Bill C-18.[132] The Honourable Jean-Luc Pepin (Minister of Transport) indicated that the objective of the bill is "to establish a single legislation under which existing agencies, whether federal or provincial, can apply everywhere in Canada a set of regulations governing standards, procedures and labelling for the handling and transportation of dangerous goods by any means of transport."[133] The bill was passed on third reading on July 16, 1980[134] and proclaimed in force as the *Transportation of Dangerous Goods Act*[135] on November 1, 1980.

Substance of the ***TDG Act***

Under the *TDG Act* no person is permitted to transport dangerous goods[136] unless he complies with all safety requirements prescribed by regulation.[137] Violation of this provision of the Act is punishable by a fine not exceeding $50,000 for a first offence, and not exceeding $100,000 for each subsequent offence.[138] The Minister of Transport may designate inspectors[139] who are given certain powers for the purpose of ensuring compliance with the Act.[140] Where there is a discharge or escape of dangerous goods, the person in charge of the dangerous goods must report the discharge to an inspector and take reasonable emergency measures.[141]

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[131]*Ibid.*, at 1761 (Hon. Don Mazankowski).

[132]Commons Debates, Volume 124, No. 15, First Session, 32nd Parliament, May 2, 1980, at 671.

[133]*Ibid.*, at 673.

[134]Commons Debates, Vol. 124, No. 62, First Session 32nd Parliament, July 16, 1980, at 2967.

[135]S.C. 1980, c. 36.

[136]This term is defined in the Act. *Supra*, footnote 22.

[137]*T.D.G. Act*, S.C. 1980, c. 36, S. 4.

[138]*Ibid.*, S. 6 (1). Contravention of Sections of the Act or Regulations for which no other punishment is provided by this Act may lead to liability for a fine not exceeding $10,000. *Ibid.*, 6 (2), Section 6 (1), also provides for a maximum prison term of 2 years; section 6 (2), a maximum of one year.

[139]*Ibid.*, s. 13.

[140]*Ibid.*, s. 14.

[141]*Ibid.*, s. 17.

The Minister may direct a public inquiry where a discharge of dangerous goods in the course of transportation has resulted in " . . . death or injury to any person, danger to the health or safety of the public or damage or danger to property. . ."[142] The provinces have played a role in the development of the *TDG Act* from the very early stages,[143] and the Act contemplates agreements with the provincial governments:

> (a) for the implementation of this Act and the regulations or any provision thereof in that province with respect to any mode of transport other than one referred to in paragraphs 4(a) to (e) of the *National Transportation Act;* and
>
> (b) with respect to the administration and enforcement of this Act and the regulations or any provisions thereof in that province.[144]

The *TDG Act* came into force on November 1, 1980 with respect to the modes of transport referred to in paragraphs 4(a) to (e) of the *National Transportation Act.*[145] With respect to other modes of transport, the Act will be proclaimed in force where an agreement is entered into with a province or, where no agreement is reached, not sooner than twelve months after negotiations with a province have been commenced.[146]

Regulations under the ***TDG Act***

The Governor-in-Council may make regulations generally for carrying out the purposes and provisions of the TDG Act.[147] These regulations are still in draft form with discussions proceeding between the two levels of government and with representatives of industry.[148] The *TDG Act* also provides[149] that the Minister may publish a "Transportation of Dangerous Goods Code" which is defined in the regulations as "a compilation of regulations, standards, accepted practices and information

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[142]*Ibid.*, s. 20.

[143]See for example comments of Hon. Jean-Luc Pepin (Minister of Transport), Commons Debates, Volume 124, No. 15, 1st session, 32nd Parliament, May 2, 1980, at 671.

[144]*T.D.G. Act*, S.C. 1980, S. 25. See also Section 4 of the *National Transportation Act* R.S.C. 1970 C N-17.

[145]*T.D.G. Act*, s. 32 (1) (a).

[146]*Ibid.*, s. 32 (1) (b), (2), (4).

[147]*Ibid.*, s. 21.

[148]Interview with Mr. Ed Ferris, Registrar & Director, Department of Transport, Province of New Brunswick, on April 29, 1981. He anticipates that well over a year will pass before the federal regulations are implemented.

[149]*T.D.G. Act*, S. 26 (c).

relating to the handling, offering for transport and transporting of dangerous goods."[150] This too is still in preparation.

Part I of the Regulations[151] deals with their application in various situations while Part III involves a detailed classification of dangerous goods.

Part IV provides extensive regulations in respect of documentation, labelling and placarding. Every consignment of dangerous goods shall be accompanied by a "dangerous goods declaration" containing specified information such as the shipping name and the product identification number prescribed by a schedule to the Regulations.[154] The declaration also must include "a statement of action to be taken in case of an emergency or when there is a leakage or spillage of goods."[155] Further, a certificate of compliance signed by a representative of the person offering the goods for transport must accompany the declaration.[156] The original or a copy must be held at the originating station of the carrier and another copy must accompany the shipment and be kept in a readily accessible location.[157]

Part V deals with the responsibilities of the manufacturers, owners, consignors, carriers, storage operators and consignees. The responsibility for the safe transportation of dangerous goods passes to the carrier when he accepts them for transportation.[158]

Provincial Legislation

As noted earlier, the federal *TDG Act* envisages agreements with the provinces effecting a unified and consistent approach to the transportation of dangerous goods. Presumably, the provinces would then pass legislation necessary to implement their part of the bargain. Ontario now has such legislation in bill form, Bill 189, *The Dangerous Goods Transportation Act, 1980*[159] This Act will regulate the transportation of dangerous goods in vehicles on Ontario highways.

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[150]Transportation of Dangerous Goods Draft Regulations, October 1980, Part II, s. 1.

[151]*Ibid.*

[152]*Ibid.*, sections 12-31.

[153]*Ibid.*, sections 32-51.

[154]*Ibid.*, Part IV, S. 55 (1) (2).

[155]*Ibid.*, Part IV s. 7(a).

[156]*Ibid.*, ss. 8, 9.

[157]*Ibid.*, s. 10.

[158]*Ibid.*, part V, s. 59.

[159]Bill 189, 4th Session, 31st Legislature, Ontario, 29 Elizabeth II, 1980.

The Ontario Act reproduces the definition of "dangerous goods" in the *TDG Act*[160] and provides for the same penalties as that Act.[161] The Lieutenant Governor-in-Council of Ontario may make regulations and may adopt by reference any regulation made by the Government of Canada.[162]

In New Brunswick, the provincial officials are still discussing which approach to follow. While this province will very likely enact a statute somewhat like that of Ontario, no decision has been made and it is very unlikely that any type of dangerous goods legislation will be ready for introduction to this session of the N. B. Legislature.[163]

CRITIQUE OF THE CANADIAN APPROACH

Recommendations of the Mississauga Railway Accident Inquiry

The Honourable Mr. Justice Grange makes fifteen recommendations in his report;[164] many are quite specific to railway transportation so a detailed consideration of such recommendations is beyond the scope of this paper.[165] However, some selective attention will be accorded to his recommendations to illustrate the point that the *TDG Act* is a vehicle by which these recommendations can be implemented.

For example, Recommendation One suggests in part that "all cars whether dangerous goods cars or not should have roller bearings," while Recommendation Two relates to hot box detectors.[166] This subject matter is dealt with in the draft regulations under special requirements for carriage of explosives by rail;[167] additions to or changes in the draft regulations could easily be made to fully accomplish the recommendations. Hopefully, all safety requirements will be encompassed in the regulations under the *TDG Act* and also in the Transportation of Dangerous Goods Code so that carriers will be able to check all relevant regulations in one information source. This approach would help avoid the present criticism that the regulations contained in the CTC "Red

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[160]See *Supra*, footnote 26.

[161]*Supra*, footnote 159, s.4.

[162]*Supra*, footnote 159, s. 12 (2).

[163]*Supra*, footnote 148. Mr. Ferris stated that P.E.I. has already passed a dangerous goods transportation act while Nova Scotia is working on one.

[164]Report of the Mississuga Railway Accident Inquiry, The Honourable Mr. Justice Samuel G. M. Grange, December 1980.

[165]*Ibid.*, at 194-209.

[166]*Ibid.*, at 194.

[167]*Supra*, footnote 150, Part V, sections 107-115.

Book" are complex and contradictory[168] as well as implement the recommendation that the regulatory scheme be simplified "so as to be intelligible to the general personnel of railways, manufacturers, producers and shippers."[169]

Another important recommendation was that "the shipper should have in effect a plan for control of the escape of his product in an accident and that plan should be submitted to and approved by the Minister. . .".[170] Although the requirements are not clearly defined, the draft Regulations require this emergency procedure to be included in the dangerous goods declaration.[171] This provision together with the requirement that the declaration be in a readily accessible location would solve some of the problems experienced in the Burlington Skyway chlorine accident.[172]

As a final example, Recommendation Ten was that shippers and carriers be required to "replace all present dangerous goods placards with ones as nearly as possible impervious to fire and weather conditions."[173] This is implemented in the draft regulations which provide that placards shall be of a material that is "sufficiently durable to withstand normal conditions of transport for the journey intended" and that "the material of the placard shall resist temperatures of 150°C without loss of visibility for 30 minutes."[174] Even in the absence of a waybill or a dangerous goods declaration, such placarding would have warned the firemen in the Burlington Skyway accident that chlorine was in the truck.[175]

It is perhaps misleading to speak of the recommendations being implemented in the draft regulations since the latter, drafted in October 1980, predate the former which were submitted in the report in December. As has been seen, however, the draft Regulations do fulfill some of the recommendations and probably will meet the recommendations more completely as revisions are made over the next year.

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[168]T. Vigod, "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.

[169]*Supra*, footnote 164, at 207.

[170]*Supra*, footnote 164, at 197-198.

[171]*Supra*, footnote 150, s. 7 (a).

[172]*Supra*, footnote 12.

[173]*Supra*, footnote 164, at 205. Placards used at present are constructed of cardboard.

[174]*Supra*, footnote 157, Part IV, s. 46 (1), (2) (d).

[175]*Supra*, footnote 12, Several firefighters were treated for problems related to inhalation of chlorine fumes.

Criticisms of the *TDG Act* and Regulations:

1. "[D]angerous goods appear to be only a small circle in the much larger circle known as hazardous wastes,"[176] so that there seems to be a substantial potential gap in the legislation.

The definition of dangerous goods in the draft Regulations, however, includes the class of substances known as "hazardous wastes," so this criticism is no longer valid.[177]

2. The Act is "post-accident rather than preventive in nature."[178]

Then Transport Minister the Honourable Don Mazankowski attempted to answer this criticism as follows:

> The procedures outlined in clause 4 of the bill are clearly preventative in nature. . . . It covers all modes of transportation. The bill outlines procedures for the proper handling, transporting, packaging and labelling of dangerous goods. . . .[179]

The draft regulations support his argument since very specific instructions are given with respect to packing, loading and unloading,[180] with respect to safety precautions to be exercised by carriers,[181] as well as special requirements for certain classes of dangerous goods.[182] Therefore, the merit in this criticism will ultimately depend upon how well the regulations are publicized and enforced.

3. The *TDG Act* does not protect the environment.

In Canada an accident involving dangerous goods could easily occur in an area "where there was no death or injury to any person or property, but which could seriously damage the environment."[183] The Minister of Transport has argued that the protection of the environment is automatically achieved when public safety is promoted so that the removal of the words "protection of the environment" from the title of the Bill has no adverse effect:

> [T]he action we have taken [i.e., removal of the words "protection of the environment" from the title of the bill] was in response to questions raised at the provincial level as to the jurisdiction of the minister and of the federal

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[176]*Supra*, footnote 168, at 5. Although, Mr. Justice Grange refers to this criticism at 181 of his report, he did not feel that "the very complex environmental problems" were within his terms of reference.

[177]See explanation, *supra*, at footnote 23.

[178]*Supra*, footnote 130.

[179]Commons Debates, 1st Session, 31st Parliament, November 27, 1979 at 1774.

[180]*Supra*, footnote 150, Part V, Sections 31-58.

[181]*Ibid.*, Sections 69-74.

[182]*Ibid.*, Sections 151-166.

[183]*Supra*, footnote 168, at 4.

> government with regard to the envronment. Reference to the environment remains in the schedule in order to allow the department to include environmentally hazardous substances in the safety standards classification.[184]

While both sides of the argument are plausible, there seems to be a very real possibility that situations will arise where there is damage to the environment but no injury to person or property. In such a case the Minister would have no power under the *TDG Act* to order a public inquiry.[185] Since the argument against including "protection of the environment" within the ambit of the *TDG Act* is that "environment" is properly within the scope of provincial jurisdiction, one would think that the provinces would include it within the ambit of their transportation of dangerous goods statutes. However, the Ontario bill does not cover protection of the environment, probably because the bill is under the auspices of the Minister of Transportation and Communications.

In New Brunswick, the result will probably be similar since the transportation department is formulating our legislation as well. In fact, the Environmental Services personnel have had little or no input and have little knowledge of how the *TDG Act* is being implemented in New Brunswick.[186] However, some attempt has been made to coordinate the efforts of the environmental and transportation people with the National Hazardous Wastes Committee. There has been at least one joint meeting with the federal-provincial transportation committee which is developing the regulations under the *TDG Act.*[187]

Many other criticisms and concerns have been expressed regarding the TDG Act. For example, on third reading of the Act a number of proposed amendments evidenced concern over such issues as whether dangerous products transported by sea should be within the scope of the Act, whether the employer should be held liable for all offences committed by an employee unless the employee was wilfully negligent, and whether the person having charge of the dangerous goods should be required in the event of an accident to restore the natural environment as nearly as practicable to its previous condition.[188] Such concerns are likely to be repeated as the *TDG Act* and the regulations pursuant thereto are implemented.

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[184]Supra, footnote 179, at 1775. Part III, Section 13 (1) of the draft Regulations lists *inter alia* "Division 9.2: environmentally dangerous substances."

[185]*T.D.G. Act,* S.C. 1980, c. 36, S. 20.

[186]Conversation with Mr. Kenneth Brown, Head of Toxic Substances section, Environmental Services, February 1981.

[187]Conversation with Mr. David Silliphant of Pollution Control Branch, Environmental Services, April 29, 1981. The joint meeting was held in Toronto in April 1981.

[188]Commons Debates, Volume 124, No. 62, 1st Session, 32nd Parliament, July 16, 1980, at 2967-2973. Each of the motions made were defeated.

Comparison with the American approach

The Canadian approach parallels that of the Americans. For example, the TDG Act is similar in its scope and in its procedure to the *HMTA*.[189] Each provides criteria for the labelling, placarding and handling of "hazardous materials" or "dangerous goods." In fact, the *TDG Act* draft regulations permit dangerous goods that are being imported into Canada from the United States or exported from Canada to the United States to be packed and loaded in conformity with Title 49 of the United States Code of Federal Regulations if they are classified, marked, labelled, placarded and documented in conformity with the TDG Act regulations.[190]

Because of the very serious problem with one particular type of dangerous goods, hazardous wastes, the U.S. has separate statutes which regulate, among other things, hazardous waste transporters.[191] The Report on Hazardous Wastes in the Maritime Provinces[192] recommends a resource recovery program which may necessitate a statute similar to the U.S. *RCRA* at the provincial level. It appears that the manifest system used in the U.S. under the *RCRA* can and will be implemented in Canada at least in part by way of the *TDG Act.* For example, Part V of the Draft Regulations provides that a person who imports dangerous wastes shall do so only if it is acceptable to the environmental or other designated agency of the government of the province of the consignee.[193] In addition, upon receipt of a consignment of dangerous wastes, from inside or outside the province, the consignee must retain one copy of the declaration for that consignment for a period of two years and must forward the other copy to the environmental authority in the province in which he is located.[194] This provision, which is similar to the RCRA approach, should afford the environmental agencies the required control over hazardous wastes and hopefully prevent illegal dumping. The advantage of this approach over that of the U.S. approach is that the transportation requirements are compiled in one set of regulations[195] thus keeping the regulatory scheme as simple as possible. Any necessary legislation directed at resource conservation and hazardous waste disposal could then be the subject of a separate provincial statute.

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[189]*Supra,* at footnote 54.

[190]*Supra,* footnote 150, Part I, Section 3(2).

[191]*Supra,* at footnote 55.

[192]*Supra,* at footnote 15.

[193]*Supra,* at footnote 150, Part V, Section 192 (4).

[194]*Supra,* footnote 150, s. 193.

[195]Remember that the U. S. has two Acts, the *HMTA* and the *RCRA,* each with its own administering agency, the MTB and the EPA respectively. Although there are two Acts, the *RCRA* requires that regulations made by the EPA must be consistent with regulations made by the DOT unde the *HMTA.*

Both Canada and the U.S. have recognized the need for a consistency in the regulation of international transportation of dangerous goods. For example, the U.S. will be permitting the use of the UN Shipping Descriptions[196] while the Draft Regulations under the *TDG Act* permit dangerous goods that are being imported into or exported from Canada to be classified and marked in conformity with the International Maritime Dangerous Goods Code published by the Intergovernmental Maritime Consultative Organization.[197] Such provisions allow maximum control of dangerous goods with minimal detrimental economic effects.

CONCLUSION

Canada's policy with respect to transportation of dangerous goods has been slow to be developed and implemented, but there is every indication that it will eventually become a comprehensive and straightforward regulatory scheme. It must, however, be emphasized that the administration of the *TDG Act* and regulations could be made very complex if an unwieldly bureaucracy is established when agreements with the provinces are finalized and the regulations are actually implemented.

Since the Honourable Bud Cullen stated on February 16, 1979 that the *TDG Act* was to be the first of three prongs of a comprehensive safety program for the transportation of dangerous goods,[198], Canada has seen two serious accidents[199] and a number of minor ones. Yet the package of multi-modal regulations, the second prong, and the one which contains the substance of the whole regulatory scheme, appears to be almost a year away.[200] That the governments of Canada have not yet been able to implement a regulatory program, the development of which began in 1973, is probably the most serious criticism that can be made of the Canadian approach.

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[196]*Supra*, footnote 97.

[197]*Supra*, footnote 150, Part I, s. 3(1).

[198]*Supra*, footnote 128.

[199]The Mississauga and MacGregor derailments.

[200]*Supra*, footnote 148.