

**DANGEROUS MOVES: THE LAW RESPONDS TO THE  
TRANSPORTATION OF DANGEROUS GOODS**

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If seven maids with seven mops  
Swept it for a half a year,  
Do you suppose,' the Walrus said,  
'That they could get it clear?'

'I doubt it,' said the Carpenter,  
And shed a bitter tear.

Lewis Carroll<sup>1</sup>  
*Through the Looking Glass*

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## I. INTRODUCTION

*Salus populi suprema est lex*

Even before the time of the Romans, the safety of the people has been one of the most basic mandates of any state. Dangerous goods are by definition a threat to that safety. Yet they are also vital to the modern economy, particularly to a resource-based economy like that of British Columbia. Most people would agree that some risks must be incurred in their transportation. However, most would likewise accept that the state must attempt to minimize these risks to unprotected populations and the environment.

The record of such attempts by the state, with or without the assistance of the private sector has not been exemplary. The purpose of this paper is to assess critically the overlapping emergency response mandates of the various governments (federal, provincial, regional district and municipal governments alike) that operate in Greater Vancouver. This paper will also canvass certain constitutional and legal issues arising out of an emergency response to an environmental disaster resulting from the release of the content of a rail car or tank car transporting a dangerous good in Vancouver's port area. Since any reaction to a spill or explosion in emergency circumstances will likely be expensive, perilous, and unpopular, legislators at all levels have come to rely on preventative measures as their front-line response. The general framework for the prevention of such incidents is found in the federal *Transportation of Dangerous Goods Act*<sup>i</sup> (TDGA) and its provincial counterpart, the *B.C. Transport of Dangerous Goods Act*.<sup>ii</sup> The paper will then consider some practical difficulties that have emerged in the implementation of this highly complex legislation, focusing on Vancouver for purposes of illustration. Next, liability issues will be briefly addressed before a summary of recommendation for improvement in the regulatory framework is advanced by way of conclusion.

Like other urban areas, Vancouver has seen its residential and commercial districts encroach onto lands that were once devoted to industrial and transportation uses. In Greater Vancouver, where rail yards, ports and forest-related industries were initially established, the residential and commercial population has mushroomed—especially in North Vancouver, the downtown waterfront of Vancouver and certain shores of the Fraser River. Many of the dominant transportation, chemical and petroleum industries rely on Vancouver's prominence as a major world port. Such industries and related terminals locate by necessity along the shore lines, which also happen to be highly sensitive environments.

What happens if a spill or explosion occurs in the transfer of dangerous goods from one transportation mode to another, particularly in a densely populated urban environment like downtown Vancouver? How serious are these risks? American studies indicate that the risk of death for the average citizen from gasoline tank truck incidents is 4.35 times less than from motor

vehicle accidents, or 5.7 times less than being struck by lightning. Risk of death from chlorine rail car accidents is estimated at 1 chance in 22.4 million per years.<sup>iii</sup>

It may not be logical, but studies show that people tend to prefer a statistically higher risk of injury (for example, from driving an automobile) to a very unlikely accident claiming a larger number of victims. Should this preference be relevant in determining how much expense ought to be devoted to reducing such rare yet potentially catastrophic accidents, even though the more common accidents cumulatively are much more harmful? Maximizing public safety is purchased at increased costs in the transportation and handling of commodities and, ultimately, in high consumer prices. An elaborate “science” that weighs risks against social benefits has emerged to address these issues. Such risk-assessment approaches are necessary, in my view, even in the face of difficult, if not immoral calculations involving the valuation of human life.<sup>iv</sup>

The statistics on the transportation of so-called “dangerous goods” tell a disturbing tale. The volume of such materials alone is sobering. For example, in 1986 a total of 12,265,137 tonnes of dangerous goods were shipped through the facilities of six major ports: Halifax, St. John, Quebec, Montreal, Vancouver and Prince Rupert.<sup>v</sup> All three main transportation modes (marine, road and rail) as well as the airlines and pipelines are involved. Over a quarter-million rail cars carrying almost 15,000,000 tonnes of dangerous goods were transported across Canada in 1985—by Canadian National Railways Limited and Canadian Pacific Railways Limited alone.<sup>vi</sup> The year before, Statistics Canada estimated that there were 2.7 million shipments representing a volume of more than 23,000,000 tonnes carried by for-hire trucking firms.<sup>vii</sup> The estimate of the total volume of dangerous goods currently handled by the trucking sector is in the order of 40 to 50 million tonnes annually. In reality, most accidents are the result of road transport, which reflects not only the greater volume of dangerous goods presently moved by truck in Canada, but also the greater number of trips made, the less rigorous training required of truck drivers, and the comparatively less stringent enforcement measures taken with respect to transportation by truck. The handling stage of transport accounts for about two-thirds of accidents with the balance occurring in transit. Spills and leaks represent the lion’s share of such accidents.

## A. Some Examples

Probably the major event to galvanize fears in Canada about the catastrophic potential dangers arising from the transportation of dangerous goods was the 1979 train derailment in Mississauga, Ontario. Large quantities of deadly chlorine gas were released when propane gas tank cars ruptured and struck chlorine gas tank cars that were not adequately separated from them on the ill-fated train. Almost a quarter of a million people were evacuated from their homes and businesses for up to five days. The fact that there were no casualties was remarkable. As Mr. Justice Samuel Grange put it in his subsequent report, the absence of fatalities was due in large measure 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 derailment there was to the immediate south only industrial property, and to the north and north-west, there existed one of the few large areas of undeveloped land remaining the greater Toronto region.*

Vancouver has also had its share of accidents involving the manufacture, storage and transportation of dangerous goods. For example, in 1978, a C.P.R. train containing thousands of gallons of liquid propane was hit by several run-away freight carts in the downtown area. Although the tank cars did not rupture, train employees fled for their lives, fearing an explosion. Residents within a four-block radius were also warned to leave the area. There was a thirty minute delay in contacting the fire department, and a lengthy delay in warning and evacuating the surrounding community.

One-hundred gallon containers of liquid chlorine also dropped from a flatbed truck in the downtown area on September 26, 1978. A hair-line fracture on the seam of a one-ton pressurized steel container released clouds of the deadly gas into the street. Seventy-eight people were treated at local hospitals; a twenty-five block area was cordoned off and hundreds of people were evacuated. It took almost two hours before a chlorine emergency team arrived. Hydrochloric acid, created when the gas mixed with a spray of water, was allowed to run into the sewer system. The fire department was not aware that the toxic material was being transported at that time. Figures 1 and 2 reveal the amounts and kinds of dangerous goods moved by rail and truck respectively in Vancouver during recent years.

It is the thesis of this paper that public and environmental safety in this field demands that there be a planned, coordinated and effective response to such emergencies, which, in turn, cannot occur without the agreement of all levels of government and of private industry. This agreement must address issues of prevention, enforcement, response planning, and response implementation. Any potential liability for "good Samaritans" must be precluded and speedy compensation must be made available to the innocent victims of the incident. Notwithstanding a serious, multi-party investigation of the problem undertaken between 1987 and 1988, it appears that very little has been done since then to address the very serious deficiencies considered in this paper; as a consequence, it will be argued that reform in this field is urgently required.

## **II. EMERGENCY MEASURES**

*There are enormous constitutional problems involved in the public response, and most of them can be resolved only by agreement between governments.*

### **A. Constitutional Concerns**

Which level of government is responsible in the event of an environmental emergency? Normally the provincial government will have primary jurisdiction in emergencies involving public

safety. However, if the scale of the disaster is such that it transcends provincial boundaries, or where it occurs on territory within the federal domain (such as airports, Indian reserves, national parks, and the like) the federal government will have primary responsibility. Even if the disaster is confined within the boundaries of a single province, the federal government may still have some responsibilities where the emergency arises from a serious mishap involving some “matter” that the courts have determined to come within a head of power assigned to the federal government under the *Constitution Act, 1867*. Examples include nuclear energy and interprovincial or international railways or shipping. Even if the circumstances of the disaster dictate that the federal government’s responsibility is secondary, the federal government may still get involved if the province neglects or refuses to take adequate steps or lacks the resources to meet the challenge and requests federal assistance.

Since the *Constitution Act, 1867*, confers upon the provinces exclusive jurisdiction over “property and civil rights in the province,” and over “matters of a merely local and private nature in the province,” peacetime emergencies that are confined to the territorial limits of a province generally fall under the exclusive jurisdiction of the province. If the emergency attains national dimensions, however, the federal government may have paramount authority under the “peace, order and good government” clause. As the Grange Commission observes, the responsibilities of federal and provincial authorities in emergency situations, such as in the Mississauga rail accident, are overlapping and interdependent. Although that disaster occurred solely within Ontario, its source arose from the interprovincial carriage of goods by rail, so that federal jurisdiction was necessarily involved. At a practical level, even if jurisdiction in some cases might be seen as solely provincial, the resources and expertise of the federal government are often necessary to provide rapid and effective relief.

The Crown also has inherent powers, under the “doctrine of state necessity”, to take all measures necessary to preserve the rule of law when it has been put in jeopardy by an emergency. In peacetime, however, the scope of the necessity doctrine, or of the powers emerging out of vestiges of the Crown prerogative to employ emergency measures, is rather limited. Although there is dicta in an important House of Lords case to the effect that the Crown may have certain prerogative powers to do what is necessary to protect the public safety in sudden and extreme emergencies caused by “riot, pestilence or conflagration,” it seems unlikely that this dicta could be the basis of much government involvement in the event of industrial accidents.

## **B. Legislative Responses**

### **1. The Federal Level**

In the face of the “obscure and difficult” state of the above-noted prerogative powers, as well as the uncertain impact of the *Canadian Charter of Rights and Freedoms* in the context of emergency powers, the federal government has recently passed the *Emergencies Act*. It contemplates four types of “national emergency”: public welfare emergencies, public order

emergencies, international emergencies, and war emergencies. Under the *Act*, where the federal Cabinet believes, on reasonable grounds, that a “public welfare emergency” exists and requires special temporary measures, it may declare such an emergency (s. 6). A “public welfare emergency” is defined as follows:

*an emergency that is caused by a real or imminent accident or pollution and that results or may result in a danger to life or property, social disruption, or a breakdown in the flow of essential goods, services or resources, so serious as to be a national emergency (s.5).*

A “national emergency,” in turn, is defined as an urgent and critical situation of a temporary nature that

- (a) *seriously endangers the lives, health or safety of Canadians and is of such proportions or nature as to exceed the capacity or authority of a province to deal with it, or*
- (b) *seriously threatens the ability of the Government of Canada to preserve the sovereignty, security and territorial integrity of Canada and that cannot be effectively dealt with under any other law of Canada (s. 3).*

In other words, before the federal government can proclaim such an emergency in environmental circumstances, it must be of such a magnitude as to exceed the province’s response capabilities and be something beyond the ambit of existing federal legislation. Provincial jurisdiction is respected by the requirement that no public welfare emergency can be declared under the *Emergencies Act* where the effects of the emergency are confined to a single province, “unless the Lieutenant Governor in Council of the province has indicated to the Governor in Council that the emergency exceeds the capacity or authority of the province to deal with it.” Once a public welfare emergency is declared, the Cabinet, *inter alia*, may regulate or prohibit travel to, from or within a specified area; evacuate persons or remove personal property therefrom; requisition, use or dispose of property; authorize or direct persons to render essential services and provide reasonable compensation for them; make emergency payments and assess the damage to the environment and eliminate or alleviate the damage, where possible.

The federal government’s expressed intention is to work with provincial governments through Emergency Preparedness Canada in order to develop detailed plans and procedures to promote effective consultation when emergencies do arise. This independent federal agency is to coordinate all civil emergency planning at the federal level. The focus of the new federal *Emergencies Act* is upon concerted action between the federal government and the provinces in the event of emergencies. Memoranda of understanding have been concluded with most provinces to clarify respective responsibilities for emergency planning.

It should also be noted that in the event of an accident, the federal *Transportation of Dangerous Goods Act* requires persons responsible for dangerous goods, to take “all reasonable

emergency measures consistent with public safety.” The *Act* also grants authorized persons access to any property in order to prevent or mitigate harm to life, property or the environment from spills and provides protection from civil or criminal liability to some people assisting in an emergency response. The combined effect of the TDGA and the two recently proclaimed emergency statutes demonstrates strong leadership on the part of the federal government in the field of emergency response.

## 2. British Columbia Initiatives

In contrast, British Columbia has an unfortunate assortment of overlapping emergency statutes that might come into play in the event of a serious spill or explosion. First, the *Waste Management Act* provides regional waste managers with authority to require corrective action where a substance is escaping or has been spilled, dumped, discharged or abandoned, or is causing pollution. Second, the *Environment Management Act* empowers the Minister of Environment to declare an “environmental emergency” (s. 5). This situation is defined to mean “an occurrence that affects the environment and includes a spill or leakage of oil or of a poisonous or dangerous substance.”

Where the Minister considers that such an emergency exists and that immediate action is necessary to prevent, lessen or control any hazard, he or she may issue a written declaration empowering his or her designate to order any person or to provide labour, services, material, equipment of facilities, or to allow the use of land for the purposes of preventing, lessening or controlling the hazard presented by the emergency. This *Act* also provides for payment from the Provincial Treasury of costs incurred and for the recovery of costs from the person whose act or neglect caused the emergency, or who authorized the events that caused it.

The *Environmental Management Act* may overlap with a third statute, the *Emergency Program Act*, under which the Lieutenant Governor in Council has wide powers to authorize or require the preparation of emergency plans and programs at both the provincial and municipal levels in order to identify potential hazards and prepare provincial responses (s. 4). The Cabinet is also empowered to enter into agreements with the Government of Canada or any province, municipality or organization. The Director of the Provincial Emergency Program (P.E.P.) is appointed under this statute to coordinate the province’s response to all types of emergencies—not just environmental ones. Until late 1986, the P.E.P. was administered by the Ministry of Environment; it is now a program within the Ministry of Solicitor General.

It would be lamentable if there were a clash between the two main provincial emergency statutes in an actual crisis. The position of the P.E.P. is that its emergency program would prevail over any emergency order made under the *Environment Management Act*, if the Lieutenant Governor in Council declared that a state of emergency existed. There have been apparently unsuccessful efforts to bring together all emergency powers under one provincial statute so as to avoid any bureaucratic clashes in the event of an emergency. It is also likely that the *Emergency*



*Program Act* will be amended specifically to parallel its federal counterpart, again in an effort to simplify joint responsibilities in the event of an emergency.

### **C. Implementation**

In practical terms, where spills of dangerous goods or special wastes have occurred, the Waste Management Branch is assigned the lead role in responding, with the P.E.P. providing logistical support. In 1986-87 there were 670 spills reported to the Waste Management Branch. Approximately 60% of the spills were of petroleum products, including light and crude oil, gasoline, diesel, jet fuel and hydraulic oil. If other federal or provincial agencies are also required, P.E.P. coordinates the actions of those ministries with those of the Waste Management Branch. The regional office of Emergency Preparedness Canada has also begun to coordinate the emergency planning of other federal agencies and to work with their provincial counterparts in British Columbia.

The industrial structure of British Columbia foretells the presence of dangerous goods that are used and spilled in the province. For example, spills of caustic sodas, chlorine and ammonias are associated with the forest industry. Spills of P.C.B. contaminated transformer oil are associated with energy generation. Chemicals associated with mining and acid mine tailing and drainage are the by-products of the mining industry. Both the agriculture and forestry industries use a considerable number of herbicides and pesticides. Although these are the main categories of goods spills in British Columbia, other dangerous goods are associated with various manufacturing, transportation and disposal processes in the province. Figure 3 illustrates the most significant dangerous goods moved in and through Vancouver, as well as the mode of transportation most utilized.

The federal and provincial governments have signed memorandum of understanding concerning their respective responsibilities in the case of oil and hazardous material spills within the province. Under this agreement, the federal government provides the lead response role for spills from ships, from federal facilities, from unknown origin to marine waters, from land-based facilities to marine waters and from points of origin where the spill threatens to cross the Canada-U.S. boundary waters. The provincial government of British Columbia provides the lead response role under all other circumstances, essentially including spills to land and fresh water, clearly the lion's share of such incidents.

In reality, it is the municipal government employees (firefighters and police officers) who are usually the first government officials to respond to environmental spills or explosions. They may assess the situation, provide traffic control and initial containment where possible and advise relevant provincial agencies of the incident. The Waste Management Branch and P.E.P. are notified. If the spill or explosion is declared a disaster, provincial resources could be committed if and when a mayor or his or her delegate requests help from the Director of the P.E.P. If additional resources are required, only the province can formally request help from the federal government. The first

agency to respond or the polluter will also contact CANATEC, Transport Canada's Transport Emergency Centre. It provides immediate technical advice in any emergency involving hazardous goods in a spill, leak, fire or human exposure. CANATEC has a data bank containing information on more than 60,000 chemical products and has a computer link to emergency centres in other countries as well as to the data banks of certain key industries and international organization.

The role of the private sector in responding to spills and environmental emergencies must also be stressed. Shell Canada Chemical Company coordinates the Provincial Transportation Emergency Assistance Plan (TEAP). TEAP is a "voluntary, mutual assistance service, administered by the Canadian Chemical Producers' Association to minimize the effects of chemical transportation emergencies on human health, the environment and property." There are ten member teams in British Columbia, composed of three companies which have agreed to provide emergency response to incidents involving the shipment of their chemicals. If on-site assistance is required, CANATEC can activate industry emergency response plans, such as TEAP to deal with the spills caused by non-members companies' chemicals. Similarly, Canadian Occidental Petroleum Co. Ltd., located in North Vancouver, provides a similar program in response to chlorine emergencies. Under the Chlorine Emergency Program (CHLOREP), Canadian Occidental will dispatch a team to provide emergency assistance regarding chlorine spills anywhere in British Columbia. Lastly, the B.C. Petroleum Association coordinates a similar oil spill cooperative program. These emergency response teams have been assembled to complement the duties to implement emergency response plans required by legislation. The regulations under the federal TDG require that a summary of emergency response plans be submitted by the firms transporting any of the very hazardous products listed in Schedule XII of the *Transport of Dangerous Goods Regulations (Regulations)*. In addition, some municipalities such as North Vancouver and Vancouver require facilities to supply local fire departments with information on the types and volumes of dangerous goods in storage.

#### **D. Improving the system?**

*Mr. Chairman, I have expressed my concern. I have been lost in these technicalities many times here, just as I am sure the people of Mississauga are lost in them; but I am not lost in my determination of one simple thing: can I go home and tell people, after these regulations and these procedures, that they are safer?*

Is the system working? Serious questions have been raised about the practical implementation of the above measures. The fire departments, traditionally the first to respond in an emergency to incidents involving dangerous goods, feel that they have had inadequate training and not enough funding to do the training required. In the greater Vancouver Regional District, (G.V.R.D.) there is a wide gap between the sophisticated information and training available. For example, to the fire department of North Vancouver, must be much more knowledgeable about hazardous chemicals, in light of the major chemical industries located within that municipality, than a volunteer fire department in some of the less developed areas of the G.V.R.D. such a Pitt Meadows. However, even the fire departments of such smaller centres may have to respond to

chemical emergencies, and it is far from clear that they will be competent to do so. The fourteen member municipalities of the G.V.R.D. have not delegated emergency response capabilities to a regional response team. Similarly, until a major accident occurs, there has not been the incentive to proceed aggressively with such regional response planning.

Fire departments also complain about fragmented authority at the scene of a dangerous goods accident. They complain that the expert advice from provincial authorities such as the P.E.P. and the Waste Management Branch is frequently difficult to acquire during an emergency. For example, "phone calls are often not responded to in the time required to be of use," they report. The fire departments are also uncertain as to their authority to take certain actions at the site of a dangerous goods incident. They remain unclear, for example, as to the scope of their legal authority to evacuate the public during an emergency.

In addition, there have been significant cutbacks to the provincial public service in recent years. As a result, the Waste Management Branch is responsible primarily for the transportation of "special wastes" by truck; the Commercial Transport Division of the Motor Vehicle Branch, responsible for inspecting loads of dangerous goods at highway weigh scales; and the P.E.P. are perceived as having been forced to retreat from their responsibilities in addressing the transportation of dangerous goods. As a consequence of the reduced personnel and financial resources, in turn resulting from the provincial government's infamous "restraint program" undertaken since 1983, inspections and other safety measures have been systematically neglected. Fire chiefs also complained about a lack of coordination before, during and after a dangerous goods emergency between departments within a municipality, between municipalities and between the agencies and industries responsible for stabilizing an emergency and taking remedial measures. The absence of a coordinated emergency plan for the member municipalities in the G.V.R.D. theoretically means that one municipality may be planning to evacuate its residents to another municipality along routes that are not acceptable to that other municipality.

In response to these and other expressed concerns, a Tri-Level Task Force on the Vancouver Area Transportation of Dangerous Goods was established in 1987. Convened by Transport Canada, the Task Force included representatives of the B.C. Ministry of Transportation and Highways and of the Greater Vancouver Regional District, representing all the municipalities in the Lower Mainland. As well as the three levels of government, various working groups were formed and included representation from companies, labour organizations, public advocacy groups and concerned citizens. The Task Force focused on rail, marine and road transportation of dangerous goods, with particular emphasis on public safety, environment and emergency response capability. The five volume *Report and Recommendations (Report)* was released in October 1988.

The Task Force was a model of exactly the kind of multi-jurisdictional cooperation and public sector/private sector cooperation that is required for effective emergency response. With respect to railways, the Task Force noted that most fire departments and other government agencies responding to dangerous goods incidents are trained and equipped to conduct only the initial stages of emergency response. Beyond this initial response, the railway industry is responsible for

providing the equipment and expertise to contain and clean up after dangerous goods incidents. However, the Task Force concluded that the capability of the five railways operating in the region to respond to dangerous goods incidents varied considerably. Although there were limited agreements amongst the various rail companies calling for some mutual aid in the event of an emergency, the Task Force found that the emergency response crews and equipment of some companies were not always available or based in the study area.

Turning to marine operations, the Task Force found that communication from ship to shore and between agencies involved in emergency response is “inefficient”; it urged that a communications plan be developed. Chemical fires on board docked vessels constitute an additional hazard since only a few vessels have personnel trained to fight such fires. Sometimes the dangerous goods permits that are required by the Vancouver Port authorities and that inform emergency response personnel of dangerous goods passing through the harbours arrive late, obviously making advance planning impossible. However, since the release of the *Report*, some steps have been taken by the Vancouver Port Corporation to address this problem.

Lastly, with reference to road transport issues, the Task Force noted that the federal and provincial transportation of dangerous goods legislation requires those transporting dangerous goods by road to receive training. The Task Force noted that no specialized dangerous goods emergency response courses are offered in Western Canada. It also observed that the regulations defining what constitutes appropriate training were quite imprecise. Currently, the employer is authorized to certify anyone who completes what the employer believes to be adequate training. The Task Force concluded as follows:

*The existing regulations permit inconsistency in levels of training provided to drivers of dangerous goods vehicles. Two employees transporting identical consignments may have greatly differing skills and experience in their knowledge and handling of dangerous goods and in their ability to respond to emergency situations. The public needs to be assured that all drivers of vehicles carrying dangerous goods are equally trained to an acceptable standard.*

More general concerns about emergency response capabilities were identified. The first people to respond to an incident (fire, police, Emergency Health Services Commission and industry dangerous goods teams, such as TEAP) were found to be unable to communicate with one another with their respective radio systems! There is no communications link at present between those municipal agencies which are the first to respond and industry, Coast Guard, Ports Canada, police, the Vancouver Port Authority, and the P.E.P. In the United States and elsewhere in Canada, emergency preparedness software is available, and includes access to a continually updated database on dangerous chemicals. Some municipalities and industrial organizations already use such software. There are now quite elaborate databases available. Environment Canada’s Environmental Protection Service has developed a database of spill statistics over the past twenty years or so, called the National Analysis of Trends in Emergencies System (NATES). The police have access to the Canadian Police Information Centre (CPIC) database in their cars. In my view, all emergency

responders should likewise be able to have as much up-to-date information as is available on the characteristics of all chemicals being transported in Canada. Of course, there is still a shortage of publicly available information on the full risks of many chemicals, despite strides in recent legislation. In some cases, no one knows the full risks associated with particular chemicals.

In the spirit of open government, the Task Force also urged that:

*communities must be aware of all dangerous goods, quantities, transportation methods and routes, to provide the basis for emergency planning.... All members of the community have the right to know of dangerous goods in their area. Without the knowledge of the type of chemicals, community awareness programs cannot be attempted or achieved.*

The B.C. TDGA authorizes municipalities to designate dangerous goods truck routes, or to prohibit dangerous goods from some portion of the municipality (s. 24). For example, Vancouver has passed a bylaw prohibiting the transportation of explosives in excess of certain tonnage. The British Columbia TDGA also authorizes municipalities to set time-of-day restrictions prescribing the time period when dangerous goods can be transported.

However, sometimes the result of foreclosing transportation in one mode merely shifts the problem to another mode. For instance, in 1986, the Railway Transport Committee ordered that the movement of carload lots of dangerous commodities through ferry slips owned by both the Canadian Pacific Limited and Burlington Northern Limited in downtown Vancouver be rerouted. After conducting a hazard evaluation, the Committee recognized the need for a comprehensive plan to be developed for the rail, marine and road transportation of dangerous goods through the Lower Mainland. It urged the three levels of government, carriers, shippers and other interested groups to collaborate in reaching a solution. As in so many other environmental matters, the effect of the solution was merely to transfer the problem—in this case transferring the traffic by rail to transportation by truck.

Noting the great variety in the emergency response capabilities of the member municipalities, the Task Force encouraged greater training and urged that all communities be required to generate emergency plans to deal with dangerous goods incidents. The Regional Emergency Planning Committee (REPC) has been established by emergency planners from the fourteen municipalities in the Lower Mainland and the Regional Coordinator of the P.E.P. This Committee deals with emergency planning for environmental and dangerous goods incidents. It also decried the lack of coordination among the difference agencies at the scene of an incident. Figure 4 lists the kinds of organizations that respond to dangerous goods incidents. It is hoped that Emergency Preparedness Canada will continue to take a leadership role in coordinating emergency response in Greater Vancouver. In addition, the provincial emergency legislation should be amended to parallel the new federal *Emergencies Act* and to bring together all emergency powers under one statute. To date, there has been nothing done to implement this recommendation.

## FIGURE 4

The benefits of coordination demonstrated in the production of the Task Force Report could have led the way to finding a solution to the well documented lack of coordinated mechanisms for crisis management. In fact, very little has been done in response to the *Report's* recommendations. The P.E.P. has considered legislation to require each municipality and regional district to have an emergency plan in place; at present, no local government needs to have an emergency plan at all. Community emergency response plans are in varying states of disarray. In addition, the only statutorily authorized person to conduct evacuations is the Fire Commissioner; the exact scope of his or her legal authority should be clarified.

Another concern to private industries involved in transportation emergency response teams, is the issue of their potential liability when technical advice is provided at the scene of transportation emergencies. For example, as a national voluntary, mutual assistance service, TEAP dispatches an emergency team to the scene of the incident, ready to provide technical advice and assistance. Services are provided on a non-profit basis, pursuant to a requirement in the *TDG Regulations*; for a number of specified dangerous goods, an "emergency response plan" by groups like TEAP is required. This regulatory requirement resulted from a recommendation made by Justice Grange.

The industry is concerned about its potential liability for negligence. Even though they would presumably be "good Samaritans", companies argue that the good Samaritan defence should be clearly spelled out in legislation so that any potential exposure could be covered by liability insurance. TEAP apparently has had difficulty in renewing its insurance coverage in recent years. Without this protection, the companies have threatened to "reconsider their participation in TEAP". Although there have never been any Canadian lawsuits in this connection, the companies understandably fear the negative publicity of litigation. Legislative amendment along these lines

would seem a small price to pay to secure the full participation of industry in emergency response.

### III. THE TRANSPORTATION OF DANGEROUS GOODS ACT

The increasing use of industrial chemicals by Canada's resource-based industries and the fact that such industries are located in remote parts of this vast land meant that a great amount of dangerous goods has had to be transported. By the late 1970s, the volume of such commodities had reached staggering proportions. By 1980 the only legislation on the books was narrow, sectoral legislation, regulating a specific mode of transport or commodity. Examples of such legislation included the following federal statutes: the *Railway Act*, the *Aeronautics Act*, the *Canada Shipping Act*, the *Nuclear Liability Act*, and the *Explosives Act*. There was also provincial legislation governing the intraprovincial carriage of goods by highway. What was lacking, however, was uniformity among such statutes. As the technology of the transportation industry changed to "inter-modal" methods of transport and large scale "containers" began to be moved in their entirety among different modes of transportation, it was possible for many dangerous goods to be shipped without the carrier even being aware of the dangerous cargoes aboard.

In an ideal world, of course, incidents with dangerous goods should not occur. The shock of the Mississauga train derailment and the spur of stringent American legislation resulted in the *Transportation of Dangerous Goods Act* (TDGA), which came into force on November 1, 1980. It applies to

*all handling, offering for transport and transporting of dangerous goods, by any means of transport, whether or not for hire or reward or whether or not the goods originate from or are destined for any place or places in Canada.*

As indicated, the policy outlined in the TDGA is mainly preventative in nature. The *Act* contemplates elaborate procedures for the proper handling, transporting, packaging and labelling of dangerous goods. With the enactment of the voluminous *TDG Regulations*, uniform federal provisions emerged. However, a major gap existed. Intraprovincial transportation by rail or by road is a matter solely within provincial jurisdiction. Consequently, Parliament delegated the regulation of interprovincial highway traffic to provincial transport boards by means of provisions contained in the federal *Motor Vehicle Transport Act*. Control over highways generally falls within "property and civil rights in the province" pursuant to paragraph 92(13) of the *Constitution Act, 1867*. In addition, "all matters of a merely local or private nature in the province," and "local works and undertakings" point to primary provincial jurisdiction in regulating the transportation of dangerous goods, especially since there is no coherent jurisdiction in the Canadian *Constitution* pertaining to the environment.

In passing the federal TDGA, therefore, Parliament resorted to its broad powers to make laws for the "peace, order and good government of Canada" rather than relying upon its narrower powers to legislate in respect of interprovincial undertakings. Moreover, it deliberately eschewed

any reference to the environment, for fear that the provinces would object to such regulatory powers. Interestingly, the TDGA provides authority to the Minister of Transport to enter into agreements with the provinces to implement the *Act* and *Regulations* (s. 25(1) (a)). Failing such agreement, it also empowers the Cabinet to proclaim the *Act* and *Regulations* in a province on a unilateral basis. A very controversial provision of the *Act* is section 3 (4) which provides as follows:

*Where the Minister is satisfied that, despite reasonable efforts over a period of twelve months after the commencement of negotiations or such longer period as the Minister considers reasonable, an agreement pursuant to s. 25(1) (a) has not been entered into with a province, the Governor in Council may, on the recommendation of the Minister, by proclamation, make any provision authorized under subsection (2) as if an appropriate agreement had been entered into.*

No such proclamations have occurred. Instead, the provinces have adopted complementary legislation designed to implement the same rules as contained in the federal regime and to apply them to intraprovincial transportation. For example, the provisions of the B.C. TDGA are remarkably similar to the federal statute. More important, the *Regulations* under the B.C. *Act* for the most part merely adopt the federal TDG *Regulations*. This exercise in cooperative federalism has made it possible to create uniformity among all modes of transportation and among all senior governments in the country. Even municipalities, such as Vancouver, have attempted to track the federal statute in their relevant bylaw.

The legislation purports to establish a system of rigorous adherence to safety regulations in the handling of dangerous goods in all phases and modes of transportation. What are “dangerous goods”? The broad definition in the *Act* covers “any product, substance or organism included by its nature or by the regulations in any of the classes listed in the schedule” to the TDGA (s. 2). Under the *Act*’s Schedule, nine classes of dangerous goods are listed (e.g., explosives, corrosives, poisonous or toxic substances). Over 3,000 goods are now classified. It is an offence to handle, offer for transport or transport any dangerous goods unless all applicable safety provisions are complied with and shipping containers conform to the prescribed safety standards and are properly marked (s. 4). Failure to comply with the prescribed safety standards and procedures in handling the hazardous materials is punishable by a fine not exceeding \$50,000 for a first offence and \$100,000 for each subsequent offence (s. 6(1)). In a startling provision, the *Act* contemplates a conviction for an offence that has been committed by an employee or agent, notwithstanding the fact that the agent has not been prosecuted or even identified (s. 10).

Verbal or written directions may be provided by the Minister or a person designated by the Minister to direct any person handling, offering for transport or transporting dangerous goods to cease any such activity or to carry it on in the manner directed. The *Regulations* provide procedures for issuing the direction, notifying the person in question and providing a right of appeal. Certain powers to ensure compliance with the *Act* are given to inspectors who are to be designated by the Minister of Transport (s. 13). Where there is an escape or discharge of dangerous goods, the person in charge thereof must report the discharge to an inspector and take reasonable emergency measures



to prevent or mitigate damages or injuries due to an escape or emission of such substances (s. 17). An inspector may take similar steps when immediate action is necessary and has the power to request that emergency measures be taken by any person he or she considers qualified to do so.

The *Act* allows the Crown to recover the costs and expenses incurred by dealing with incidents involving dangerous goods from all persons whose negligence or fault caused or contributed to the accident (s. 18). Therefore, if a person is the owner of the dangerous goods, or had control or management of them, he or she would be presumptively liable unless he or she could establish full compliance with the *Act* or *Regulations*. If more than one person is involved, all would be held jointly and severally liable for all costs and expenses reasonably incurred. Although the Minister of Transport may require persons dealing with dangerous goods” to provide evidence of reasonable financial responsibility in the form of insurance or an indemnity bond...” (s. 19(1)), this authority has not been invoked to date. The *Act* specifically states that none of the ordinary civil remedies for acts or omissions are suspended or affected by the above-noted provisions concerning liability (s. 18(4) and (5)).

The general regulatory approach of the legislation is to require the disclosure of information: information on cargo, packaging, handling, shipping, storage, delivery, bonding or other security arrangements, spill reporting and appropriate spill responses. Safety marks are required to indicate the presence of dangerous goods and to identify their class or classes. Safety marks are required to indicate the presence of dangerous goods and to identify their class or classes. The *Regulations* create four kinds of safety marks: labels, placards, signs and other safety marks. (See Figure 5 for examples of the placards required under the *Regulations*.) The *Regulations* prescribe the design and colour of the labels, their dimensions and location on packaging. For certain goods, a very specific “product identification number” must also be displayed. Schedules to the *Regulations* list this single identifying number for the over 3,000 goods currently classified as dangerous. A United Nations committee developed this system of classification of dangerous goods, in order to create international uniformity.

The *Regulations* also set out elaborate requirements for the documentation of every shipment of dangerous goods. The content and, in some cases, even the form of the shipping documentation are addressed, as well as the location of the documentation during transport and the requirement of its retention. In general, every consignor, carrier and consignee must retain the documentation for two years and be able to produce the documents to an inspector within 15 days after receiving a written request. The *Regulations* also requires every Canadian manufacturer of dangerous goods that offers for transport dangerous goods, as well as every importer thereof, to register annually with the Director General and provide various information.

The Minister has the statutory authority to direct manufacturers or distributors to release information on the formula, composition or chemical ingredients of any of their products. However, any confidential business information obtained in this manner is exempt from disclosure under the *Access to Information Act*. Under this provision, the government is totally precluded from disclosing such confidential business information, even when the interest in public safety or

environmental protection might supersede the corporate interest in confidentiality.

The improved packaging and containment standards mandated by the *Regulations* will doubtless improve safety. Similarly, the identification system of uniform placards may prompt carriers to separate dangerous goods or not carry very dangerous substances in the same vehicle as other dangerous goods. However, the main benefit of the information imparted will be reaped when accidents occur and more complete information is available to emergency response officials. Nevertheless, neither the *Act* nor its elaborate *Regulations* can eliminate the risk of accidents completely.

An “employer” is also made responsible for training those who handle, offer for transport or transport dangerous goods. The *Regulations* supplant the common law definition of “employer” to include those providing the services of one or more individuals. It is the employer who must be satisfied that the person has received adequate training. He or she, not some government agency, issues a Certificate of Training. This unusual example of privatization may have little practical consequences since the employer cannot fulfill his or her obligations under the legislation without ensuring that employees are properly trained in any event. There may be an economic incentive for various firms to undertake effective safety measures. The Workers’ Compensation Board, for example, now considers the accident record of a trucking firm in setting premiums for compensation (so-called “experience rating”).

## **A. Implementation**

The most obvious concern with the legislation is its bewildering complexity. The *Regulations* alone contain over 100 definitions and are well over 500 pages in length. Perhaps large companies and their associations can train staff to understand them; smaller firms, particularly independent, intraprovincial truckers will have few resources to devote to this task. Even if they did, it is unclear whether the *Regulations* could be understood by those without considerable technical training. Testifying before the Senate Committee considering revisions to the *Act*, lawyer David Estrin, author of a very useful analysis of the statutory regime, expressed the opinion that the *Regulations* were “virtually incomprehensible”. Although various pamphlets have been distributed to industry, small operators and the general public remain very unclear about their rights and obligations.

Any statute is only as strong as the state’s commitment to its enforcement. It may also be predicted that, like other environmental measures, bargaining for compliance rather than prosecution will be the norm in TDGA enforcement. In British Columbia, the provincial officials charged with enforcing the *Regulations* have rarely taken any violators to court. Instead, minimal fines are normally paid in response to tickets that are issued. The Grange Commission likewise reported that some 27% of all railway cars inspected had reportable defects. It heard considerable testimony to the effect that rail crews consistently ignored safety regulations concerning rail car inspection procedures and marshalling of trains.

British Columbia has been slow to appoint and to train special dangerous goods inspectors to enforce the *Act*. To date, there have been only three such inspectors equipped to do mobile inspection. Five others are promised. These eight inspectors will be based at weigh stations throughout the province and theoretically will be able to conduct spot checks and to travel throughout the province to enforce the legislation. R.C.M.P. and local police for the most part lack specific training in dangerous goods inspection. The training of drivers carrying dangerous goods is sporadic and does not meet any stipulated standard.

Offences under the TDGA are subject to the “due diligence” defence (s. 8); a person may be exonerated if he or she establishes that “all reasonable measures” were taken to comply with the *Act* and *Regulations*. Careful and time-consuming investigation by the inspectors is necessary to counter this defence and establish that the preventative system in place was inadequate. Another constraint on the prosecution of these and other regulatory offences in the criminal courts is the rule that evidence of prior convictions is admissible only at the stage of sentencing. A trucking firm that is known by TDG inspectors to be a habitual offender may appear to the court as a firm that was unfortunate enough to be caught committing an isolated infraction that may have occurred despite a generally effective program designed to ensure compliance with regulatory requirements. The relational perspective offered by a firm’s compliance record is a sounder basis for evaluating its prevention program than the transactional snapshot afforded by a single event. Yet prosecutors and judges continue to apply the criminal law’s transactional approach to regulatory offences. This difficulty, when coupled with the serious resource and personnel constraints, may make enforcement of the TDGA sporadic at best.

If punishment is to be meted out in this setting, it must be for creating risk, not for doing harm. Different types of legal actors are likely to differ in their reaction to risk. As the major objective of sanctions is to enhance compliance with regulatory requirements, offenders should be penalized for creating the risk that regulatory standards are designed to avoid. The larger the risk of harm associated with a violation, the greater the need for a penalty designed to prevent this harm. The occurrence of harm ought not to be a necessary condition for a penalty. One County Court judge even held that actual environmental degradation is a necessary element of an offence under the *Waste Management Act*, and that a mere risk of a substantial impairment of the environment is not enough to constitute an offence. This ruling was subsequently overturned on appeal, but was perceived by beleaguered regulators as an indication of judicial attitudes in this field.

The problem created by ignoring previous infractions is compounded by the criminal standard of proof. Already labouring under the handicap of not being able to cite previous infractions, the prosecution must prove beyond a reasonable doubt that an employer failed to take reasonable precautions to ensure compliance. The criminal burden of proof also poses problems in proving sub-lethal deleterious effects in environmental cases. Stringent procedures must be followed in the gathering, custody, transfer, analysis and production of evidence. As I have argued elsewhere the civil standard of proof that is applied in administrative proceedings is more appropriate in deterring hazardous activities.

As in the case of other environmental legislation, regulators will typically devote all of their time to TDGA matters, while prosecutors and judges must attend to law enforcement across a much broader spectrum of social life. Environmental regulators in British Columbia have voiced concerns about the limited time that these legal actors devote to environmental offences and about their comparatively limited interest in such matters. Pollution control officials in British Columbia complain that judges show little concern about permit violations that do not cause harm, but merely a risk of harm. Typically in the TDGA context, infractions will not only be detected after they have caused actual harm to people or to the environment, but will also be detected before any injury occurs. It may safely be predicted that as with other environmental regulations, there will be a reluctance on the part of Crown attorneys to prosecute and, if prosecuted, fines will likely remain trivial, representing no real deterrence to reckless operators.

Of course, it may also be possible to prosecute under the *Criminal Code* in certain very serious circumstances. For example, “criminal negligence” is defined as an act or omission that shows wanton or reckless disregard for the lives or safety of others. Liability will ensue if this negligence causes death or bodily harm to another person. However, prosecutions will be difficult unless it can be proven that the carrier knew that the standards of the *Act* or *Regulations* were being breached.

#### IV. LIABILITY ISSUES

Although the legislation is silent on the civil consequences of spills or explosions, the national standards set out in the *Regulations* elaborate in considerable detail the requirements for the proper handling and carriage of dangerous goods. Even if provincial regulators are lax in their enforcement of these standards, breach of the rules may afford a specific standard of reasonable conduct to be taken into account by the Court in any negligence suits. Of course, the victim must also prove a causal link between the acts of the transporter and the harm suffered. In addition, the fear of civil liability may also be seen as a form of regulation in its own right, perhaps especially where insurance coverage is uncertain.

This requirement for the proper handling of dangerous goods will likely prove less of a potential barrier than in most environmental cases. Nevertheless, proving that some disease occurring many years later was linked on a “balance of probabilities” to a pollution incident may still prove insurmountable. Defendants may well be able to show that the injuries were “too remote” or that other intervening factors aggravated the damage or caused it to occur in some other way—in other words, that it was “unforeseeable”. Even with the benefit of the shift in the evidentiary burden provided by the doctrine of *res ipsa loquitur*, a claimant would still need to show that the transporter had the exclusive control of the thing causing the damage.

Liability might also be possible in the torts of nuisance or strict liability. In the latter cause of action, even if the carriage of dangerous goods by trains or trucks through populated urban areas

were considered a non-natural use of land, the defence of statutory authorization might provide immunity to the defendants. However, this defence would be lost if the defendant did not meet his or her duty of care in avoiding all unnecessary harm or observing the strictest standards of safety proportionate to the high risk involved.

Even assuming that victims of spills or explosions of dangerous goods could successfully bring action against the party or parties responsible for the damages, other obvious difficulties arise. The cost incurred in pursuing litigation through the courts would be onerous—even in jurisdictions, like British Columbia, where contingency fee agreements are countenanced. Similarly, the procedural pitfalls relating to class actions would doubtless prove daunting. In addition, busy court calendars would likely delay the remedy, perhaps occasioning significant hardship to the victims. Lastly, reliance upon the tort system to redress injury would be fruitless if funds were not available to satisfy a judgment. It should be noted, for example, that although the Mississauga train derailment resulted in large-scale evacuation of homes and businesses, no serious injuries or damage to property occurred. Nevertheless, the total cost of the derailment was estimated as exceeding \$70 million. If the accident had occurred in the downtown core of Vancouver and caused serious damages to individuals and to property, the claims could have been exponentially higher.

#### **A. Insurance matters<sup>1</sup>**

Although the Minister of Transport has the power to require “evidence of financial responsibility in the form of insurance or an indemnity bond” (s. 19), this power has not been invoked to date. Even if rumoured amendments to the *Regulations* indeed require that \$2 million liability insurance be available for transporting some of the more dangerous goods, it is far from certain whether this would be adequate coverage in major disasters. Small carriers would be individually bankrupted by huge judgments. Insurance companies have been increasingly unwilling to write policies that cover damage resulting from pollution.

Although the standard comprehensive general liability policy generally has provided coverage for pollution-related damage due to “sudden and accidental spills or emissions of pollutants”, policies issued or renewed subsequent to January, 1986 often contain a “total pollution exclusion clause”. Coverage is not available for costs arising out of the requirement “to test for, monitor, clean up, remove, contain, treat, detoxify or neutralize pollutants”,

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The presence of the Insurance Corporation of British Columbia (I.C.B.C.), a Crown corporation, as the sole insurer for motor vehicles in the province means that the government may more readily ensure that appropriate insurance coverage is available at reasonable levels, at least for trucking spills. Since those carriers transporting to the United States must provide the U.S. Interstate Commerce Commission with certificates attesting to insurance limits of \$5 million, many carriers already have large liability limits. Since claims information has been centralized with I.C.B.C., actual loss figures from spills could be used to determine premium levels, perhaps with lower administrative costs than elsewhere. Using the very specific classes of carriers identified in the TDGA, it would be possible to provide a very specific hazard rating for dangerous goods carriers in British Columbia. This information could also track Workers’ Compensation Board data pertaining to the “experience rating” of regulated trucking firms. Safer producers and carriers would pay lower premiums, which in turn would make their products and services more competitive.

In this manner, it is hoped that a strong economic incentive would encourage those who impose risks on the community to minimize those risks. Premiums could be paid into a statutory compensation scheme and used to satisfy potential claims made by third parties suffering damages as a consequence of spills or other incidents. Where appropriate, governments could supplement this statutory compensation fund in the event of a true emergency. There is already a variety of statutory compensation schemes for environmental problems at both the federal and provincial levels, addressing *inter alia* losses caused by nuclear accidents, oil spills caused by ships carrying “pollutants in bulk”, and, in Ontario, spills of toxic materials into the environment. A similar non-curial approach to compensation is urged for accidents arising out of the transportation of dangerous goods in British Columbia. Such a fund would expedite payment to victims and, assuming that it were managed by an administrative agency, avoid costly and time-consuming litigation.

## **V. CONCLUSIONS AND RECOMMENDATIONS**

The federal government is to be congratulated for showing leadership in addressing the issues arising from the transportation of dangerous goods and in the general context of emergency planning. British Columbia has also responded, but it remains uncertain whether its legislative

efforts will be matched by sufficient action designed to achieve compliance with the recent measures. A Vancouver Task Force has highlighted serious practical difficulties in the implementation of the TDGA and related emergency measures. To date, very little has been done to grapple with the serious deficiencies identified by this task force.

Citizens are now being asked to bear serious risks arising from the transportation of often very dangerous chemicals through their neighbourhoods. Unlike workers who may consent to risky jobs in exchange for their employer paying higher salaries or higher Workers' Compensation Board levies, we are usually being exposed to these risks on an involuntary basis. Unlike in the case of cigarettes, there is little that we can do to avoid these environmental risks. We must defer to government officials to set appropriate standards, and to enforce them. Experience suggests that lax enforcement will not result in significant deterrence. Only public pressure can reverse this trend and compel our politicians to begin to take the environment seriously. Since a host of practical difficulties likewise conspire to thwart effective redress in the courts for damages suffered, it has been suggested that an alternative compensation system be implemented.

The 1988 *Report* of the Vancouver Area Task Force on the Transportation of Dangerous Goods made many crucial suggestions for reform. Only very halting steps have been taken since its release. In addition to those recommendations noted above, the following recommendations may be offered by way of conclusion:

1. The provisions of the *Environment Management Act* and the *Emergency Planning Act* should be amended and consolidated into one statute.
2. Municipalities and regional districts be required to have emergency plans. Under the B.C. TDGA, municipalities may make by-laws designating routes and times of travel and creating corridors for the transportation of goods on various highways. The *Act* also requires that the Minister must approve such by-laws (s. 24(2)). It is recommended that the provincial government use its power to withhold municipal grants in an effort to encourage municipalities in the Lower Mainland to develop coordinated emergency plans. The power to approve the resulting by-laws would allow the provincial Minister to coordinate such efforts.
3. The provincial government make training and enforcement greater priorities. Uniform examinations should be held for those transporting all dangerous commodities. Standardized training for all commodities must be conducted and trainees should be required to attain a standard set by government officials.
4. A standard incident data collection system should be generated and a single government entity be given the responsibility to provide statistically reliable data on dangerous goods incidents. The TDG Task Force reported that spill reports are generated by the P.E.P., the Environmental Emergencies Branch of Environment Canada, the Waste Management Branch of the provincial Ministry of Environment, local police departments and municipal

fire departments. Each collects different types of data in a different format. Shippers and carriers may keep records of dangerous goods incidents for their own purposes, but may hesitate to release data not required by law. This situation cries out for reform.

We have come a great distance in Canada since the Mississauga train derailment a decade ago. If the risks arising in cities like Vancouver are to be minimized and the victims of potential spills and explosions compensated effectively, it seems clear that we still have a great distance to go.



## FOOTNOTES

- i. R.S.C. 1985, c. T-19.
  - ii. S.B.C. 1985, c. 17.
  - iii. Figures taken from Canadian Transport Commission, *Transport of Dangerous Commodities by Rail, in the Toronto Census Metropolitan Area: A Preliminary Assessment of Risk* (May 1983).
  - iv. See S. E. Rhoads, "How Much Should We Spend to Save a Life?" (1978) 51 Pub. Int. 74; T. F. Schrecker, *Political Economy of Environmental Hazards* (Ottawa: Law Reform Commission of Canada, 1984) at 46-54.
  - v. As reported in the 1986-87 *Annual Report of the Transport of Dangerous Goods Directorate*, at 12.
  - vi. *Ibid.*
  - vii. *Ibid.* These figures exclude firms earning less than \$100,000 annually in inter-city freight revenue, as well as all private carrier shipments, movements within a 25 kilometre distance, and all shipments to and from the United States.
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- *Hon. Mr. Justice S. G. M. Grange, Report of the Mississauga Railway Accident Inquiry* (Hull, Quebec: Canadian Government Publishing Centre, 1981) [hereinafter The Grange Report] at 4.
  - This incident is reported in the submission of the West Coast Environmental Law Association to the House of Commons Standing Committee on Transport regarding Bill C-18 (22 June 1980).
  - Vancouver Area Task Force on the Transportation of Dangerous Goods, Volume 1 - Report and Recommendations (October 1988).
  - *The Grange Report, supra* note 8 at 151.
  - See, e.g., Emergency Planning Canada *Safety and Security in Emergencies: Background Papers* (1985) at 59.
  - See, e.g., *Reference Re Anti-Inflation Act*, [1976] 2 S.C.R. 373, 68 D.L.R. (3d) 452, with respect to the emergency test under the "peace, order, and good government" clause of the *Constitution Act, 1867*. See, most recently, *R. v. Crown Zellerbach Can. Ltd.*, [1988] 1 S.C.R. 401, 3 W.W.R. 385, for a vigorous restatement of the national concern test. See also *R. v. TNT Canada Inc.* (1986), 61 O.R. (2d) 480 (Ont. C.A.).
  - See *Reference re Language Rights Under Section 23 of the Manitoba Act, 1870, and Section 133 of the Constitution Act, 1867*, [1985] 1 S.C.R. 721 at 761, 4 W.W.R. 385 at 418, where the Supreme Court was considering the circumstances in which it was impossible to comply with the *Constitution*. "Under conditions of emergency", the Court held that it could allow the government a temporary reprieve from compliance with the law where the protection of the rule of so required.
  - *Ibid.* at 148 *per* Lord Pearce.
  - S.C. 1988, c. 29.
  - *Ibid* s. 8(1). Consultation with the province or provinces affected is required for issuing,

- continuing or amending a declaration of a public welfare emergency.
- Created under the *Emergency Preparedness Act*, S.C. 1988, c. 11.
- S.B.C. 1982, c. 41.
- S.B.C. 1981, c. 14.
- R.S.B.C. 1979, c. 106.
- As reported by the Environmental Safety Program, Waste Management Branch, Ministry of the Environment, on a fiscal year basis, ending 12 March 1987.
- Understanding Between Canada and British Columbia Concerning Federal/Provincial Responsibilities in Oil and Hazardous Material Spills, 26 June 1981, Victoria, B.C.
- Federal TDGA, *supra* note 1, Part XII; *Waste Management Act*, *supra* note 22, s. 10(2)(b); various municipal by-laws - e.g., City of Vancouver, By-law No. 5572 *Dangerous Goods By-law* (14 September 1982), as amended by City of Vancouver By-law No. 5957 (28 January 1986).
- See *Transport of Dangerous Goods Regulations* (TDG Regulations) SOR/85-77, C. Gaz. 1985.II.393, s. 7.17.
- *Mr. D. Fisher, M.P. (Mississauga North) in House of Commons Standing Committee on Transport (7 July 1980) at 10:12.*
- When the Vancouver Area Task Force report (*supra* note 10) was written in 1988, the G.V.R.D. consisted of fourteen member municipalities. This membership has since grown to include eighteen municipalities.
- These comments are drawn from issues identified by Study Area Fire Chiefs in the memo, "Transport of Dangerous Goods Study - Emergency Response" (4 March 1988).
- *Supra* note 10.
- Part IX - Safety Requirements for the Training of Persons and for Reporting, *TDG Regulations*, *supra* note 29 at 46.
- *Supra* note 10.
- *Ibid.*
- See *Bhopal Aftermath Review: Assessment of the Canadian Situation* (Ottawa: Environment Canada, 1986) at 41-4.
- See, for example, in Canada, the Workplace Hazardous Materials Information System, established by the *Hazardous Products Act*, S.C. 1987, c. 30 and the *Hazardous Materials Information Review Act*, R.S.C. 1985 (3rd Supp.) c. 24, and the *Controlled Products Regulations*, SOR/88-66 (31 December 1987). In the United States, several states have enacted so-called "worker/community right to know" laws. For example, see New York's *Right to Know Act*, 1980 Laws of New York, c. 551.
- *Supra* note 10 at 58; see also *ibid.*
- Now renamed the National Transportation Agency: see *National Transportation Act, 1987*, S.C. 1987, c. 34, s. 6(1).
- See Canadian Transport Commission, Railway Transport Committee, *Decision in the Matter of the Transportation of Dangerous Commodities by Rail in the Vancouver and Victoria Waterfront Areas* (September 1985), 115 [1985] C.T.C.R. 574 at 675.
- A practically identical result has been predicted in Toronto if the recommendations in a

report on the transportation of dangerous goods through that city are implemented. The report, released on September 22, 1988, recommended that trains be rerouted out of the downtown core. A CN representative, Mr. Wes Kelly, was quoted as asking: "If freight costs rise as a result, what about the dangerous cargoes that will be diverted to the highways because shippers will decide to go with truckers?" ("Railways to be told to slow down in Toronto" *Vancouver Sun* 23 September 1988).

- S. 7.16 of the TDG *Regulations*, *supra* note 29, requires all those transporting dangerous goods listed in Schedule XII (Explosives and Other Very Dangerous Goods) to file with the Director General of the Transport of Dangerous Goods Directorate an "Emergency Response Plan" outlining the capability of an organization to respond in the event of a dangerous occurrence.
- See *supra* note 8 at 201 (Recommendation 6).
- Specifically, TEAP has urged that s. 17 of the federal TDGA and s. 17 of the B.C. TDGA be amended to provide protection from criminal and civil liability except in the case of "gross negligence".
- R.S.C. 1985, c. R-3.
- R.S.C. 1985, c. A-2.
- R.S.C. 1985, c. S-9.
- R.S.C. 1985, c. N-28.
- R.S.C. 1985, c. E-17.
- For example, in B.C., the *Motor Vehicle Act*, R.S.B.C. 1979, c. 288, s. 208.
- See the *Hazardous Materials Transportation Act*, Pub.L.No. 93-633, ss. 101-115, 88 Stat. 2156 (1975); codified at 49 U.S.C. ss. 1801-1812, as amended. For a useful analysis of this statute, see B.M. Marten, "Regulation of the Transportation of Hazardous Materials: A Critique and a Proposal" (1981) 5 *Harv. Env. L. Rev.* 345.
- S. 3(1) of the federal TDGA, *supra* note 1.
- TDG *Regulations*, *supra* note 29, came into force on 1 July 1985.
- In *Attorney General for Ontario v. Winner*, [1954] A.C. 541, the Judicial Committee of the Privy Council held that a province has authority over its own roads, so long as there is no restriction on interprovincial traffic.
- R.S.C. 1985, c. M-12. See *Re Kleysen's Cartage Co. and Motor Carrier Board of Manitoba*, (1965) 48 D.L.R. (2d) 716, 51 W.W.R. 218 (Man. C.A.).
- See, e.g., D. Gibson, "Environmental Protection and Enhancement under a New Canadian Constitution" in S. M. Beck and I. Bernier, eds., *Canada and the New Constitution*, vol. 2 (Montreal: Institute for Research on Public Policy, 1983) at 113.
- See statement by Mr. Robert Bockstael, M.P., Parliamentary Secretary to the Minister of Transport, Commons Debates, vol. 124, No. 62, First Session, 32nd Parl. at 2976-77 (16 July 1980).
- *Transport of Dangerous Goods Regulations*, B.C. Reg. 203/85.
- See, e.g., Vancouver's *Dangerous Goods By-law*, No. 5572, *supra* note 28.
- The TDGA, *supra* note 1, S. 28.
- The TDG *Regulations*, *supra* note 29, S. 4.27.

- The TDG *Regulations*, *ibid.* S. 9.8.
- R.S.C. 1985, c. A-1, s. 24.
- Since s. 23(5) of the TDGA is listed among the 38 statutes in Schedule II to the *Access to Information Act*, even if the Federal Court considered that the disclosure of the information related to public safety or the protection of the environment and outweighed a company's commercial injury, the information could not be disclosed. This protection is broader than the protection normally granted in the *Act* to other confidential business information in government hands: see s. 20(6) of the *Access to Information Act*. In a recent Parliament report reviewing the *Access to Information Act*, a House of Commons committee recommended that mandatory exemptions such as the one contained in the TDGA be brought into line with the balance of the *Act*: see *Open and Shut: Enhancing the Right to Know and the Right to Privacy*, Report of the Standing Committee on Justice and Solicitor General (March 1987) at 117. To date, the Government of Canada has not acted upon this or other recommendations.
- See Part IX of the TDG *Regulations*, *supra* note 29, s. 9.1.
- See, e.g., regulations under the *Pesticide Control Act*, R.S.B.C. 1979, c. 322, which define standards of competence and requirements for a person to obtain a Certificate required to apply pesticides.
- D. Estrin, *Handle with Caution: Liability in the Production, Transportation and Disposal of Dangerous Substances* (Toronto: Carswell, 1986).
- Cited in the Sixth Report of the Standing Senate Committee on Transport and Communications, *Transportation of Dangerous Goods* (Feb. 1986) at 13.18.
- Conversation with John Phillips, Director of Administration and Safety, Superintendent of Motor Vehicles, Ministry of the Solicitor General. A recent P.C.B. spill by Lornex Mines Ltd. near Ashcroft, B.C., resulted in a \$2,500 fine.
- *Supra* note 8 at 122.
- *Ibid.* at 20-24.
- *R. v. Sault Ste. Marie* [1978] 2 S.C.R. 1299 at 1325-26, 40 C.C.C. (2d) 353 at 373-74, *per* Dickson, J.
- *R. v. Finlay Forest Industries Ltd.* (18 February 1987) Vancouver CA005346 (B.C.C.A.).
- See R. Brown & M. Rankin, "Persuasion, Penalties and Prosecution: Administrative v. Criminal Sanctions" in M. Friedland, ed., *Securing Compliance: Seven Case Studies* (Toronto: University of Toronto Press, 1990).
- *Ibid.*
- See, generally, M. Rankin & P. Finkle, "The Enforcement of Environmental Law: Taking the Environment Seriously" (1983) 17 U.B.C. L. Rev. 35 at 47-50; P. Nemetz, "The Fisheries Act and Federal-Provincial Environmental Regulation: Duplication or Complementarity?" (1986) 29 Can. Pub. Admin. 401 at 405-408.
- R.S.C. 1985, c. C-46, s. 202.
- The Law Reform Commission of Canada in Working Paper No. 44, *Crimes Against the Environment* (1985) has also recommended that "crime against the environment" be added to the *Code* as a distinct offence, explicitly to address damage to the environment" in the

- course of the manufacture, transportation, use, storage or disposal of any hazardous or potentially hazardous goods, wastes or other contaminants” at 68.
- As formulated by Dickson, J. in *R. v. Saskatchewan Wheat Pool*, [1983] 1 S.C.R. 205, 143 D.L.R. (3rd) 9 (S.C.C.). See also *North York v. Kert Chemical Industries Inc.* (1985), 33 C.C.L.T. 184 (Ont. H.C.).
  - There has been some progress along these lines in the United States. See R. H. Gaskins, *Environmental Accidents* (Philadelphia: Temple University Press, 1989).
  - *Rylands v. Fletcher* (1868), L.R. 3, H.L. 330.
  - See J.G. Fleming, *The Law of Torts*, 6th ed., (Sydney: Law Book, 1983) at 318-19. By way of contrast, see the Ontario “Spills Bill”, which is Part IX of the *Environmental Protection Act*, R.S.O. 1980, c. 141.
  - See *Naken v. General Motors of Canada Ltd.*, [1983] 1 S.C.R. 72, 144 D.L.R. (3d) 385. See also S. Chester, “Class Actions to Protect the Environment” in J. Swaigen, ed., *Environmental Rights in Canada* (Toronto: Butterworths, 1981) at 60.
  - Testimony of Mr. Harold Morrison, Minutes of House of Commons Standing Committee on Transport, 33rd Parl., 1st Sess. (27 November 1985) at 42:62.
  - This section of the article draws heavily upon the work of Freya Kristjanson, in a 1987 research paper on file with the author.
  - See B. Bresner, “The Spills Bill: Insurance of Pollution Risks” in S. Makuch, ed., *The Spills Bill: Duties, Rights and Compensation* (Toronto: Butterworths, 1986) at 36.
  - I.C.B.C. insures all motor vehicles in the province, under the *Insurance (Motor Vehicle) Act and Regulations*, R.S.B.C. 1979, c. 204.
  - *Nuclear Liability Act*, R.S.C. 1985, c. N-28.
  - *Canada Shipping Act*, R.S.C. 1985, c. S-9, ss. 661-681 [Part XV].
  - The Ontario “Spills Bill”, *supra* note 83. An Environmental Compensation Corporation is established as a Crown agent to receive and assess applications for payment and to authorize payments to third party victims of spills.
  - See M. T. Katzman, “Chemical Catastrophes and the Courts” (1986) 82 Pub. Int. 91 at 93-94. Of course, this assertion assumes that the workers are fully *aware* of the risks that they are assuming. It also ignores possible inequality of bargaining power that may exist between workers and management.
  - J. Swaigen, *Compensation of Pollution Victims in Canada* (Ottawa: Economic Council of Canada, 1981), especially ch. 5.